Analysis of international best practice in organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings in Central and Eastern Europe
Analysis of international best practice in organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings in Central and Eastern Europe

Prepared for International Finance Corporation (IFC) under the IFC Russia Residential Energy Efficiency Project

Moscow
2011
IFC, a member of the World Bank Group, creates opportunity for people to escape poverty and improve their lives. We foster sustainable economic growth in developing countries by supporting private sector development, mobilizing private capital, and providing advisory and risk mitigation services to businesses and governments.

The “Analysis of international best practice in organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings in Central and Eastern Europe” has been prepared by request of IFC through its Consultants CJSC “SENRI” and GreenMax Capital Advisors.

The conclusions and judgments contained in this report should not be attributed to, and do not necessarily represent the views of, IFC or its Board of Directors or the World Bank or its Executive Directors, or the countries they represent. IFC and the World Bank do not guarantee the accuracy of the data in this publication and accept no responsibility for any consequences of their use.

The material in this work is protected by copyright. Copying and/or transmitting portions or all of this work may be a violation of applicable law. IFC encourages dissemination of this publication and hereby grants permission to the user of this work to copy portions of it for the user’s personal, noncommercial use. Any other copying or use of this work requires the express written permission of IFC.

Copyright © 2010 International Finance Corporation

2121 Pennsylvania Ave. NW, Washington, DC 20433

United States of America

A Member of the World Bank Group
# Table of Contents

Introduction ............................................................................................................. 6  
Chapter I. Analysis of the best practice in financing capital repairs and energy efficiency modernizations of multi-family buildings in Central and Eastern Europe ................................................. 9  
  1.1. Estonia Best Practice Analysis ............................................................................ 9  
  1.1.1. Executive Summary ......................................................................................... 9  
  1.1.2. State of Economy ........................................................................................... 9  
  1.1.3. Housing Market Update .................................................................................. 10  
  1.1.4. Legal and Regulatory Framework .................................................................. 12  
  1.1.5. Energy Efficiency for MFBs .......................................................................... 14  
  1.1.6. Financing Mechanisms ................................................................................... 15  
  1.1.7. Conclusions and lessons learned ................................................................... 18  
  1.2. Republic of Lithuania Best Practice Analysis ...................................................... 20  
  1.2.1. Executive Summary ....................................................................................... 20  
  1.2.2. State of Economy .......................................................................................... 20  
  1.2.3. Housing Market ............................................................................................ 22  
  1.2.4. Regulatory Framework .................................................................................. 25  
  1.2.5. Energy Efficiency for MFBs .......................................................................... 29  
  1.2.6. Financing Mechanisms ................................................................................... 30  
  1.2.7. Conclusions and lessons learned .................................................................. 33  
  1.2.8. Bibliography ................................................................................................... 34  
  1.3. Poland Best Practice Analysis ............................................................................ 36  
  1.3.1. Executive Summary ....................................................................................... 36  
  1.3.2. State of Economy .......................................................................................... 36  
  1.3.3. Housing Market ............................................................................................ 37  
  1.3.4. Regulatory Framework .................................................................................. 38  
  1.3.5. Energy Efficiency for MFBs .......................................................................... 41  
  1.3.6. Financing Mechanisms ................................................................................... 42  
  1.3.7. Conclusions and lessons learned .................................................................. 44  
  1.4. Latvia Best Practice Analysis ............................................................................ 46  
  1.4.1. Executive Summary ....................................................................................... 46  
  1.4.2. State of Economy .......................................................................................... 46  
  1.4.3. Housing Market ............................................................................................ 47  
  1.4.4. Regulatory Framework .................................................................................. 48  
  1.4.5. Energy Efficiency for MFBs .......................................................................... 53  
  1.4.6. Financing Mechanisms ................................................................................... 55  
  1.4.7. Conclusions and Lessons Learned ................................................................ 56  
  1.4.8. Bibliography ................................................................................................... 58  
  1.5. Slovak Republic Best Practice Analysis .............................................................. 60  
  1.5.1. Executive Summary ....................................................................................... 60  
  1.5.2. State of Economy .......................................................................................... 60  
  1.5.3. Housing Market ............................................................................................ 61  
  1.5.4. Regulatory Framework .................................................................................. 62  
  1.5.5. Energy Efficiency for MFBs .......................................................................... 65  
  1.5.6. Financing Mechanisms ................................................................................... 67  
  1.5.7. Conclusions and lessons learned .................................................................. 71  
  1.5.8. Bibliography ................................................................................................... 72  
  1.6. Hungary Best Practice Analysis ....................................................................... 73  
  1.6.1. Executive Summary ....................................................................................... 73  
  1.6.2. State of Economy .......................................................................................... 73  
  1.6.3. Housing Market Update ............................................................................... 74  
  1.6.4. Regulatory Framework .................................................................................. 77
4.3.4. Imposing Restrictions on Term of Making Decisions on Organization and Financing of Capital Repair and Energy Efficiency ................................................................. 125
4.3.5. Financing of Initial Repair Costs ............................................................................. 126
4.3.6. Development of an Effective Mechanism for Settlement of Premises Owners Debt upon Default in Capital Repair Payment .............................................................. 126
4.3.7. Development of Mechanism of Capital Repair Commercial Crediting ......................... 126
4.3.8. Creation of a System of State Motivation for Large Scale Capital Repair ..................... 127
4.3.9. Creation of State Support System for Poor Citizens at Capital Repair Financing ............ 127
4.3.10. Methodical and Information Support of Condominium and Apartment Building Managers ............................................................................................................. 127
4.3.11. Widespread Awareness of Citizens on Possibilities and Efficiency of Capital Repairs .......................................................................................................................... 127
4.3.12. Stages of Transition to the Described Model of Capital Repair Financing .................... 127
4.4. Directions of Further Development of the Legislation to Provide Liberalization of Capital Repair Financing and Energy Efficiency Procedures ......................................................... 128
Appendix 1. Summary of main support programs ............................................................... 129
INTRODUCTION

The objective of this study is to provide recommendations about formation of the financial and legal mechanism of financing capital repairs and energy efficiency in multi-family buildings (hereinafter, MFBs) in the Russian context on the basis of a comparative analysis of the best practice in financing complex energy-efficient capital repairs.

These proposals are based on the analysis of approaches to and practical arrangements for undertaking capital repairs and power-efficient renovation of apartment buildings (ABs), commissioned by the International Finance Corporation (IFC).

Chapter I presents an analysis of the best practice in financing complex energy-efficient capital repairs in MFBs in six countries of the Central and Eastern Europe (Hungary, Slovakia, Poland, Estonia, Latvia, and Lithuania). The analysis was performed according to the following aspects:
- condition of the housing stock of MFBs, including in the area of energy efficiency, real property market condition,
- heating tariff regulation,
- legally determined methods of MFB management organization,
- legally determined rights and obligations of persons managing MFBs,
- legally determined mechanisms of financing complex energy-efficient capital repairs in MFBs,
- legally determined ways of the State’s and municipal support to complex energy-efficient capital repairs in MFBs.

Based on this analysis, we have arrived at conclusions about the best practice in each of the aforesaid aspects and the existing problems.

We have arrived at the general conclusion that, in spite of considerable efforts taken by the government authorities, municipalities, and financial institutions (IBRD and IFC) for the last 20 years to design a sustainable business model to meet the needs of MFBs in carrying out complex energy-efficient capital repairs, this area still has to deal with a number of problems.

None of the analyzed countries was successful in designing an effective system of solving such problems. Hungary, Slovakia, and Poland have advanced in building up efficient mechanisms of energy-efficient capital repairs more than the three Baltic countries, which results from the best clearly determined laws and the minimum populism in the decision making process.

Chapter II makes the following generalizations based on the analysis of the best practice:
1. It concludes that the idea of the long-term political objective to reduce dependency on imported fuel for solving the problem of complex reconstruction of multi-family buildings was quite constructive for the Central and Eastern European countries; this idea was supported by implemented legislative, socio-economic, and financial mechanisms of improving energy efficiency, developing renewable sources of energy, and curbing CO2 emission.

2. Key factors determining success and sustainability of the model of financing complex energy-efficient repairs have been identified, including:
   2.1. existence of (economic and (or) political) incentives for energy efficiency and capital repairs,
   2.2. legal definition of existence of a person representing an MFB,
   2.3. existence of mechanisms limiting the time for making decisions on repair organization and financing,
   2.4. possibility to finance the initial costs of repair,
   2.5. existence of a mechanism guaranteeing payment of the running costs and repair costs, including mechanisms of debt collection, a developed housing market, and a well functioning justice system,
   2.6. existence of an efficient repair financing system,
   2.7. careful creation of laws ensuring efficiency of financing mechanisms.

3. Less important, although considerable, factors have been identified, influencing success and sustainability of the model of financing complex energy efficient repairs, including:
   3.1. awareness and literacy of citizens,
   3.2. existence of additional incentives for energy efficiency and capital repairs created by the State,
3.3. existence of qualified engineering support,
3.4. availability of a counting system (resource consumption record keeping system),
3.5. availability of an efficient method of assessing the real effect of capital repairs and energy efficiency.

4. Alternative methods of implementing each of the factors mentioned in p. 2 and 3 have been identified, the most efficient of which permitting to form an “Most effective” model of financing complex energy-efficient repairs.

Chapter III presents a comparative analysis of Russia and the six countries of Central and Eastern Europe in terms of each factors defined in Chapter II. The following conclusions have been made based on the comparative analysis:
• the methods of implementation of each factors defined in Chapter II differ from the methods of implementation adopted in the six countries of Central and Eastern Europe,
• there exist socio-economic, territorial and climatic, legislative, and institutional specifics of Russia, which determine such a difference and have an impact on the choice of the model of financing capital repairs and the MFB energy efficiency improvement measures.

Chapter IV presents proposals of an “Most effective” model of financing capital repairs and energy efficiency in the Russian context. It determines the areas of improvement of the Russian effective laws in order to remove any restrictions on financing capital repairs and improve energy efficiency.
Organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings and provision of recommendations applicable to the Russian context
Chapter I. Analysis of the best practice in financing capital repairs and energy efficiency modernizations of multi-family buildings in Central and Eastern Europe

1.1. Estonia Best Practice Analysis

1.1.1. Executive Summary

- Estonia is one of the fastest-expanding economies in the EU, with a conservative budget policy and national budget surpluses that allowed it to avoid applying for loans from IFIs during recession. The economy has stabilized, and Estonia has joined OECD and introduced Euro as the country currency.
- The recession has resulted in lower interest rates, as well as stricter lending practices and lower demand for loans.
- Following the housing reform that began 1993 (based on Privatization Law), the overwhelming majority of apartments are now in private ownership. During privatization, forming housing cooperatives or associations was compulsory; as a result, 60% of the population lives in housing cooperatives or associations today.
- The bulk of Estonia's housing stock was built during the Soviet era (1950-90) and is now rapidly deteriorating. Moreover, most houses were built with poor quality and little regard to energy efficiency standards; as a result, energy consumption in Estonian residential buildings is much higher than that in other EU states.
- Proper reconstruction and renovation of apartment buildings could yield an average 20-30% savings in energy, which translates into an up to 0.5 billion EEK annual total for the whole country.
- Most multi-family buildings (MFBs) are structured either as HOAs or communities of apartment owners. In all cases power of decision making rests with the General Assembly, with most decisions based on a simple majority of votes. Until 2000, banks did not lend to housing associations and cooperatives without guarantee; today, however, the cash flow of the housing organization is accepted as a guarantee.
- Housing development in Estonia has been governed by Estonia's National Housing Development Plan 2008-13, carried out by the Ministry of Economic Affairs and Communications and the Estonian Credit and Export Guarantee Fund (KredEx) in cooperation with local authorities.
- The task of improving energy performance in buildings generally follows the corresponding EU directive, while amendments have been made to the country's legislation (acts and regulations).
- Major financing mechanisms available for energy efficiency retrofitting include:
  - Guarantees on loans for the renovation of apartment buildings (75%);
  - Renovation loans provided with KredEx in partnership with European banks with the finances provided by EU SF (Structural Funds) and Council of Europe Development Bank (CEB);
  - Renovation grants (15 to 35% of total cost);
  - Grants/subsidies for energy audits;
  - Local government programs.

1.1.2. State of Economy

Estonia, one of the smallest European Union (EU) member states, recovered quickly after the economic difficulties at the end of the 1990’s. The GDP growth accelerated after the accession to the EU (in May 2004), rising to 10.4% in 2006, making Estonia one of the fastest-expanding economies in the EU. The economy has grown by an average of 7.4% a year during the period 1995–2007. During those years of rapid growth, Estonia was pursuing a rather conservative budget policy, which led to budget surpluses. These provisions helped the country survive the years of the crisis without applying for the loans of international financial institutions; however, in 2009 the Estonian GDP decreased by 14%. Like other Baltic States, Estonia suffered severely from the crisis, since in previous years there were inflows of rather cheap and easily accessible loans into the national economy.

Now the recession in Estonia is over and although the recovery has been uneven across different economic sectors, turnaround is evident. In 2010, the biggest contributor to growth was the recovering export sector. Stabilization in household consumption, driven by stronger consumer confidence and more positive outlook towards future, supported the overall economic activity. In accordance with the World Bank's methodology, Estonia is considered to be one of the wealthy countries. Estonia joined the OECD in 2010 and introduced the Euro in 2011.

In 2010, the GDP increased by 3.1%. Based on the projections of Estonian Bank (from the end of 2010) GDP growth will be 4.2% in 2011 and 3.8% in 2012. Inflation was negative 0.1% in 2009 and positive 3.0% in 2010; the fast inflation is mainly caused by price increases in the food and fuel sectors. Based on the projections of the Ministry of Finance the CPI will be 4.5% in 2011. The quick increase should stabilize in 2011 and cause lower inflation in 2012.

Based on the info from the Estonian Unemployment Insurance Fund, the average unemployment in 2010 was 79,679 people, which is 12.3% of the working-age population. In February 2011 the rate was 10.2%. Unemployment has decreased by 30.3% compared to the maximum rate in March 2010.

Major macroeconomic indicators are presented in the chart below:

### Table 1. Estonia macroeconomic indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>11.2</td>
<td>13.4</td>
<td>15.8</td>
<td>16.1</td>
<td>13.9</td>
<td>14.5*</td>
</tr>
<tr>
<td>In actual prices (billion EUR)</td>
<td>9.4</td>
<td>10.6</td>
<td>6.9</td>
<td>-5.1</td>
<td>-14.9</td>
<td>2.9*</td>
</tr>
<tr>
<td>Real growth (%)</td>
<td>4.1</td>
<td>4.4</td>
<td>6.6</td>
<td>10.4</td>
<td>-0.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Prices</td>
<td>2.1</td>
<td>4.5</td>
<td>8.3</td>
<td>7.1</td>
<td>9.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Inflation (%)</td>
<td>7.9</td>
<td>5.9</td>
<td>4.7</td>
<td>5.5</td>
<td>13.8</td>
<td>16.9</td>
</tr>
<tr>
<td>Producer price index</td>
<td>501.8</td>
<td>592.1</td>
<td>704.7</td>
<td>805.6</td>
<td>770.6</td>
<td>814**</td>
</tr>
<tr>
<td>Labor market and wages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average gross monthly wages (EUR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign trade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export (billion EUR)</td>
<td>6.18</td>
<td>7.64</td>
<td>8.92</td>
<td>8.44</td>
<td>6.48</td>
<td>8.75</td>
</tr>
<tr>
<td>Import (billion EUR)</td>
<td>8.20</td>
<td>10.58</td>
<td>11.32</td>
<td>10.87</td>
<td>7.31</td>
<td>9.27</td>
</tr>
<tr>
<td>National budget</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenues (billion EUR)</td>
<td>3.5</td>
<td>4.3</td>
<td>5.2</td>
<td>5.4</td>
<td>5.5</td>
<td>5.8</td>
</tr>
<tr>
<td>Expenditures (billion EUR)</td>
<td>3.4</td>
<td>4.1</td>
<td>5.9</td>
<td>5.8</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Surplus/deficit (million EUR)</td>
<td>154</td>
<td>204</td>
<td>380</td>
<td>-336</td>
<td>51</td>
<td>217</td>
</tr>
</tbody>
</table>

* forecast; ** for last quarter of the year
Source: Statistic Estonia, Eurostat

In 2009-10, due to the recession and descent of Euribor, housing loan interest rates fell from 6.8% to 4%, but banks have made their conditions for issuing construction and housing loans considerably stricter. In addition, demand fell significantly, primarily due to the situation in the labor market and the decline or disappearance of households’ real income.

1.1.3. Housing Market Update

Estonia has around 1.35 million inhabitants and the number of apartments currently amounts to 638,000. This implies a rate of around 472 apartments per 1000 inhabitants, which is a rather favorable l compared to other Eastern European countries. 70% of the housing stock is located in urban areas.

The privatization of apartments in the multi-storey building stock started in 1993 with a so-called “housing reform”. The legal basis was the “Law on Privatization of Apartment Rooms” of 1992, which introduced special national capital vouchers as means for the existing tenants to buy the apartment without cash. While in 1994, 74% of all apartments belonged to the state or to local governments, by early 2002 the respective figure was only 4.2% (0.7% state-owned, and 3.5% local government-owned). As a result of living space privatization (and to a lesser extent, of their return to their legitimate owners), the share of the privately owned housing stock has meanwhile risen to 95.8% of all living spaces.

According to the 2000 Population and Housing Census, there were 617,400 apartments in Estonia, while the current statistics estimated that in January 2007 there were 638,200 apartments, most of them (96%) in private ownership. Consequently there are more apartments than households in Estonia. In 2006 the estimated number of households was 573,400, with the average of 2.3 members per household. In 2000 the respective figure was 575,300; thus the number of households has decreased by two thousand over six years. Every third household lived in Tallinn or in the surrounding Harju County in 2006. 65.7% of apartments are situated in cities and towns and 34.3% in the...
country. 10% of all households live in farmhouses, 19.5% in family apartments and terraced houses and 70.5% in apartment buildings. The relatively large share of apartment buildings in the housing stock resulted from the structure of construction activities in 1950-1990, when most of the residential houses built were apartment buildings. An estimated 70% of apartments built before World War II were private houses and privately owned rented apartments.

According to Ministry of Justice data there were 8,204 HOAs in Estonia in June 2006. What makes Estonia different from other Central and East-European states is that formation of HOAs was compulsory. As a result, today 60% of the population lives in HOAs.

As of the first half of 2007, 91.8% of the apartments were permanently inhabited. The total floor area of inhabited apartments was 38,760,000 square meters and the average floor area per capita was 28.9 square meters. Two-room apartments make up the biggest number of apartments, i.e. 229,860 apartments, or 36% of the total. As regards the supply of housing, Estonia ranks among the relatively well-stocked European countries. Although according to statistics Estonia has no housing problem, since there are uninhabited and vacant apartments and one household on average has more than one apartment, many apartments are still shared by several households. There are both economic and social reasons for sharing apartments. According to the 2000 Population and Housing Census 92.6% of households resided separately and 7.4% did not have their own apartment. 4%, or 22,629 of the households, think that the lack of separate apartment is a serious problem. In addition to difficulties in entering the housing market, high housing costs is another serious problem, considered significant by 30.7% of the households.

57.8% of the households reside in apartments where the number of rooms is equal to or smaller than the number of household members. 42.2% of Estonian households have more than one room per household member. More than one-sixth of households think it is a problem that their apartment is too small and has too few rooms; more than one-tenth consider the same a serious problem. In addition, the apartments' structure is too rigid and unchangeable. However, most Estonian households are generally satisfied with their apartment, with only less than one-tenth dissatisfied.

In 2007, 96% of the housing stock was in private hands and only 4% was owned by the public sector (25% of the public sector housing stock was owned by the state and 75% by local governments). Approximately 85% of households have their own residential space and about 15% are tenants. Most of the private rented apartments are held by small owners, which renders the sector difficult to control for tax purposes. Overall, the state lacks an adequate overview of the sector.

**Depreciation and decreasing quality of housing stock**

The residential construction volumes of the past decade are considerably lower than the average in 1950-1990 and the houses built half a century ago are gradually reaching the end of their life as prescribed by the applicable standards. Although the buildings are in no direct danger of falling into disrepair, the apartment buildings still are in need of reconstruction. Any delay in commencing reconstruction will allow the situation to deteriorate further and result in higher costs in the future. Almost 3,300 units of residential space in multi-story apartment buildings have to be reconstructed every year (~150,000 square meters annually). In light of the sharp rise in apartment construction volumes in the 1960s and 70s, the current decade will see the need for reconstruction go up several times (more than 8,000 apartments, i.e. more than 350,000 square meters annually in 2010-2014, even more in subsequent decades).

**Energy Costs**

The issue of energy conservation of the housing stock has come to the limelight with the focus of the EU directive on the energy performance of buildings. A large portion of the Estonian housing stock was constructed during the Soviet period, mostly in 1950-1990, when energy was cheap and building quality was low. Moreover, many buildings have been without high quality maintenance and repairs for 30-40 years. As a result, the average energy consumption per square meter is much higher in Estonian residential buildings compared to those in the other EU member states (250 kWh/square meter in Estonia vs. below 150 kWh/square meter in Finland and Sweden).

According to experts, proper reconstruction and renovation of apartment buildings could yield an average 20-30% savings in energy, which translates into an up to 0.5 billion EEK annual total for the whole of Estonia. Reconstruction or construction of only low energy consumption residential buildings with recommended heating energy demand indicators remaining below 15 kWh/square meter per year would enable a 90% reduction in the heating energy demand.

---

of the buildings. This would lead to a reduction in imported fossil fuel volumes, increased energy independence, better resistance in case of emergencies and a reduction in Estonia’s CO2 emissions. Therefore the combination of support measures aimed at reconstruction with energy efficiency issues would serve the dual purpose of improving the quality of the housing stock and reducing the maintenance costs thereof.

Heat Tariff Regulation

In Estonia, the regulator of the energy market is the Estonian Competition Authority, which:
- coordinates the prices for electricity and gas online services;
- coordinates the methodology for joining the electricity and gas network;
- coordinates the prices for electricity, gas and district heating.

Energy legislation includes the Electricity Market Act and the District Heating Act (adopted in 2003 and amended as recently as 2009). According to the legislation, the electricity tariffs shall be announced three months before application and heat tariffs shall be announced one month before application.

The District Heating Act states that a local government has the right to determine district heating regions within the boundaries of its administrative territory. Only district heating may be used in a district heating region (except for those who did not use district heating at the time a district heating region was established) and the consumers may not choose an alternative way of heating (e.g. local electric heating, geothermal heating, stove heating, etc.). Thus, district heating is in a dominant position. Most heat price maximums were calculated on the basis of a formula which, on the request of a heating undertaking, is used for the approval of the maximum heat price if factors which are beyond the control of the heating undertaking and which affect the price of heat become evident (especially if fuel prices change).

The cost of district heating in Estonia varies greatly (ranging from EUR 27/MWh in Narva to up to EUR 67/MWh in some small district heating systems)\(^4\). The history of heat prices in Estonia is provided in the chart below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Heat Price (EUR/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>304 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>1998</td>
<td>337 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>1999</td>
<td>355 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2000</td>
<td>337 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2001</td>
<td>294 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2002</td>
<td>363 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2003</td>
<td>401 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2004</td>
<td>421 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2005</td>
<td>422 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2006</td>
<td>427 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2007</td>
<td>47 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2008</td>
<td>356 kr/€ MWh, VAT exclusive</td>
</tr>
<tr>
<td>2009</td>
<td>45 kr/€ MWh, VAT exclusive</td>
</tr>
</tbody>
</table>

Source: Energy Politics and Legislation in Estonia\(^5\)

1.1.4. Legal and Regulatory Framework

The housing sector is governed by a number of laws, including the Building Act, Building Associations Act, Apartment Ownership Act, HOAs Act and the Non-profit Associations Act. Key players with regards to housing policy and energy saving measures in the Estonian building stock are the Ministry of Economic Affairs and Communications (specifically, Department of Building and Housing) and the Credit and Export Guarantee Fund “KredEx” (Housing Department), founded by the Ministry of Economic Affairs and Communications in 2001. Its purpose is to improve the financing possibilities of companies, to enable people to build or renovate a home and develop energy-efficient way of thinking.

---

\(^4\) Estonian Competition Authority. Approved district heat maximum prices to end-users, 05.06.2011

\(^5\) Tiit Rahkema, Estonian Power and Heat Association Chairman of the Board, 12.10.2010.
Legal bodies in multi-apartment buildings

There are three options for management of MFBs:

- **HOA**: Apartment owners have formed HOA which is a legal body (~50% of all apartment buildings).
- **Apartment cooperative**: People own shares from cooperative, can not use their apartments as a collateral – small part of all buildings.
- **Community of apartment owners**: Only apartment owners, no legal body. Usually they choose a manager who is responsible for the maintenance (~50% of all apartment buildings).

In all cases power of decision making is on General Assembly, with most of decisions based on simple majority of votes.

**HOAs**

HOAs are a special type of non-profit association the activities of which are regulated by the HOAs Act and the Non-profit Associations Act. In the case of disparities, the HOAs Act applies. An HOA may be formed for the management of one or several houses. An HOA is founded on the basis of a majority resolution of the apartment owners if the greater part of the building and plot of land belongs to that majority through the legal shares of the object of apartment ownership. HOA membership is compulsory; when it is established by the decision of the required majority, all apartment owners of the house belong thereto.

An HOA cannot be founded until the founders have become apartment owners (on the basis of the Privatization of Apartments Act or by entry of the apartment ownership in the land register). Chapter 2 of the Apartment Ownership Act allows the apartment owners to join into a community of apartment owners. Such community need not be entered in the register.

An HOA member or representative of a member who is granted an unattested proxy may participate and vote in the general meeting. The spouse or adult family member of an apartment owner, a co-owner of the apartment or any other member of the association may act as a representative. Each apartment owner has one vote at a general meeting of the members of an HOA unless otherwise provided by the articles of association of the HOA. However, a legal person who is a member of an HOA shall not have more than one-half of the votes when participating in a general meeting of the members of the HOA, regardless of the number of apartment ownerships belonging to the person unless otherwise provided by the articles of association of the HOA.

Until 2000, banks did not lend to housing associations and cooperatives without a guarantee. Today the cash flow of the housing organization is taken as a guarantee. This additional condition has remarkably influenced the borrowing and retrofitting activity, as the annual number of loans has increased from 10-20 loans prior to 2000 to 3,000-3,200 loans in recent years, including 2010. Also, the average loan amount has slowly increased from EUR 16 per square meter to EUR 38 per square meter. 36,000 families all over Estonia have improved their living conditions.

**Building Maintenance**

The market for management companies is not robust; typically, management companies are municipally-owned. There are typically a handful (or as few as one) of management companies in each local market. Because the market is not extremely developed (i.e., demand outweighs supply), management companies are able to set management fees without downward pressure from competitors.

**National Development Plan for the Housing Sector**

Housing development in Estonia has been governed by Estonia's National Housing Development Plan. The Plan for the years 2003–2008 was approved by the Government in 2003. The next plan, the National Development Plan for Housing Sector 2008–2013, was approved by the Government in 2008. The plans have been carried out by the Ministry of Economic Affairs and Communications (MoEAC), and the Estonian Credit and Export Guarantee Fund (KredEx) in co-operation with local authorities and non-governmental organizations active in the housing sector.

---

6 KredEx 2010 Annual Report.
The development plan is financed by the state budget, the Government’s extrabudgetary ownership reform reserve fund, and the resources of the KredEx foundation. According to the Plan, the general purpose of state activities in the housing sector is to provide all of Estonia’s residents with an option to choose their place of apartment. The main task is to create conditions in the housing market (legal regulation, institutional regulation and support measures) that would allow residential owners, tenants and citizen-initiated organizations in the apartment sector to solve their housing related problems.

Among the three main general objectives of the Plan, the second one is targeted to improvement of quality and sustainability of the housing stock in Estonia. The measures for reaching this goal include:

- support for refurbishment of apartment buildings: securing targeted loans for apartment houses built before 1993; special soft loans for houses built before 1940;
- elaboration of standard design documentation for refurbishment of apartment houses built after 1945, and making these documents available free of charge;
- special awareness campaigns and training courses for better maintenance and refurbishment of housing stock;
- mapping of actual situation of the whole housing stock, focusing on constructional and energy performance issues of apartment buildings.

The Plan includes a number of energy performance targets (to be reached by 2013):

- number of apartment houses which have received support for refurbishment – 8,000;
- the share of types of apartment houses with energy performance mapped – 95%;
- energy audits carried out (of the total number of buildings in the target group) – 30%.

### 1.1.5. Energy Efficiency for MFBs

**Improving energy performance of buildings**

Priorities for energy efficient renovation are: heating system, roof, side walls, and windows (in staircases and apartments). The implementation of the Directive 2002/91/EC on energy performance of buildings (EPBD) in Estonia is the responsibility of the Ministry of Economic Affairs and Communications. The main provisions were introduced via relevant amendments in the Building Act and in the Energy Efficiency of Equipment Act, while some amendments were made also in the Building Association Act, the Apartment Ownership Act and in the Apartment Association Act.

Several detailed requirements were enforced using acts of secondary legislation. The most important secondary level act is the regulation No. 258 of 12/20/2007 of the Government of Estonia on Minimum Requirements for Energy Performance of Buildings. The Regulation provides a set of definitions related to energy performance of buildings, including several new ones, which had not been defined in legislation of Estonia before, including integrated energy performance indicators, net energy demand, weighting factors for energy and fuel types.

The maximum values of integrated energy performance indicators for major building types were stipulated according to the chart below.

<table>
<thead>
<tr>
<th>Building type</th>
<th>New buildings</th>
<th>Buildings undergoing major renovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family houses (incl. semi-detached houses)</td>
<td>180</td>
<td>250</td>
</tr>
<tr>
<td>Apartment houses</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>Office buildings</td>
<td>220</td>
<td>290</td>
</tr>
<tr>
<td>Business and public buildings</td>
<td>300</td>
<td>390</td>
</tr>
<tr>
<td>Hospitals and other health care buildings</td>
<td>400</td>
<td>520</td>
</tr>
<tr>
<td>Swimming pools</td>
<td>800</td>
<td>1000</td>
</tr>
</tbody>
</table>

Source:
Based on the legislation, specific heat transmission of the rooms’ envelope cannot exceed the value of 0.5 watts per square meter. The specific heat transmission through the outer shell (envelope) of the building must be 1.0 watts per square meter or lower (calculated per floor space of heated rooms). For small houses the maximum heat transfer values of building shell are fixed, while for other types of buildings the influence of internal indirect sources of heat may play an important role. Maximum values of heat transfer coefficients in watts per square meter for envelope elements of small buildings are:

- outer walls: 0.2 – 0.25;
- ceilings and floors: 0.15 – 0.2;
- windows and doors: 0.7 – 1.4.

Nevertheless, the values for every building depend on the configuration of the building, as well as on heat supply and ventilation solutions. In 2008, regulation No. 2 of 01/11/2008 was issued stipulating the rules for determining the major renovation of buildings. Since January 2009, the regulation No. 107 of 12/17/2008 is providing the format and issuing procedures for the energy performance certificate of buildings.

In 2009, another regulation, No. 194 of 12/30/2008, related to energy performance certificates, entered into force. The regulation provides a list of types of buildings where the certificate must be placed in a prominent place clearly visible to the public. For boilers, Estonia opted for the alternative method provided in Article 8(b) of the EPBD – the provision of advice to boiler users. A regulation of the Minister of Economic Affairs and Communications on mandatory registration of new boilers was issued in December 2007 (12/6/2007, regulation No. 92). The regulation was amended in the beginning of 2009 and has been enforced since March 2009. A similar regime will also apply for new air conditioning equipment with an effective rated output of more than 12 kW.

Regarding experts performing energy audits and/or issuing the relevant certificates, the Building Act provides that only registered legal persons can issue the energy certificate or perform the energy auditing of buildings. The legal persons providing services of energy certification or energy auditing should fulfill following requirements:

- they should be in the register of economic activities;
- they should have legal relationship (a contract) with a competent person, who is a specialist in charge;
- they should keep records of issued energy audits and/or energy certificates and linked documents.

The Estonian Technical Surveillance Authority has the authority to carry out the quality control of energy audits and building energy certificates.

1.1.6. Financing Mechanisms

Support for energy efficient renovation of residential buildings

Since 2003 the State has supported repair work related to the reconstruction and restoration of the main structures (load-bearing and enveloping structures) of pre-1990 apartment buildings. The assistance covers 10% of the cost of these works. To apply for reconstruction assistance, the apartment building in question must have been through a technical inspection (including an energy audit). To conduct such an inspection, the apartment/house union or the association of apartment owners may receive assistance in the amount of 50% of the cost, but not more than EUR 700 per energy audit and EUR 4,000 for the reconstruction project. Assistance is provided on the basis of applications submitted to local governments that have signed a cooperation deal with the KredEx Foundation to administer the given measure on the local level. During the period 2003-2007, KredEx paid out renovation support of EEK 183 million (EUR 11.71 million) to 4,760 HOAs with total of 3,210 MFBs.

Guarantees to loans for the renovation of apartment buildings

The attainability and affordability of housing loans has been significantly improved by the income tax exemption on the accrued interest of housing loans, but also by the security offered by the KredEx Foundation to secure housing loans. KredEx Foundation provides loan security for apartment unions on loans that will be used to repair or renovate a house’s heating system, for roof repairs, insulation of outer walls, stairwell/entrance hall repairs, window replacement or insulation; as well as the replacement or repair of communications, elevator renovation and other construction, maintenance and landscaping works that increase the economy and security of an apartment building, or to improve the quality of life.

Sources: KredEx website; Mure database (www.isisrome.com/mure)
The borrower must be the HOA, or the apartment owners united into an association of apartment owners. The borrower must hold a vote to approve the renovation work, the use of a loan and conclusion of a guarantee agreement. The renovation work must be specified in the management plan of the apartment building. The guarantee covers up to 75% of the loan principal, and will be reduced proportionally by each loan repayment. The annual guarantee fee is 1.2%-1.7% of the balance of the guarantee.

In the case of payment difficulties, the borrower may apply for the foundation to temporarily repay the loan on his/her behalf. The payments made by the foundation on behalf of the borrower do not constitute a guarantee prepayment; rather, the borrower’s consequent obligations to the foundation will be specified in a separate agreement. For HOAs, an administrator is included in the process for the purpose of collecting repayments from the apartment owners, as well as filing claims against the apartment owners, if this becomes necessary. The foundation covers the loan repayments of the borrower within up to 12 months, but not more than 75% of the loan balance at the moment of the submission of the respective application. Interest in the amount of 50% of the loan interest is to be charged on the amount to be repaid for the loan repayments made by the foundation for the apartment building.

Renovation loans provided with KredEx in partnership with European banks

In May 2009 a new type of measure supporting the refurbishment of residential buildings was started. To facilitate MFB renovation, KredEx created a partnership with German Development Bank KfW Bankengruppe and the MoEAC to introduce a new type of long-term renovation loan with favorable interest rates. The new type of measure allows combining the loans from commercial banks with the finances from the EU structural funds and with the additional loan from the Council of Europe Development Bank (CEB) to issue more advantageous loans with a longer refunding period (up to 20 years) to apartment buildings.

The KredEx and the CEB signed a loan agreement providing for EUR 29 million to be devoted to financing the improving the energy efficiency of housing blocks built before 1993. This was made within the framework of Estonia’s «Operational Program 2007-2013», under the chapter «Development of living environment». KredEx combines grant funds from the EU structural funds from the European Regional Development Fund (ERDF) and KredEx funds with the CEB loan, and channel them further through commercial banks on preferential terms to end-borrowers – HOAs, housing cooperatives or communities of apartment owners in eligible housing with but little access to traditional financing channels. Two commercial banks are involved in the scheme: Swedbank Eesti AS and AS SEB Pank (Skandinaviska Enskilda Banken AB Group). Estonia is the first country where this type of a re-use of EU structural funds is being launched. The structure of combining various financial entities into the loan scheme is presented in the following figure:

![Figure 1. Structure of the revolving fund for renovation of apartment buildings.](image-url)
The aim of the renovation loan is to improve the energy efficiency of apartment buildings by at least 20% in the apartment buildings with an area of up to 2,000 square meters and by at least 30% in the apartment buildings with an area of more than 2,000 square meters. The minimum loan sum for the renovation loan of the apartment building is EUR 6,391 (100,000 EEK) and the loan interest is fixed for 10 years at less than 5%. The prerequisite for the loan is an energy audit for the apartment building where the most important renovation works have been mentioned, as the loan finances only the renovation works mentioned in the energy audit.

Since June 2009, 221 renovation loan contracts have been signed for the sum of 271.71 million EEK (EUR 17.37 million). In 2010, banks issued 135 renovation loans for apartment buildings with a KredEx guarantee totaling 178 million EEK (EUR 11.4 million). The average loan amount was 1.3 million EEK (EUR 84,000), with the average size of buildings being 2,552 square meters and average energy savings estimated at 33.2%. Half of the agreements were for apartment buildings located in Tallinn, mainly for the insulation of facades and roofs of apartment buildings as well as for heating systems.

Table 4: Payment Burden – building 3000 m², saving 30%, loan 3 mln EEK, interest 4.0%

Source: KredEx SA

Renovation grants

In September 2010, KredEx started issuing renovation grants in the amount of 15-35% of the total cost of renovation project. The grant is primarily meant to accompany a renovation loan from KredEx (issued by Swedbank and SEB Bank) to decrease the required share of self-financing, but the grant may also be combined with own funds. The grant is financed by sale of unused assigned amount units (AAU; Kyoto Protocol) to Luxembourg under the green investment system (GIS). Terms of the grant are established by Regulation No. 52 (8/17/2010) of the Minister of MoEAC “Terms and Procedures of Using Green Investment Scheme Apartment Building Renovation Grants.” The grant limits are 15%, 25% and 35% of the total project cost depending on the level of integration in reconstruction of apartment buildings. To obtain 15%, an apartment building shall achieve energy saving of at least 20% in an apartment building with closed net area of 2,000 square meters, or at least 30% in an apartment building with closed net area of over 2,000 square meters, fulfill recommendations provided by both an energy audit and the requirements of program “Renovation Loan of Apartment Building”. By performing reconstruction work, the accordance of indoor climate to requirements shall be ensured, and the apartment building shall achieve at least energy label class E.

To obtain a grant of 25%, in addition to the fulfillment of the above terms, an apartment building shall reconstruct the heating system so that it is locally adjustable, and mount devices that make it possible to divide and measure heating...
costs individually by apartments, partly or fully insulate and reconstruct the façade, replace all windows with energy-saving ones, insulate or/and reconstruct the roof, achieving energy saving of at least 40%, resulting in eligibility for receiving energy label class D.

To obtain a grant of 35%, in addition to the fulfillment of all above terms, the applicant for the grant shall install a ventilation system with heat return, achieving at least 50% energy savings and energy label class C for the building.

By the end of 2010, 54 apartment buildings received grants totaling almost 13.87 million EEK (EUR 890,000), with estimated average energy savings of 33%.

Grants/subsidies for energy audits & certification

Since 2003 the State has supported repair works related to the refurbishment of pre-1990 apartment buildings. The assistance covers 10% of the cost of these works. To apply for refurbishment assistance, the apartment building in question must go through technical inspection, which includes an energy audit. To conduct such an inspection (including energy audit), the apartment/house union or the association of apartment owners may receive assistance in the amount of 50% of the cost, but not more than EUR 700 \ per energy audit and EUR 4000 \ for the reconstruction project. Assistance is provided on the basis of applications submitted to local governments that have signed a cooperation agreement with KredEx to administer the given measure on the local level.

During the period 2003-2010 KredEx supported technical inspection activities, which included energy audit as an element, in 5,592 apartment houses. Total support has been EUR 1.85 million received by 6,043 HOAs. In most cases the audits were followed by renovation works that resulted in energy savings, mainly of heat energy. Grant support for the energy certification of buildings is provided by the city of Tallinn in the amount of EUR 96. The instrument was launched in 2009, and more than 1,500 buildings have benefitted from it9.

Local Government Support

Municipalities of Tallinn, Paide and Rakvere are offering a subsidy for loans to housing cooperatives. Housing cooperatives and associations in Tallinn can take a loan with an interest of 2.85% for 5 years or 3.8% for 10 years. Unfortunately total allocations for the subsidy are far below actual demand. The annual budget for subsidies in Tallinn was EUR 200,000. This amount could have satisfied the demands of ~10% of the housing organizations in need10.

1.1.7. Conclusions and lessons learned

Recession Behind: With the recession behind it and the economy in decent shape, the government still needs to find ways to increase economic activity including building renovations. Despite continued low interest rates, many households have seen their income plunge and still remain wary of any incremental investments.

Structure in place: The privatization process began well in the 1990’s with compulsory HOA formation and reasonable voting procedures. Since 2000, banks have generally been comfortable lending against HOA’s cash flows, and there is a functioning recourse mechanism (first, attempt to cure the default with social support for families in need, second, court mechanism to sell the apartment). Still much work is needed to change people’s attitude and overcome the country’s “socialist” mentality.

Pressure to renovate is high: With its aging housing stock, poor building construction quality, low energy efficiency and growing energy costs, as well as a low supply of new buildings in recent years, renovations are needed. However, despite functioning financial mechanisms and government incentives, people remain poorly uninformed of energy savings potential, inner workings of various incentives and added benefits post renovation such as increased real estate value and improved living environment. The main task is to increase awareness through direct contact with HOAs.

---

Direct programs for HOAs: Even with guarantees and low interest rate loan mechanisms in place, the demand and awareness among HOAs remain low. Numerous public advertising initiatives don’t seem to improve the situation much. One suggested mechanism is to allocate more funds to raising awareness by hiring specially educated professionals. These professionals can explain the value and various mechanisms for MFB renovations directly at HOA meetings (sometimes more than one meeting may be needed to address concerns and alleviate fears).

More low-rate mechanisms needed: In case of increased demand, the capacity of existing low-rate loans available through KredEx in cooperation with two banks is limited. Other banks are willing to lend at commercial rates, but this may appear too costly for most households and subsequently HOAs. Therefore, more low-rate programs need to be established in cooperation with other banks and maybe European and international financial institutions.

Value of pilot projects: With low awareness of the benefits of building energy efficiency renovations and structures/mechanisms in place, the value of pilot projects is very high as it allows the general population to visualize results and shift their attitudes. One channel through which to disseminate information on successful projects more efficiently is through HOAs and cooperatives (such as Estonian Union of Cooperative Housing Associations), which are becoming more popular.

Need to change tariff structure: With 99% of all buildings equipped with meters, there are still very few incentives for DHCs and maintenance companies to become actively involved in promoting energy efficiency. With rising energy costs, despite the somewhat regulated market, there is a strong need to devise new tariff schemes that may help induce heating and maintenance providers to participate in energy efficiency programs.
1.2. Republic of Lithuania Best Practice Analysis

1.2.1. Executive Summary

- Lithuania was one of the EU countries hardest hit by the financial crisis in terms of GDP contraction. However due to the anti-crisis measures undertaken by the government, Lithuania has recovered relatively quickly and is expecting 5.8% GDP growth in 2011.
- The Lithuanian government has included the building renovation as one out of six measures for navigating the financial crisis.
- 95% of Lithuania’s housing stock in Lithuania was built before 1990 and is predominantly inefficient construction technology. The inefficiency of the housing stock provides major opportunity for energy efficiency savings; using retrofit of balconies, renovation of parapets, cornices windows, roofs above the main entrance and walls insulation, up to 50% energy savings is possible.
- From 1992-1995 a massive privatization of the housing stock took place; by 1995 about 95% of the housing stock was successfully privatized.
- Energy supply in Lithuania’s MFBs is primary heat supply delivered by district heating companies. Heat supply from DHCs accounts for over 60% of total energy use in MFBs. Heating for a flat of 60 square meters cost approximately varies from about 8% for a newly built apartment with a high quality insulation up to 27% for the old buildings that have not undergone any renovations and energy efficiency measures.
- Energy modernization measures are an efficiency way to reduce household spending, as well as a means of reducing CO2 emissions and meeting the Kyoto criteria. It is expected that within the next 15 years, total DHC heat production will not increase due to the energy efficiency measures undertaken in the building sector.
- The framework for and adoption of HOAs in Lithuania remain underdeveloped; by 2004, only 17% of apartment buildings were managed and maintained by the housing owners through HOAs. HOAs are mainly regulated through the Homeowners Association Law adopted in 1995 as well as by the Civil Code and some other legislative regulations. Reasons that membership of HOAs remains unpopular include a lack of understanding of the benefits that an association can confer on the homeowners, and the practical difficulties in establishing and administering an association.
- The lack of HOA adoption is one of the primary barriers for the banks to provide loans for energy efficiency. Furthermore, here is no functioning model for providing security to HOA loans from banks.
- Building administrators are to be appointed for those MFBs which have neither HOAs nor an equivalent agreement between owners. Administrators are to be appointed by the municipality. This mechanism supports getting financing where normally there is a Joint Agreement signed between the banks, the administrator and the households. In case of non-performance by the households usually the banks are dealing directly with households.
- The financing of building renovation in Lithuania is driven mainly by several pilot projects, most importantly one run by the World Bank. Bank financing for building renovation is not in widespread use. Currently a JESSICA program is gaining momentum, and will expected to be the main financing mechanism by 2020 with support of three local banks in Lithuania mentioned further in the report. The Lithuanian government has signed a EUR 100 million loan with the NIB to secure its participation in EUR 227 million JESSICA funding.
- The ESCO model has not been widely applied in Lithuania. While there are several examples of ESCO financing to date, these projects have not used the traditional ESCO financing model.
- The Lithuanian government is focusing on the use of biomass within its DHCs. Every year the country’s heat sector continues to expand, the usage of biofuel. The content of the biofuel heating input in 2000 has been 2% in 2010 is more than 20% and the expectations is that percentage to grow in the coming years up to 67%.

1.2.2. State of Economy

The largest and most populous of the Baltic states, Lithuania, which covers an area of 65,200 square kilometers, is situated on the eastern shore of the Baltic Sea, in northeastern Europe. It is bordered by Latvia to the north, Belarus to the southeast, Poland to the southwest, and Kaliningrad, a territory of Russia, to the west. The country achieved its independence by the Soviet Union in 1992 and in 2004 became a member of the European Union.

Latvia’s GDP in 2010 was EUR 25 billion with 1.8% quarter-over-quarter growth in the fourth quarter. Prior to the global financial crisis of 2008–2009, Lithuania had one of the fastest growing economies in the European Union, with growth of almost 10% in 2007. The service sector constitutes the largest share of GDP, with the information and communication technologies sub-sectors being the fastest growing.
Table 5.: GDP Growth, Government deficit

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP billions in EUR</td>
<td>23.9</td>
<td>28.4</td>
<td>38.4</td>
<td>26.5</td>
<td>27.4</td>
</tr>
<tr>
<td>GDP growth rate</td>
<td>7.80%</td>
<td>9.80%</td>
<td>29.0%</td>
<td>-14.70%</td>
<td>1.90%</td>
</tr>
<tr>
<td>Government deficit as % of GDP</td>
<td>-0.40%</td>
<td>-1.00%</td>
<td>-9.30%</td>
<td>-9.50%</td>
<td>-7.10%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>4.80%</td>
<td>3.70%</td>
<td>3.50%</td>
<td>5.80%</td>
<td>19.70%</td>
</tr>
</tbody>
</table>

Source: Lithuanian State Government

The benchmark interest rate in Lithuania was last reported at 2%11. In Lithuania, interest rate decisions are made by the Board of the Bank of Lithuania (Lietuvos Bankas). The official interest rate is the Overnight Repurchase Rate. The litas-dollar peg lasted from 1994 to January 2002 (US$ 1 = LTL4). In February 2002 the litas was re-pegged to the Euro at EUR 1 = LTL 3.4528. In 2006, only 44% of new loans were denominated in Euro, but from 2009 to the first quarter of 2010, the ratio of Euro-denominated loans rose to around 80%-90% of new loans12.

Recession Era

The global credit crunch which started in 2008 mainly affected the real estate and retail sectors in Lithuania. The construction sector shrank by 46.8% during the first three quarters of 2009 and the slump in retail trade was almost 30%. GDP plunged by 15.7% in the first nine months of 2009. Lithuania was the last among the Baltic states to be hit by the economic crisis; its GDP growth rate in 2008 was positive and did not contract until 2009.

The Lithuanian Governmental has implemented a package of measures as a response to the crisis that can be categorized as follows:

- Loans for businesses
- Export promotion
- Renovations of public buildings and apartment blocks
- Absorption of EU Structural Funds

Furthermore, the government has signed a National Agreement aiming to reduce the deficit and revive economic growth. The document was signed in October 2009 by 350,000 individuals and 5,500 companies and included the following commitments13:

- Bring the fiscal deficit below the Euro-zone limit of 3% of GDP
- Reduce number of civil servants by 10%
- Reduce pensions and maternity benefits
- Increase social security tax by 2%
- Reduce corporate profit tax from 20% to 15%
- Launch large-scale, high value public-private partnerships
- Simplify administrative procedures for companies to get EU funds
- Provide low-interest loans for start-up companies

As a result of measures undertaken in the third quarter of 2009, GDP grew by 6.1% quarter-over-quarter after five quarters of contraction. Thus the rebound in Lithuania’s economy in the third quarter exhibited the highest positive GDP growth for that period compared to the rest of the EU.

The Lithuanian Government approached the European Commission for State aid. As a result the EC authorized a support package for Lithuanian financial institutions to stabilize the markets as a response to the global financial crisis.

---

11 http://www.tradingeconomics.com/lithuania/interest-rate
12 http://www.globalpropertyguide.com/Europe/Lithuania/Price-History
13 http://www.euromoneyconferences.com/downloads/Borrowers10/PrimeMinisterLithuania.pdf
The package has provided eligible credit institutions with new capital, guaranteed by newly-issued short and medium term debt, and relieved them of troubled assets under strict conditions. The total volume of the scheme available was EUR 870 million with an open period from August to December 201014.

The package included three measures designed to stabilize the financial markets:

- an asset relief measure, whereby Lithuania took over certain categories of bank assets from beneficiary banks in exchange for cash or government securities.
- a recapitalization measure, making available new capital to credit institutions in the form of subordinated loans, to strengthen their capital base against potential losses.
- a guarantee measure covering, against remuneration, loans and other senior financial liabilities (except interbank deposits). The remuneration was aligned with the recommendations of the European Central Bank (ECB).

The Lithuanian Ministry of Finance has more than doubled its GDP growth forecast in 2011 to 5.8%, compared to 2.8% previously. The adjusted projection is based on the acceleration of export growth in the fourth quarter of 2010. The Ministry also projects that the GDP will grow by 4.7% in 2012, 3.7% in 2013 and 3.4% in 2014. Accelerated growth has pushed the Lithuanian authorities to reduce their forecast government deficit in 2011 to 5.3% of GDP compared to 5.8% forecasted previously. Lithuania will reduce the deficit below 3% to reach its goal of joining the Euro zone in 201415.

<table>
<thead>
<tr>
<th>Table 6: GDP growth forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country Forecast Overview</strong></td>
</tr>
<tr>
<td><strong>Real GDP Growth (%)</strong></td>
</tr>
<tr>
<td><strong>Budget Balance (% of GDP)</strong></td>
</tr>
</tbody>
</table>

Source: economicsnewspaper.com

1.2.3. Housing Market

Multifamily sector

The Lithuanian Population numbers approximately 3,370,000. There are a total of approximately 83,000 MFBs which house a total of 800,000 apartments. About 52,713 buildings are located in urban areas and about 30,472 buildings are located in rural areas. Lithuania has 365 apartments for every 1,000 people, resulting in useful floor space per capita accounts of 22.1 square meters. 97% of the housing stock is privately owned, while municipal rentals account for 3% of the total16. About 66% of the Lithuanian population lives in MFBs built before 1993, according to the Department of Statistics. From 1995–2006, the household size in Lithuania has decreased by 15% from 2.76 to 2.39 people per household while per capita living area increased by 21%. More than two thirds of Lithuanian urban apartments are two or three room apartments with an average area of 54 square meters17.

The majority of Lithuanian MFBs were built before 1990; only 5% of the housing stock was built after that time18:

- Apartments completed before year 1940 – 14%;
- Apartments completed during 1941 – 1960 – 11%
- Apartments completed during 1961 – 1990 – 70%
- Apartments completed after 1990 – 5%.

The average MFB consists of 55 apartments with heating area of about 3,300 square meters. The average annual energy consumption for heating is about 150 kWh per square meter19. About 65% of the MFB heat is supplied by district

16 JESSICA
18 Sustainable Housing Development Program
19 Lithuanian Housing Strategy
heating companies; some of the larger cities are gasified, allowing apartment owners to use natural gas through direct burning. The remaining heating methods include electricity and wood burning.

About 59% of MFB apartments in Vilnius are located in large-panel buildings. Brick and cast-in-place buildings account for 35% and 6% of all apartments in MFBs, respectively. There are about seven varieties of large-panel houses, six types of brick and four types of cast-in-place buildings. Major problems associated with maintenance, as well as defects and drawbacks found in panel houses, are common to all such buildings constructed in the period from 1960 to 1996. Deterioration has been noted across the following building elements:

- depreciation of external walls 10-40%;
- depreciation of joist ceilings – 10%,
- internal walls – 10%
- staircases 10-20%;
- balconies and roofs above the entrances – 50%;
- ledges (cornices) and parapets – 45%

The main problems are leaking roofs, defective windows (within apartments and on staircases), poor joints between panels in panel buildings (which result in water permeating to the interior), insecure entrance doors, and dangerous balconies and entrance roof slabs—the ‘common areas’ of multi-family housing.

From 1992 to 2005, 65% of homeowners partially reconstructed their homes, mostly at their own expense, through the World Bank financed Energy Efficacy Pilot Project or through banking credits, in order to save fuel. 88% of homes have been replaced windows, 33% installed roof insulation, and nearly 16% installed outer wall insulation.

**Heat Generation**

More than 71% of the energy generated by DHCs is delivered to households for heating and hot water preparation purposes. Over 60 district heating companies are operational in Lithuania. Natural gas accounts for approximately 80% of the fuel used by district heating companies. Due to the rising price of natural gas imported from Russia, the price for district heating has become relatively high compared to average household incomes. For example, the price for heating delivered through district heating was about EUR 0.06/kWh in 2007-2008. Heating for an old flat of 50 square meters cost approximately EUR 100-143 per month in 2007-2008. This amounts to 19-27 % of monthly earnings (average gross earnings of EUR 518)

The share of heat delivered to inhabitants was used for the following purposes:

- For space heating – 67.4%;
- For hot water preparation – 16.4%;
- For hot water temperature maintenance (circulation) – 16.2%.

Compared to the electricity and gas sectors, consumers most often complained about issues related to heat and hot water consumption. This is due to lack of communication and responsiveness on the part of DHCs when asked questions by apartment owners. DHCs are now seeking to improve customer service to address these complaints.

**Price Regulation**

Heat prices in Lithuania are fixed by the National Control Commission for Prices and Energy (NCC) and municipalities. District heating suppliers generating not less than 5 GWh of heat energy prepare (in accordance with the heat and/or hot water pricing methodologies) and submit base heat prices for the approval of the NCC; the base prices approved by the NCC are publicly announced. The base price is set for 3-5 years and recalculated on an annual basis only in consideration of substantial market changes, e.g. change of fuel prices, inflation, and realized heat volume. In accordance with the base prices, the Municipalities Councils set the heat prices to be charged by any heat company controlled by the municipality and selling more than 5 GWh of heat per year. Municipalities also set the heat prices for those companies that sell less than 5 GWh of heat per year. The maximum tariff for the maintenance of heat and/or hot water systems in apartment buildings is also set by municipalities.

---

21 JESSICA
22 Sustainable Housing Program Development Project
Tariff structure

The pricing methodology for district heating and hot water may be either monomial or binomial. The heat price may be differentiated depending on the type of heat supply system, customer groups, volume of heat consumption, reliability of supply, season of consumption, periodicity and method of metering. Customers given the choice between the two systems do not often choose pricing with multiple components; thus one-part component tariffs are dominant.

In the heat sector two types of price calculations exist, namely the "lead-in" and the "flat". A portion of customers buy thermal energy in the feeders (leads-in) of buildings where a heat meter is installed, and a supply and consumption limit is established by the agreement. Customers buying thermal energy at the lead-in pay only for heat production and transmission. In the case that the heat supplier supplies thermal energy directly to the flat, the "selling" price is added to the heat production and transmission price, including the costs of subscription services for heat distribution, as well as taxes and administrative fees. Such differentiation does not discriminate against large customers, which do not pay the internal distribution costs in MFBs. On the other hand, the communities of MFBs have the opportunity to buy heat at the lead-in of the buildings, which can be 2-5% cheaper than heat supplied directly to the flat.

The National Control Commission for Prices and Energy established the maximum heat consumption norms for the heating of flats and other lodgings in MFBs (see table below). These norms are publicly announced and are applied to apartment buildings in which the heating systems do not correspond to the obligatory requirements. In these houses, the heat supplier cannot claim payment for the quantity of consumed heat exceeding the maximum heat consumption norms. If requested by residential customers, the State Energy Inspectorate determines whether the heating systems in the house correspond to the obligatory requirements.

Table 7: Heating costs for apartment houses based on 0.067€/MWh tariff for 2010/2011

<table>
<thead>
<tr>
<th></th>
<th>Heat consumption for heating</th>
<th>Average price for 1 m² space heating</th>
<th>Heating price for 1 sq. m space heating</th>
<th>Payment for flat of 40 sq. m</th>
<th>Buildings, %</th>
<th>Flats</th>
<th>Inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment houses with low heat consumption (modest, high quality)</td>
<td>10 kWh/m²</td>
<td>0.067 €/kWh</td>
<td>0.67 €</td>
<td>41.00 €</td>
<td>4.60%</td>
<td>53.000</td>
<td>50.000</td>
</tr>
<tr>
<td></td>
<td>15 kWh/m²</td>
<td>0.067 €/kWh</td>
<td>1.01 €</td>
<td>60.99 €</td>
<td>17.83%</td>
<td>131.000</td>
<td>360.000</td>
</tr>
<tr>
<td>Apartment houses with high heat consumption (typical)</td>
<td>25 kWh/m²</td>
<td>0.067 €/kWh</td>
<td>1.68 €</td>
<td>100.00 €</td>
<td>25.00%</td>
<td>380.000</td>
<td>1,170.000</td>
</tr>
<tr>
<td>Apartment houses with very high heat consumption (old)</td>
<td>35 kWh/m²</td>
<td>0.067 €/kWh</td>
<td>2.35 €</td>
<td>141.00 €</td>
<td>22.47%</td>
<td>157.000</td>
<td>470.000</td>
</tr>
</tbody>
</table>

Source: Lithuanian District Heating Association

Another source shows that the average urban household expenditures for energy used in the home could be divided as follows: almost half (42%) goes to district heating; electricity accounts for 23% and non-metered pipe gas for 22%. Lithuanian official sources state that the average consumption for energy represented about 12-13% of total monthly household expenditures during recent years, second to expenditures for food.

The district heat supply demand is not expected to increase before 2025. By implementing residential and public building renovation programs, energy demand can be cut in half. Thus it is expected that the total district heating demand in 2025 will be less than it was in 2004. The price for natural gas in households is EUR 0.0439/kWh and for electricity is EUR 0.106/kWh.

Energy Taxation

The Value Added Tax in Lithuania is set at 18%. According to the terms of Lithuania’s accession to the EU, VAT for heat and hot water preparation has been at this level since May 2004. However, the Government of Lithuania has
subsidized 13% of VAT for heat and hot water supplied to residents since September 2004. Consequently, the VAT for heat and hot water supplied to residents is currently 5% (for industrial consumers VAT for DH is 18%). For gas and electricity VAT is 18% as well.

1.2.4. Regulatory Framework

Privatization

Lithuania’s privatization process was regulated by several documents, including:

- Law on Primary Privatization of State Property;
- Law on Privatization of Property of Agricultural Enterprises;
- Law on privatization of apartments;
- Law on restitution of property, which by ownership rights before II World War belonged to former owners

The citizens of Lithuania purchased 93.5% of all housing stock (houses and apartments) in accordance with the Law on Privatization of Apartments. Currently, 97% of all housing stock (houses and apartments) are privately owned.

### Table 8: Initial results of privatization

<table>
<thead>
<tr>
<th>Type of ownership</th>
<th>1991</th>
<th>1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>39</td>
<td>37</td>
</tr>
<tr>
<td>State and municipal</td>
<td>52</td>
<td>2</td>
</tr>
<tr>
<td>Cooperative</td>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

*Source: Zilinskiene, 1995*

State and Municipal Oversight

Seven ministries of the Lithuanian government regulate the housing sector as follows:

- Ministry of Environment: technical and physical management of the housing stock
- Ministry of Finance: funding of the housing programs,
- Ministry of Social Security and Labor: authorized to provide subsidies to low-income families
- Ministry of Economy: issues related to energy use
- Ministry of Agriculture manages land matters
- Ministry of Justice: is responsible for the real estate register
- Ministry of the Interior: formulates and implements regional development policy, coordinates the state and local government interests

Though the main institution tasked with formulating the housing policy is the Ministry of Environment, it does not manage funds allocated to the housing programs and the housing policy implementation agencies. The Ministry of Finance manages the funds of the Special Program to Finance State Support to Acquisition of Residential Buildings and Apartments.

In 2004 the Lithuanian Government adopted the Lithuanian Housing Strategy, which resulted in the development of the following programs.

- Program for Development of Social Housing Stock
- Program for Modernization of Multi - apartment Buildings
- Public awareness Program

---

26 Source: Zilinskiene, 1995
27 www.am.lt/VI/en/VI/files/0.386991001107419000.doc
Table 9: Main Goals of the Strategy

<table>
<thead>
<tr>
<th>Goal</th>
<th>Indicator 1</th>
<th>Indicator 2</th>
<th>Indicator 3</th>
<th>Indicator 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To expand housing choices to all social groups of the population</td>
<td>1.1. Rural housing will account for 35% of the national housing stock (currently 18%), including social housing 2% (currently 1%)</td>
<td>1.2. The scope of residential construction will increase from 4,000 dwellings annually to 12,000-15,000 dwellings annually</td>
<td>1.3. The indicators of residential construction will increase from 4,000 dwellings annually to 12,000-15,000 dwellings annually</td>
<td>1.4. With increased mobility of the population, the annual housing market turnover (currently 4%) will grow to 3-3.5% (housing density EU level)</td>
</tr>
<tr>
<td>2. To ensure efficient use, maintenance, renovation and modernization of the existing housing, efficient energy use</td>
<td>2.1. For the majority of multi-apartment buildings, heating systems will be modernized and/or reconstructed, roof structures will be reconstructed, windows and doors will be renewed or replaced</td>
<td>2.2. The total energy consumption of residential buildings will be reduced by at least 20%</td>
<td>2.3. The costs in maintaining heating and cooling systems per unit of useful residential floor space will be reduced by at least 20%</td>
<td>2.4. Renewable and alternative energy sources will increase and account for 5% - 10% of the total energy use</td>
</tr>
<tr>
<td>3. To strengthen the capacity of the management system parties involved in the management</td>
<td>3.1. A sustainable state management system will be established</td>
<td>3.2. Local government functions related to the implementation of the housing policy will be expanded and the financial capacity will be increased respectively</td>
<td>3.3. The number of multi-apartment buildings managed by multi-apartment owners' associations will increase from 20% (currently) to 50%</td>
<td>3.4. Public awareness, training and education systems operating on a regular basis will be established</td>
</tr>
<tr>
<td></td>
<td>3.5. A reliable housing sector information system, harmonized with the EU housing statistics, will be established</td>
<td></td>
<td>3.6. The housing market will become more flexible and efficient</td>
<td></td>
</tr>
</tbody>
</table>

Source: Lithuanian Housing Strategy

Organization and Regulation of services

As of 2004, only 17% of apartment buildings were managed and maintained by the housing owners through HOAs. When establishing HOAs, the owners often lack initiative, as well as information and organizational/technical support by the public and local government institutions. HOAs usually are not able to ensure appropriate maintenance of common ownership in the MFBs and instead can contract maintenance companies operating on the market. However, there has been a shortage of companies providing quality maintenance services to HOAs and therefore vast majority of buildings are still managed and serviced by municipally owned entities.

Administration of MFBs

In order to solve some of the main issues that prevent the proper functioning of HOAs as well as proper building maintenance, the Lithuanian government has included into its Housing Strategy some of the following improvements. The priority is improved maintenance and value optimization for MFBs:
- Amend and improve the legal and regulatory framework for administration of the use and maintenance of residential buildings
- The Law on Construction of the Republic of Lithuania was amended by Law No. IX-1780 of 16 October 2003 (Valstybės žinios, 2003, No. 104-4649) with a new chapter “The Use and Maintenance of Construction Works”
- A licensing system for maintenance managers of buildings was introduced. The implementation of this system aims improve the quality of housing maintenance.
- To encourage the establishment and activities of HOAs in MFBs through enabling housing owners to make a bigger impact on the improvement of the housing maintenance and administration of service quality

28 Source: Lithuanian Housing Strategy
HOA Legal Framework

By 2002, some 8,500 HOAs had been established throughout the country. 70% of the HOAs were located in the six largest towns, with 34% of them in Vilnius itself29. Because of the diverse barriers affecting individual households, an aggregation of households might be a more effective vehicle in promoting energy efficiency. HOAs represent potential target groups for organizing households in promoting energy efficiency at the building and/or community level, but face significant barriers including lack of experience or financial resources, as well as a high level of diversity. In February 1995, the Parliament adopted the Homeowners Association Law that makes the HOA the single organization responsible for housing maintenance and issues related to common areas in multifamily buildings. The HOA is given the right to make transactions, undertake ownership obligations, open a bank account in Lithuania or abroad, obtain credits, and levy charges on all homeowners, be they members or not, for the purpose of financing maintenance and repair work agreed to by a majority of its members.

The HOAs are very heterogeneous in terms of their ability to implement thermal rehabilitation of buildings and are inexperienced in obtaining financial assistance. Over 92% of HOA members have never applied for a loan or grant for repair work. This reluctance reflects the fact that tenants are wary of using their home as collateral for fear of losing them, and they are not confident in the banking system. Similarly, banks are unwilling to accept multifamily homes as collateral because of ambiguous laws and lack of enforcement. Households with HOAs are excellent candidates for implementing energy efficiency because they are more informed about energy efficiency and insulation compared to their counterparts30. Furthermore members of HOAs have higher incomes than non-members.

Table 10: HOA members by Place of Residence

<table>
<thead>
<tr>
<th>Place of Residence</th>
<th>&lt;25</th>
<th>25-45</th>
<th>46-69</th>
<th>&gt;69</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>3%</td>
<td>59%</td>
<td>12%</td>
<td>1%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Members</td>
<td>91%</td>
<td>20%</td>
<td>39%</td>
<td>19%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 11: HOA members by Age of Respondent

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vilnius</th>
<th>Neat cities</th>
<th>Smaller towns</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>35%</td>
<td>47%</td>
<td>46%</td>
<td>53%</td>
</tr>
<tr>
<td>Non-Members</td>
<td>65%</td>
<td>53%</td>
<td>54%</td>
<td>68%</td>
</tr>
</tbody>
</table>

Reasons that HOA membership remains unpopular include a lack of understanding of the benefits that an association can confer on the homeowners, and the practical difficulties in establishing and administering an association. Correspondingly, it has been found that householders are not well informed about the implications and practical, financial and administrative techniques of common area improvements.

The Civil Code also requires that a building administrator be appointed for multi-family buildings that do not have HOAs or an equivalent agreement between owners. Administrators are to be appointed by the municipality. This mechanism seeks to streamline financing: normally there is a Joint Agreement signed between the banks, the administrator and the households. In case of non-performance on the part of individual residents, banks deal directly with households. In the case that an HOA is established, the HOA is the counterparty to a bank financing and receives the funds. Non-performance is resolved between the HOAs and the residents under the Civil Code. HOA or not, a 51% majority is required to incur debt. So far under the JESSICA program, no households have been reported to be delinquent.

The existence of a well-managed HOA is not a precondition for a loan to be granted for the upgrading of common areas. Banks may give loans to owners that have chosen not to be represented by an association and may presumably also give loans to building administrators for the purposes of common area upgrading. Although the powers of building administrators remain to be defined, administrators may take loans on behalf of those families for whom they provide administrative services. Nevertheless, the existence of a well-managed association would clearly provide a greater level of comfort to a banker, by indicating the ability of the homeowners to act together for the common good.

Municipal maintenance

The laws on building management were changed with the Civil Code of July 2001. Among others, building administrators are to be appointed for those MFBs which have neither an HOA nor an equivalent agreement between

29 Housing survey 2002
30 Source: Vine et al. 1997
organizers. Administrators are to be appointed by the municipality; the Ministry of Environment has approved certain regulatory acts in this respect\textsuperscript{31}. In order to introduce competition and greater transparency, maintenance companies have been privatized in a few of the larger municipalities (Vilnius, Alytus, Jonava and Šiauliai; Kaunas).

**Housing Urban Development Agency\textsuperscript{32}**

The Public Institution Central Project Management Agency\textsuperscript{33} was formed in 2001 and is based in five regional advisory centers created to support the participation of homeowners in the Energy Efficiency Housing Pilot (ETB) Project. The main task of the Housing and Urban Development Agency is the preparation and implementation of the programs created by the Lithuanian Housing Strategy, as well as providing assistance to the Ministry of Environment and other governmental institutions on housing issues. HUDA provides support to municipalities, building administration and maintenance companies, homeowners and HOAs with organization of building maintenance and implementation of building renewable projects. Since 1997, HUDA has conducted over 200 energy audits and investment proposals for residential buildings.

**State Programs for Financing Housing Construction and Mortgages and renovation**

Since 2005 HUDA has been administered the modernization program for MFBs in Lithuania by:
- Providing state support (100% grant for preparation of projects) for homeowners implementing multi-apartment renovation projects
- Evaluation of renovation project investment plans
- Evaluation of implemented renovation projects
- Running public information campaigns
- Organizing related training and education in the areas of management, accounting, housing

**The Lithuanian Education Improvement Project (2002 – 2006)**\textsuperscript{34}: The Lithuanian Education Improvement Project focused on the improvement of energy efficiency in 62 basic schools in 2002-2005. Ex post evaluation estimated savings at 11.6 GWh or 27%.

**Modernization of MFBs (2004 – on-going)**\textsuperscript{35}: The main target of the program is to stimulate the modernization of MFBs.

**Goals and objectives of the program are:**
- to increase the efficiency of energy consumption in buildings; thermal energy and fuel consumption in the present housing sector will decrease by 30%;
- to decrease expenses related to district heating;
- to improve building conditions;
- to prolong buildings’ life cycles;
- to aid in reaching political energy targets;
- to enhance behavioral change of energy consumers.

**Building code on Thermal Techniques of Buildings (STR 2.05.01:2005)**\textsuperscript{36}: The implementation of new building standard in (STR 2.05.01:2005) allowed decreasing energy consumption in the new constructed buildings up to 20% compared to buildings constructed prior.

**Joint European Support for Sustainable Investment (JESSICA) for Lithuania 2009**\textsuperscript{37}: JESSICA program is foreseen to support energy efficiency measures thorough financing of MFBs. The EE measures are mainly through renovating of following building equipment believed to have the highest impact on improving of the Energy Efficiency:
- Heating and hot water systems
- Windows and exterior doors replacement

---

\textsuperscript{31} The course of licensing for administration institutions; standard roles for administration institutions; procedures for the appointment of administrators by municipalities.

\textsuperscript{32} http://www.been-online.net/Housing-and-Urban-Development-Agency-Lithuania.pp10.0.html

\textsuperscript{33} http://www.cpva.lt/agency/about/

\textsuperscript{34} web.worldbank.org/external/projects/main/pagePK=104231&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P070112

\textsuperscript{35} http://mechanisms.energychange.info/case-studies/12

\textsuperscript{36} http://www.odyssee-indicators.org/publications/PDF/nr_lithuania_2007.pdf

\textsuperscript{37} http://www.eib.org/products/technical_assistance/jessica/
- Roofs insulation
- Insulation of external walls
- Glazing of balconies
- Alternative energy sources (sun, wind, etc.) installation
- Soft loan measures: Lift replacement, electric works, water networks, fire protection

The JESSICA target is to achieve 1,000 renovations each year from 2010-2015. It is expected that average energy savings for a single building will be approximately 50%.

**Potential Environmental Impact (Carbon Savings) of EE for MFBs**

The implementation of the EU ETS and Flexible Kyoto Mechanisms (Joint Implementation) in Lithuania will have an impact on energy end use efficiency. No white certificates system has been introduced in Lithuania yet. Currently, the incentives provided by the Kyoto mechanisms, including the possible use of the EU ETS credits generated through JI or CDM project activities are not sufficient to support energy efficiency projects. This is particularly the case for small scale energy efficiency projects where transaction costs are too high to use JI.

### 1.2.5. Energy Efficiency for MFBs

**Existing Use of Energy Efficiency for MFBs**

Complex renovations have already been implemented under JESSICA in Vilnius such as:

- 120 MFB apartments with 40% energy efficiency achieved
  - Insulation of external walls and roof
  - Window replacement
  - Glazing of balconies

- 80 MFB apartments with 50% energy efficiency achieved
  - Insulation of external walls
  - Window replacement
  - Glazing of balconies
  - Renovation of the heating substation and the heating systems

- 45 apartments multifamily building with 60% energy efficiency achieved
  - Insulation of external walls and roof
  - Window replacement
  - Glazing of balconies
  - Renovation of the heating substation and the heating systems

A large portion of investments (60.4%) goes to external walls insulation with 10.6% allocated to window replacement.

- Average investment for one apartment ~ EUR 5,800 (20,000 Lt)
- Average expenses for 1 m² heated area ~ EUR 107 (370 Lt)
- Average investment for refurbishment of 1 MFB ~ EUR 290,000 (1 mln. Lt)\(^{38}\)

According to the Housing Advisory Agency, complex renovation/reconstruction in an average 5-story 50-apartment building would include the following measures:

- Replacement of heating substation, balancing of heat system
- Installation of individual heat cost allocates
- Heat and water pipes renovation
- Roof renovation with insulation
- Windows replacement
- First floor insulation
- New wiring installation
- Renovation of staircase\(^{39}\)

---

\(^{38}\) JESSICA

\(^{39}\) Housing Advisory Agency
1.2.6. Financing Mechanisms

The main method of financing for energy efficiency measures is the use of private capital. Because of the cost of improvements relative to personal incomes, most households would need to take loans to be able to afford essential repairs. However, despite the positive example of EEHPP, banks have failed to respond to the opportunity by offering loans from their own resources. There are several reasons for the fact that EEHPP has not yet been mass commercialized. One may be that there are still relatively few HOAs (representing entities with which banks may negotiate for loans). Probably more significant is the absence of a system for securing collateral for loans made for common property. It may also be that banks would perceive the potential transaction costs of lending to homeowners associations or their members—even with acceptable collateral—to be so high that demand would be muted.

Furthermore, banks will want additional assurance about the security of loans to homeowners associations, apartment owners not in an association, or building administrators. As the law presently stands, the legal basis on which lenders could collect claims against associations or individual members of the associations, for common area loans are unclear. Loan to homeowners associations would be unsecured; and this would not be acceptable to banks as a basis for lending.

It is clear that all households within a multi-family building need to be in a position to repay any loan taken out on their behalf. Although the legal position is that it is not necessary for all households within a building to give their formal agreement to a project, in practice any rate of agreement less than 100% would be unacceptable to a lending institution.

Financing options

Energy Efficiency Housing Project (1996)\textsuperscript{41}: The Energy Efficiency Housing Pilot Project (EEHPP) in Lithuania was implemented from 1996-2001 with the support of the World Bank. The Project identified a number of factors influencing the pace of building renovation. The successful implementation of building renovation and energy efficiency in the EEHPP have been dependent on:

- the homeowner's financial resources
- ownership issues and real estate value of apartments
- energy prices
- capacity and capability of market for maintenance, repair and construction

Furthermore the program includes:

- Provision of loans for technically and economically attractive packages of energy efficiency
- Development of energy consulting services
- State support to low income families
- 30% state grant

In the beginning of 1999, the Lithuanian Government decided to introduce a 30% grant for HOAs investing in energy efficiency. Together with its network of five advisory centers, this resulted in a significant increase of loan applications. As of May 2000, more than USD 7 million were approved for 162 HOAs and 23 owners of single family houses. In individual cases, energy savings varied from 5% to almost 50\%\textsuperscript{42}.

The Energy Efficiency Housing Pilot Project in Lithuania was implemented in 1996-2001 with the support of the World Bank. Results of this pilot project showed that average comfort adjusted savings accounted for 30%. Furthermore the project has resulted in:

- Renovated more than 700 multifamily buildings;
- Invested more than € 20 million
- Annual savings in all renovated multifamily buildings around 100 GWh worth € 3 million

\textsuperscript{40} An expert report on the legal framework for bank loans to associations for common area improvements (Lilleholt et al, 2002) finds that the existence of a homeowners association is a desirable but not an essential precondition for such loans. It finds that although legal changes are desirable, they may not be absolutely critical. And it finds that although the social laws protect families with children against eviction, there are mechanisms that would still allow banks to enforce loan agreements.

\textsuperscript{41} web.worldbank.org/external/projects/main/ProjectId=P035163&theSitePK=40941&piPK=73230&pagePK=64283627&menuPK=228424

\textsuperscript{42} http://mrw.wallonie.be/dgatlp/logement/logement_euro/Dwnld/Questionnaires/SH\%20questionnaire_Lithuania.pdf
**World Bank:** In an attempt to address the housing energy efficiency problems the Government of Lithuania, the World Bank and several Scandinavian countries established a co-financing fund. From 1996-2004, a quasi-governmental body, the Housing Credit Fund (HCF) «Bustas»; provided both technical and financial assistance for building renovation to HOAs and individual owners, facilitated development of energy service companies, financed demonstration projects (like school and public building retrofits), and provided the necessary feedback to ministries and parliament commissions for the creation of new legislation. The Project was administered by CPMA (Central project management agency). The Main goals of the project were to:

- Support private initiatives to improve residential energy efficiency
- Support public initiatives in improving energy efficiency in schools
- Support development of professional engineering consultant services in the housing sector
- Support the privatization of housing maintenance services, enabling increased private initiatives in housing maintenance

The Project was funded with USD 18.5 million divided into:
- Loans for Residential Energy Efficiency Rehabilitation (USD 8.5 million available to 207 HOAs)
- Energy Efficiency Rehabilitation of Schools (USD 5.9 million).
- Institutional Strengthening and Technical Assistance (USD 4.10 million)

Annual allocations of EEHPP funds amounting to EUR 560,000 from the state budget were provided to support HOA residential energy efficiency projects financed by World Bank loans.

**JESSICA:** Energy consumption in Lithuanian apartment buildings is expected to be reduced thanks to a loan agreement signed between the European Investment Bank (EIB), as manager of the JESSICA holding fund in Lithuania, and Swed bank, Siauliai Bank and SEB Bank:
- Siauliai Bank EUR 6 million
- Swedbank EUR 6 million
- Siauliai Bank EUR 15 million
- SEB Bank EUR 6 million

To fund the Lithuanian government’s building renovation program, in late 2009, NIB Bank and the Republic of Lithuania signed a new loan agreement that secures EUR 100 million for JESSICA. The initial capital committed by the Lithuanian government to the JESSICA holding fund is EUR 227 million. This is the largest JESSICA holding fund established so far in any European country.

General conditions provided by the commercial banks that are partners of JESSICA in Lithuania are:
- 100% of costs for feasibility study
- 15% loan rebate
- Maturity up to 20 years
- Interest rate of 3%

The Lithuanian strategy for EU structural funds for 2007-2013 allocates funds for energy efficiency – allocates an additional EUR 229 million to energy efficiency for residences; some of this support is also used for JESSICA. It is expected that by 2020, about 70% of MFBs built prior to 1994 will be modernized using JESSICA funds. After modernization, the average energy savings for a single house are projected to be approximately 50% or 125 MWh a year or about 3 TWh for the average projects 1000 MFBs per year. This could save about EUR 290 Million annually.

All financing towards implementation of the program consists of:
- Financing from building owners (5%);
- Subsidy from the Ministry of Environment of the Republic of Lithuania (from 0 to 50%);
- Loan from bank or other creditor (from 0 to 95%);
- Subsidy of up to 50% provided by the Lithuanian Government.

---

44 Lithuanian Housing Strategy
46 http://www.sb.lt
47 http://www.swedbank.com/
48 http://www.seb.lt
49 http://www.nib.int
State Support and Subsidies for Investment Projects

Modernization of MFBs (2004– on-going): Currently the Program for the Modernization of Multi-Apartment Houses foresees State aid for investment projects of up to 50% of the investment value depending on measures used to reduce energy consumption. The financing model set is not optimum because it requires a large amount of State financial assets to be contributed each year for the provision of support. Subsidy from the Ministry of Environment of the Republic of Lithuania depends on planned renovation instruments defined in the investment project. If planned measures provide a high increase of energy efficiency, the subsidy will cover a higher amount of the project cost. For example, 50% of an investment is subsidized when the most effective instrument, insulation of outside walls, is implemented.

Low income people support: The state provides low-income support as follows:
- Favorable loan conditions: the state covers interest payments up to 6% interest rate for half of a loan's term up to 10 years;
- 50% subsidies for the insurance payments;
- 50% subsidies to HOAs for implementation of energy efficiency projects funded from loans with state guarantees;

The biggest percentage of low-income subsidy is used to cover housing and hot and cold water costs, which are received by the majority of support beneficiaries. In 2001, the subsidies were provided to 13.5% of the Lithuanian population with payment exceeding EUR 28.4 million50.

A considerable percentage of low-income subsidies is comprised of indirect subsidies which are not reflected in the government programs. Indirect subsidies include low rent tariff applied to the state-owned or municipal housing. Indirect subsidies amount to EUR 2 -56 million.

Lithuanian Education Improvement Project: The Lithuanian Education Improvement Project focused on the improvement of energy efficiency in 62 basic schools in 2002-2005. Ex post evaluation estimated savings at 11.6 GWh or 27%.

New building standard in 2005 (STR 2.05.01:2005): The implementation of the New Building Standard in 2005 (STR 2.05.01:2005) reduced energy consumption in the newly constructed buildings by 15-20% on average compared to buildings constructed according to the previous standard.

Municipal Programs

Utena municipality51: The municipality of Utena's Multi-family housing building modernization program provided grants to HOAs. The grants covered costs for energy audits and investment projects.

Kaunas city and Klaipėda city52: These two cities implemented a program called “Municipality Support for House Owners Association”. The programs supports several activities, one of which is energy efficiency. The program covers 30% of total cost. The following amounts were disbursed under this program:
- Kaunas city: support in 2006 was EUR 87,000, and in 2007 about EUR 290,000
- Klaipėda city: support in 2006 was EUR 188,000, in 2007 about EUR 290,000

Vilnius city53: In June 2004, the Vilnius city Council adopted the program «Renew the House–Renew the City.” The objective of the program was to renovate and modernize housing and residential areas. This program is the first independent housing renovation and modernization program in Lithuania initiated by the city. It was projected that about 300 housing renovation projects would be implemented in Vilnius city over the course of this program. For the implementation of this project, the World Fund for Environmental Protection provided a USD 6.5 million loan, 3 million of which is intended for building renovation. For the execution of the program, the Vilnius city heating company, in conjunction with Dalkia and Hansabanka, has signed a cooperation agreement for financing building renovation and modernization projects. Hansabanka lends up to 90% of the funds required by the associations for renovation of buildings.

50 Lithuanian Housing Strategy
51 http://www.munee.org/files/Andriulatyte_Moscow_EN.pdf
52 http://www.munee.org/files/Andriulatyte_Moscow_EN.pdf
53 http://www.munee.org/files/Residential_EE_Study_FINAL.pdf
The program developed further in 2005 when it was decided that the municipality would grant non-repayable (grant) support for carrying out energy audit and investments as well as for the cost of preparing technical documentation. The municipality may provide up to 15% of the total investment in grant support for the renovation of a multi-family housing. In 2007, the city pledged support of EUR 580,000 for energy audits and preparation of investment projects.

**ESCO Financing**

Currently, there are no companies using the ESCO model based on the shared and/or guaranteed savings principle on the end-user side in Lithuania. The existing companies, although using the ESCO concept in describing their services, are either providing energy supply services or working as consultancy companies. In 2001, a company called JSC Newheat was set up by Private Energy Market Fund (PEMF) and JSC Šilumos Ūkio Servisas («District Heating Service Company», «SUS») with the purpose of launching the ESCO concept in Lithuania, focusing on energy efficiency investments for the municipal energy utilities based on leasing financing. SUS is owned by the 18 biggest district heating utilities in Lithuania, including Klaipeda, Vilnus, Kaunas and Panevėžys. However, the company is mainly using leasing as opposed to energy savings to finance its projects. One fifth of Lithuanian municipalities have signed long-term district heat leasing contracts with Litekso, the ESCO subsidiary of Dalkia. These cities include Marijampole, Vilkaviškis, Kelme, Telšiai, Palanga, Alytus and Kazių Rūda.

In the case that an ESCO would also be the supplier of heating energy, additional regulatory requirements would apply. By virtue of Article 30.13.4 of the Law on Heating Infrastructure of the Republic of Lithuania, a heating energy supply company is obliged to implement separate accounting of energy supply costs. In this model, energy should be supplied from the supplier to the manager of the building as the current system works. Since the actual savings of the energy also depend on the rational use of the energy, ESCO company may be entitled to appoint a company responsible for the proper exploitation of heating facilities (for such company attestation is required).

**Economic Impact**

End-use energy intensity declined by 2.25 times from 1990-2004 in Lithuania; nevertheless, it is still 1.2 times higher than the EU average. Implementation of the measures described in the National Energy Efficiency Programs regarding energy price increases, as well as implementation of the EU directives targeting increased use of energy efficiency are the main drivers of the energy intensity decrease in Lithuania. Due to measures installed thus far, household energy efficiency has improved by 10% on average between 1998 and 2004.

**1.2.7. Conclusions and lessons learned**

- Access to financing is one of the most significant barriers to energy efficiency in the residential sector in Lithuania. Households, HOAs, and the government need funds for investing in energy efficiency, since existing resources are limited. The banks are unwilling to accept multifamily homes as collateral. A variety of financing mechanisms must be explored and utilized: e.g., grants, bonds, (low-interest) loans, energy-efficient mortgages, leases, tax credits, and energy performance contracting. It is unlikely that individual households will borrow money for extensive refurbishment of existing buildings; most borrowing is expected be done by HOAs.

- HOA adoption is beginning to increase. It is expected that by 2020 more than 2/3 of MFBs will be represented by HOAs. HOAs are able and willing to renovate common property if provided with institutional support, technical support and financial incentives, all available through JESSICA. HOAs take debt seriously and are repaying loans, often faster than needed.

- Significant institutional support and financial incentives are needed to reduce the transaction costs associated with addressing barriers to the formation of HOAs and to private initiative in maintenance of residential buildings. HOAs are hesitant to invest in project preparation, energy audit and preparation of investment proposal. However, they are willing to cover some expenses for design, procurement and supervision consultant services. Homeowners are willing to invest in energy efficiency and renovation if supported with financial incentives, i.e. tax benefits and grant elements.
• Privatization of municipal maintenance companies would help to facilitate formation of HOAs by removing artificial pricing of maintenance services and opening the door to competition in the sector and offering homeowners choices in maintenance services. Also, mass information campaigns to HOAs, as well as individual homeowners, will be an integral part of bringing energy efficiency to scale.

• The current heating and hot/cold water subsidy system for low-income households could be improved by adjusting the housing subsidy system to cover other necessary expenditures related to the housing maintenance and renovation. Such social assistance to households should be provided in cash, taking into account the income and assets of each homeowner.

• The government needs to take even more active role in terms of providing guarantees to the banks on behalf of the HOA and homeowners in order the commercial banks to be more active in providing loans. Lack of collateral is a key obstacle to private sector lending to HOAs. Transaction costs associated with administering sub-loans (as financing is currently structured) make this product unattractive for commercial banks. Without a government guarantee, banks require some reasonable expectation that they will be able to recover debts in the case of default. A report by a group of legal experts made a series of recommendations on ways in which the rights of bankers could be secured54. Several alternatives were discussed by the expert group, of which the use of a mandatory mortgage would appear the most practical. The report says, however, that the law is not totally clear in this regard. Other options might require that amendments be made to existing laws, or even to the Civil Code.

• International financial lenders could also act as a channel for donor organizations to provide loans and possibly grants to building occupants for housing rehabilitation. A program to improve the thermal properties of the housing stock should be part of a much larger program to encourage more general rehabilitation of the housing stock. If thermal improvements are taken together with general upgrading, the costs of doing this are far less than if each step is taken on its own.

• A 2002 household survey gives some indication of the reluctance of households to take loans from banks. About 20% of respondents did not think it necessary to improve the condition of their apartment, while 40% who intended to repair their homes were saving for the purpose. 26% did not want to borrow from a bank as they “did not want to assume financial liabilities against financial institutions.” These figures are indicative of attitudes of the house owners towards taking bank loans.

• Under the government’s Resolution on the Establishment of the Fund for Support to Homeowners Associations in Municipalities, municipalities are required to establish and regulate a fund to subsidize structural improvements, renovation of common use areas and energy efficiency improvements in building managed by homeowners associations. The Fund, however, have not yet been funded by the central government; this must be resolved to further facilitate bank lending for energy efficiency.

1.2.8. Bibliography


JESSICA Evaluation study –Reports on Lithuania, 2009, EIB

Sustainable Housing Development Program in Lithuania

Lithuanian Housing Strategy

Europa’s Energy Portal http://www.energy.eu/

54 Kåre Lilleholt and others, Apartment Ownership and Mortgage Finance in Lithuania.
Zilinskiene, 1995

Housing and Urban Development Agency – Lithuania http://www.been-online.net/Housing-and-Urban-Development-Agency-Lithuania.pp10.0.html
http://www.cpva.lt/agency/about/

Housing survey 2002. Lithuania

The course of licensing for administration institutions; standard roles for administration institutions; procedures for the appointment of administrators by municipalities.


European Investment Bank, www.eib.org


Siauliai Bank, Lithuania; http://www.sb.lt

Swedbank, Lithuania; http://www.swedbank.com/


The Municipal Network for Energy Efficiency (MUNEE) Program in Central and Eastern Europe and the Commonwealth of Independent States
http://www.munee.org/files/Andriulatyte_Moscow_EN.pdf


The Lithuanian District Heating Association (LDHA) http://www.lsta.lt/en/pages/information

Bank of Lithuania http://www.lb.lt/en_index.htm


Interview with Simona Irzikeviciute, Housing and Urban Development Agency, Lithuania, 23 May 2011
1.3. Poland Best Practice Analysis

1.3.1. Executive Summary

- **Recession free**: Poland was the only EU country that recorded continuous GDP growth despite throughout the global financial crisis. However, its high public finance deficit (almost 7% in 2010) and subsequent government actions will lead to budgetary cuts and stronger control over local governments’ spending limits, which will affect availability of public finance for housing sector.

- **Housing stock deficit**: Poland’s housing stock is characterized by a huge basic deficit estimated at 1.5-1.7 million apartments. Additionally, approximately 700,000 apartments will have to be replaced within the next 10 years due to their physical state. With yearly production in the range of 80,000-150,000 apartments per year during the past decade (mainly depending on availability of mortgage loans), this problem is unlikely to be solved quickly.

- **Privatization**: In 1990, Poland began the process of privatizing its apartment buildings. Within 20 years, approximately 1.5 million apartments were privatized or reprivatized. In 2010 the share of apartments occupied by owners or owners with limited ownership rights reached 85% of the housing stock.

- **High and growing energy prices**: The government has removed many heating subsidies, driving up the price of heat energy. Nationally, 15% of households have utility/rent bill arrears; however, in the poorer regions this number reaches as high as 35%.

- **Energy Efficiency**: 20 years of promoting energy efficiency and support programs has lead to significant improvements in energy efficiency, reducing average energy consumption for heating purposes by 20% compared to the socialist era. However, much work is left to be done on building envelopes, fuel switching and the heating system as a whole.

- **Formation and operation of HOAs**: Since 1994, the formation of an HOA has been obligatory and automatic in each building with more than one owner. Depending on size, small HOAs (up to 7 owners) may be managed by the owners, otherwise a professional administrator and decision making process in investments issues has to be undertaken unanimously. In “big” HOAs, professional management is required and investment decisions needs 51% majority. Similar rules apply to decision making in housing cooperatives.

- **Barriers to investment**: Small HOAs often face difficulties in achieving consensus while considering investments in modernization and are treated as more risky by banks. Payment delinquency on the part of some apartment owners, as well as a lack of professional accounting, are considered by banks to be the primary barriers to financing. Bigger HOAs and housing co-ops face fewer difficulties as banks assume real cash flow while assessing risk. Most HO’s and co-ops usually establish a so-called “Renovation Fund” paid monthly in the range of EUR 0.25-1 per square meter, which constitutes the basis for loan repayment and usually is the only loan collateral. The situation is more complicated when the building is co-owned by the municipality (renting some apartments) and several private persons; such cases are rare.

- **Financing system is functioning**: Several financing pilots have attempted to provide capital to the housing sector for energy efficiency and modernization in the 90’s and created a good basis for widespread availability after the year 2000. The Thermomodernization and Renovation Program started in 1998 led to the renovation of over 16,000 multifamily buildings at a cost of EUR 1.5 billion, with subsidy totaling EUR 200 million (13% of total). However, the government support policy is expected to be modest in coming years due public deficit constraints.

1.3.2. State of Economy

**Historical Growth**

The Polish economy expanded rapidly between 2004 and 2008, driven by booming domestic demand. The economic crisis then slowed growth but the country did not fall into recession, which was unique in the EU. In 2009, growth remained positive at 1.7% and accelerated to 3.5% in 2010. Continued economic strength is predicted for 2011.

The public sector deficit has been increasing as a result of the downturn and associated stimulus measures, reaching 8% of GDP in 2010. Actions to raise taxes and reduce public expenditure were announced in 2010. Tight public sector finances and further modest tax rises are likely to continue for several years while the country remains in the EU’s Excessive Deficit Procedure and the deficit is gradually reduced. However, these fiscal policies are unlikely to overly constrain the growth of private consumption, which has continued to expand throughout the past few years, although not at the heady heights reached prior to the crisis.
Inflation rose significantly in 2008 to 4% and only moderated slightly in 2009. It fell somewhat in 2010 but continues to be quite high. Inflationary concerns have encouraged the central bank to raise interest rates over the past few years and that stance is unlikely to change, which may raise mortgage costs. High unemployment has been a long-term characteristic of the economy. It was running at almost a fifth of the workforce prior to 2004 but with a booming economy it then fell to 7% in 2008. It rose back to over 12% in 2010 but is expected to slowly decline as the economy continues to expand over the next few years. The country has a relatively low share of people of working age in employment, with only 63% in work. This represents a substantial loss of productive potential and in housing terms restricts the number of people capable of contributing to housing costs from earned income.

Table 12: Poland Key Economic Indicators

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth</td>
<td>6.2%</td>
<td>6.82%</td>
<td>5.0%</td>
<td>1.7%</td>
<td>3.8%</td>
<td>4.0%</td>
</tr>
<tr>
<td>CPI</td>
<td>1.3%</td>
<td>2.5%</td>
<td>4.2%</td>
<td>2.5%</td>
<td>3.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>13.8%</td>
<td>9.6%</td>
<td>7.2%</td>
<td>7.8%</td>
<td>12.3%</td>
<td>13.1%</td>
</tr>
</tbody>
</table>

Source: The Economist, National Bank of Poland, Central Statistical Office

Despite the slowdown in 2009, strong positive growth is projected for 2011 and 2012 (3.8% and 3.5%, respectively).

1.3.3. Housing Market

Overview

In 1990 the population of Poland totaled 38.2 million, with an existing housing stock of about 11,022,100 apartments. For every 1,000 residents in 1990, there were 288.7 flats and average usable area per person of 17.5 square meters. The deficit of houses was estimated at 1.7 million apartments. In 1995, the number of apartments completed (67,100) was equal to half the completed housing construction in 1991. The number of completed apartments per 1,000 people dropped from 3.6 in 1990 to 1.7 in 1995. The construction industry recovered in early 2000, reaching 165 thousand apartments in 2008 at its peak, then slowing down by 3% in 2009. In 2009, the population was 38.6 million and the housing stock increased to 13.15 million apartments. At that time, there were 334.8 housing units (348.4 in urban areas) per 1,000 inhabitants, the second worst in the EU. The housing situation did not show much improvement over the first decade of the millennium; in fact, the housing deficit was at the same level in 2009 as it had been in 1990.

The present housing problem consists of a shortage of appropriate housing, with existing stock in very poor physical condition. About 7.5 million apartments currently require repairs and approximately 700,000 apartments will have to be replaced in the coming 10 years. On a positive note, there have been recent developments in social rental housing and the privately funded construction of houses. These positive changes and their results have played a significant role in the implementation of new housing policy, decentralization of housing policy to the local government level and the introduction of a number of programs, instruments and new institutions.

Table 13: Housing Market Trends

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Data</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Number of apartments per 1000 inhabitants</td>
<td>334.8</td>
</tr>
<tr>
<td>Housing density</td>
<td>Number of persons per apartment in MFB</td>
<td>2.87</td>
</tr>
<tr>
<td></td>
<td>m2 per person in MFB</td>
<td>24.6</td>
</tr>
<tr>
<td>Share of households receiving housing allowance</td>
<td>3.3%</td>
<td>2009</td>
</tr>
<tr>
<td>Share of households in MFB in arrears – country average</td>
<td>15%</td>
<td>2009</td>
</tr>
<tr>
<td>Share of households in MFB in arrears – Municipaly owned apartments</td>
<td>15%</td>
<td>2009</td>
</tr>
<tr>
<td>Share of households in MFB in arrears - Co-op owned apartments</td>
<td>4%</td>
<td>2009</td>
</tr>
<tr>
<td>Cost of construction</td>
<td>Evolution of cost of construction</td>
<td>15%</td>
</tr>
<tr>
<td>Tenure status</td>
<td>Ownership</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td>Co-operative (of that 92% with limited ownership rights)</td>
<td>24%</td>
</tr>
<tr>
<td>Quality of housing stock</td>
<td>% of MFB without WC and bath/shower</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Ministry of Infrastructure, 2009; CECODHAS- Housing Europe 2007
In 2009, approximately 13% of buildings had no central heating and about 10% had insufficient or no basic amenities. 80% of apartments are in buildings that provide all the basic amenities and central, remote or individual apartment heating.

District heating is provided in 70% of urban MFBs. The primary energy supply source for district heating is coal (80%); geothermal and renewable sources of energy account for only ~1%.

1.3.4. Regulatory Framework

From 1995-1997, successive amendments to the principles of housing policy were adopted in order to improve the conditions of housing construction and the management administration of existing housing stock. The implementation of new housing policy began with the introduction of a range of legal regulations, including:

- On Settlement of Credit Relations (1989)
- On Housing Ownership (1994)
- On Lease of Apartments and Housing Allowance (1994)
- On Terms of Transfer of Enterprise Housing Owned by State Enterprises (1994)
- On Debentures and Mortgage Banks (1997)

Privatization

Privatization of the previously state-owned housing stock exerted the most profound influence on both the development of the housing sector and urban development in general. There were several financial reasons for privatization, such as the backlog in maintenance and urgent need for comprehensive rehabilitation of housing stock, and the continuous operational losses; rents typically covered only 30-45% of actual maintenance costs.

With the introduction of the Housing Act in 1994, the Right-to-Buy policy was enacted under which it became compulsory for local governments to sell housing units to sitting tenants who wanted to own their homes. This privatization was of a 'give away' type, where tenants paid only a fraction, usually 20-50% of the market price of the apartments. However, while the state made ownership available through low prices and low interest loans, the burden of the operational and maintenance cost was placed on the new owners, who were neither financially nor managerially prepared. Therefore, one of the main problems that arose from mass privatization is that a significant number of poor families have become owners of their housing units but cannot afford financing maintenance costs from their own resources.

The Law on Housing Associations passed in 1994 successfully regulated the transfer of property and the establishment of the new institutional structure (the assembly, the election of condominium manager, the decision-making procedures and the condominium fee).

Currently, there exist several types of legal organization of MFBs in Poland:

- **Cooperative Houses**: according to a 2009 Ministry of Infrastructure Report, co-ops own only 24% of the MFB stock in Poland, down from 36% share in 1990. Co-ops in Poland manage a stock inherited from the socialist era. Almost all of the co-op housing stock consists of post-war concrete pre-fabricated panel houses. The status of co-ops is regulated by the “Cooperatives Law.”

- **Homeowners Associations (Wspolnota Mieszkaniowa)**: The HOA is the most popular form of legal organization of MFBs in Poland, representing over 60% of all MFB apartment units. Homeowners organize themselves into a legal form, create a status containing responsibilities of the HOA towards the residents and of the residents towards the HOA, establish regulations of payments from residents to the HOA, pick a manager (which can be a hired professional) and share costs and duties related to managing the building. They are run democratically and elect their own bodies. Municipalities are very often of members of HOAs, owing 58% of apartments in co-owned buildings in 2000. Continuous privatization during the past decade reduced this number to the 23% in 2009.

---

55 Between 20% to 50 % of the market value had to be paid (depending on their conditions)
• Municipal Housing accounted for only 12% of the MFB stock in Poland according to a 2009 study. Mass privatization allowed most Poles to buy their apartments, leaving only the poorest of the population in rental units. Apartments in municipal social housing buildings can be rented for an unlimited period and tenancy may be inherited by commonly living relatives if one does not own another apartment.

HOA Legal Framework

Formation of an HOA has been obligatory since 1994 and is automatic in every building with more than one owner. Depending of size, small HOAs (up to 7 owners) may be managed by the owners or by a professional administrator; investment decisions have to be undertaken unanimously. In “big” HOAs, professional management is required and investment decisions require 51% majority. Similar rules apply to decision making in co-ops. In Poland, HOAs are limited legal entities (limited to the common interest of owners), can borrow from banks, and enter into loan and other agreements including mortgages on common space.

Formation and Governance

The scope of the foundation deed, the document that establishes the HOA, encompasses only the most fundamental principles of management, operation, and issues of ownership. It also establishes proportionate or pro rata payment of common expenses. There is no compulsory prescription existing for the level of the HOA fee. The law requires unanimous approval to amend the foundation deed.

The organizational and operational procedures (everyday operations) of the association are to be carried out under rules and procedures established in bylaws. Bylaws can be adopted and amended with 2/3 approval, and for new condominiums, the bylaws are adopted at the first or foundation general assembly.

In all condominiums with over 7 units, the HOA is to be managed by either a common representative, an executive committee, private company or by the public management company owned by the municipality. The common representative, or the chairman of the executive committee, has the authority to represent the owners’ association in court or before other authorities. An audit committee may be elected in any condominium, but it is mandatory in condominiums comprised of more than 50 units. This provision is intended to eliminate problems of a single-person taking control over larger, more complex buildings. The audit committee may inspect the activities of the common representative or the executive committee at any time, opine on the budget, and generally review invoices, payments, and all the financial activities of the condominium.

Procedures for taking decisions binding on residents

With regard to the management of common property, the only exception to the rule of simple majority vote is for decisions on «expenditures which exceed the range of ordinary management expenditure,» which require a unanimous vote (such expenditure typically involves the extension of the building or the construction of a new building). Otherwise, 51% approval of the assembly of tenants is required to make decisions on renovation of the common areas of the building, enter into loan agreements and increase common costs to service interest and principal payments to the bank. Decisions are made during assembly meetings, and the share of owners is measured in square meters of their units.

The public sector has no direct capability to intervene in the refurbishment of the multi-family housing stock.

Recourse of HOA to residents for non-payment

The association cannot encumber with a lien the property of an owner who is delinquent in payment of fees. The only method used to recover payments is the court system. By a court sentence an owner may be obligated to pay (Pay Order) or may even be expelled from the HOA and his property sold on public auction. The Pay Order may be obtained within 4 weeks if the non-payer does not appeal. However, if the non-payer is savvy in legal defense, the whole process may take as long as 2-3 years.

Organization and Regulation of Services

District heating companies have, according to Energy Law, a contract with housing associations or cooperatives. The scheme works as follows: each apartment owner signs a contract with a housing management company. The
owner pays directly to the companies that provide services like telephone, electricity and gas supply. The housing management company is responsible for collecting the money from each resident for consumed heat, water, waste and other services and to pay the bills to the utilities according to the signed contract between the housing management company and the utility itself. The housing management company can be either a municipal company or a private company.

Since it is the local level that is responsible for the delivery of public services, and some services cannot be sufficiently financed from the centrally-defined normative and targeted grants, one of the most important steps in Poland's reform has been the imposition of taxes by local governments. Similarly, local governments can choose the method of service provision: they can contract out service delivery and thus provide for economic efficiency (in addition to budgetary institutions, private companies, companies with mixed ownership, municipally owned companies).

Payment and Arrears

In 2009, approximately 1,200,000 households (10% of total) were in arrears for housing costs. It is estimated the total amount of such delinquency is as high as 15% of yearly liabilities. However, the distribution of debts not equal. In Housing Cooperatives, arrears are at a surprisingly low level of 4% (and trending downwards) while the problem in municipality owned houses is as high as 20% and in some poorer regions reaches up to 34%

Financing for HOAs

Financing for HOAs and Cooperatives is available in Poland and offered by all major banks as well small cooperative banks.

HOAs that do seek financing are judged generally on several criteria:
- HOA is established and has operated for at least 6 months before submitting loan application
- At least 80% of residents pay invoices on time
- No arrears are outstanding for utilities
- Building is insured
- Loan amount covers only materials and labor for specific upgrade
- Cash flow of entire MFB may be pledged as collateral
- Mortgage on common space (i.e. commercial part of the building)

Small HOAs often face difficulties in achieving consensus while considering investments in modernization and are treated as more risky client by banks. Delinquency on the part of some of owners, as well as lack of professional accounting capabilities, are considered by banks to be the primary barriers. Bigger HOAs and housing co-ops face fewer difficulties because banks assume real cash flow when calculating a debtor's risk level. Most HOAs and co-ops usually establish a so called “Renovation Fund” paid monthly in the range of EUR 0.25-1 per square meter, which constitutes the basis of loan repayment and usually is the only loan collateral.

Organization and Regulation of services

Building Maintenance: Privatization—ether partial or full—has made it harder for municipalities to play a role in modernization and upkeep. Furthermore, many also don't consider it their responsibility to do so. According to the Law on Apartment Ownership, residents own common space jointly and are responsible for their upkeep and maintenance.

The HOA assembly approves yearly level of costs, composed of basic house maintenance, like small repairs services, cleaning, bills collecting etc. giving the House manager right to sign agreements with suppliers of heat, water, waste collection, electricity (at HOA level) etc.

The AO law requires that each HOA having 8 or more members have to employ professional, licensed house manager. Till now (2010) there are over 18,000 licensed managers countrywide who may either work on their own or being employed by the legal entities running property management services. On average, each licensed manager gives services to 10-20 MFB. The observed paradox of the market structure is that in bigger cities property management services are dominated by private entities while in smaller cities the dominant position is kept by municipally owned companies derived from old communist time state enterprises.

56 ibid
At the same time there exists over 160,000 entities in Poland offering various services related to the houses maintenance starting from security via small repairs up to major renovations.

**Electricity Interconnection:** Municipalities are required to ensure that MFBs are interconnected to the electricity grid, but no longer subsidize electricity rates. The owners signs contracts directly with distributors and (at minimum in theory) may choose the supplier. Electricity tariffs for households are still controlled and regulated by the Energy Regulatory Office (URE) on “cost plus” basis. The supplier has the right to disconnect in the case of non-payment, usually after 2-3 months.

**Water and Sewer:** Over the past 20 years, individual water meters were installed in most buildings; consequently individual apartment owners are responsible for payment based on consumption. Municipalities are responsible for the upkeep of water and sewer systems throughout their city. However, due to Poland’s austerity measures and the lack of funding in many cities across the country, sewer systems have not been modernized in several decades. While municipalities ensure that MFBs are connected to running water and sewer systems, technical difficulties at the building level must be repaired by the tenants/owners (inside apartments) or the HOA (from main connection point to the apartment).

**Heating services**

Heat costs are regulated on “cost plus” basis by the URE. Each heat supplier must obtain a concession and agree to a tariff with its regional URE office. Tariffs are comprised of energy production and distribution and are calculated in one of two ways. If a building has individual meters for apartments, which is rarely the case, billing is based on real consumption. If no meters are installed, a so-called two tier heat tariff is applied which includes fixed costs and variable costs and is calculated based on the surface area of a resident’s apartment or heat consumption indicators if installed on radiators. The HOA is responsible for collecting bills from apartments owners.

In the case of non-payment, it is difficult for heat distributors to take action in the short-term. However, HOAs may be evicted. Municipalities are responsible for providing housing for all vulnerable and socially disadvantaged groups, which include families with children, invalids, pensioners, etc. Households that fall into one of those categories cannot be evicted for non-payment until another apartment has been found for them.

**1.3.5. Energy Efficiency for MFBs**

**Existing Use of Energy Efficiency for MFBs**

Over the past two decades, several types of building modernization retrofits have been implemented in MFBs. Several packages of energy efficiency retrofits are recommended for Poland’s MFBs with payback time as short as a few years. A case study of a successful retrofit is presented below:

**WARSAW; Bukietowa project:** The Bukietowa project is an energy efficiency retrofit of a building owned by an HOA, located at Bukietowa Street 8 in Warsaw. The building described was constructed in 1963 with typical panel technology. It has 48 apartments, 2,400 square meters usable area and is occupied by 98 people (mostly pensioners and low income families). The refurbishment was funded by the Polish Thermo-modernization Fund.

**Figure 2: Bukietowa Project**

*Source: National Energy Efficiency Agency (NAPE)*
This formerly municipally-owned building was transferred to HOA ownership in 1994 after introduction of the Law on Ownership of Apartments. This law states that an HOA is created automatically after the sale of the first apartment in municipally owned buildings. The building was managed by the municipal housing management, which limited its activity to control the existing installations and carrying out small repairs. Since the activity of the municipal management was not satisfactory to most of the apartment owners, and the charges collected from them covered more administration than maintenance cost, the assembly of apartment owners made a decision (by majority of votes) in 2002 to replace the municipal management by a private licensed manager. At this time the proportion of private ownership in the building was approximately 60%. The remaining apartments belonged to the municipality and were occupied by low-income families.

Project approach: Under the leadership of the private manager of the building, a 5-year investment plan for the building was prepared; one of the main components was energy efficiency retrofit. The total cost of the refurbishment project was approximately EUR 96,000 and was funded as follows: EUR 20,000 was collected by the association prior to loan application, the BISE Bank issued a 5-year loan of EUR 76,000, and the BGK subsidized 25% of the loan principal. This project was one of the first performed by housing cooperatives under the state support system for energy efficiency. Through mid-2010 approximately 15,000 MFBs in Poland have used the system.

Results: The building was constructed in 1963 with typical panel technology. The calculated heat demand prior to refurbishment was 230 kWh per square meter annually. The scope of energy efficiency measures taken were:
- Replacement of central heating installation by new fully automated one (pipes, radiators, thermostatic valves)
- Insulation of external walls with 13 cm of Styrofoam
- Insulation of windows above staircases with polycarbonate panel
- Insulation of roof with 12 cm of mineral wool
- These refurbishments led to a decrease of the calculated heat demand to 110 kWh per square meter annually

The yearly heating costs of the building prior to refurbishment were EUR 19,520 (EUR 33.6 per household monthly, or EUR 0.67 per square meter per month); these costs were 40% lower subsequent to the retrofit. Thus, energy savings were higher than the required monthly repayment rate of the loan set by the bank totaling EUR 24 per square meter per month. One year after completing the project, the association decided to introduce a heat accounting system based on heat cost allocators installed on heat radiators; thanks to this a further 5% heat cost savings was achieved in the next heating season.

According to real estate specialists, the market value of apartments in this building is 10% higher value in comparable buildings that are not refurbished. The payback period of ten years is representative of complex energy efficiency measures in multifamily buildings in Poland. This project was replicated in 15,000 projects in Poland.

1.3.6. Financing Mechanisms

Several financing pilots that began in the 1990’s created to provide capital to the housing sector for energy efficiency and modernization have formed a basis for financing tools in the new millennium. The most significant of these programs is the Thermomodernization and Renovation program (TMR), which began in 1998 and subsidized 25% of the amount of a loan taken for thermomodernization. At the beginning, due to high interest rates and the fact that the subsidy was funded at the end of the loan term, the program was not very popular. In 2002, interest rates were reduced and the subsidy began to be funded at the beginning of the loan term. As a result, over 16,000 MFBs were renovated at a total cost of EUR 1.5 billion, using total subsidy of EUR 200 million. Total annual primary energy savings resulting from these retrofits are estimated at 131 ktoe.

An amendment in 2008 replaced the 10-year-old Act on Supporting Thermomodernization Undertakings. The amended Act supplements the system of financial support for thermomodernization undertakings with a possibility of obtaining financial support for renovation as well. The funds for subsidies are still managed by Bank Gospodarstwa Krajowego (BGK).

The aim of the Thermomodernization and Renovation Fund is to help investors finance thermomodernization and renovation undertakings that are co-financed with loans from commercial banks. The subsidy known respectively as Thermomodernization bonus, Renovation bonus and Compensational bonus is the source of repayment of a part of the loan contracted for thermomodernization or renovation.
The thermomodernization bonus is paid out after showing that the project fulfills all of the following requirements:

- annual energy demand reduction
  - in buildings where only the heating system undergoes modernization – by at least 10%;
  - in buildings that have undergone heating systems modernization after 1984 – by at least 15%;
  - in other buildings – by at least 25%; or
- annual energy loss reduction by at least 25%; or
- reduction in annual cost of acquiring heat by at least 20%; or
- change of energy source for a renewable energy source or applying high-performance cogeneration

The bonus amounts to 20% of the loan taken for the investment, but it cannot be greater than:

- 16% of the expenses for the realization of the thermomodernization undertaking or
- two times the projected annual savings on energy expenses

The system applies to thermomodernization undertakings in the following structures:

- residential buildings regardless of the form of ownership (private buildings, housing co-operatives, condominiums, company owned, owned by the city)
- buildings with multiple types of residents (social welfare homes, employee boarding houses, student dormitories and boarding schools, orphanages, nursing homes and buildings of similar use, including presbyteries, nunneries and monasteries)
- buildings owned by local government units serving public purposes (schools, office buildings, etc.)

The loan taken for thermomodernization cannot be used to finance projects that:

- are also being financed by another loan that has received a Thermomodernization or Renovation Bonus;
- have received funding from the budget of the European Union

Renovation bonus

This bonus can be obtained only by an investor who is renovating a multiple apartment building completed before August 1961. According to the Act, for an investor to have the right to apply for a bonus, the investor must be:

- a natural person,
- a housing co-operative,
- a housing association, or
- a housing co-operative with majority shareholding by natural persons

The Renovation bonus can be paid if:

- the project results in a decrease in annual energy demand for heating and domestic hot water preparation in a multiple apartment by at least 10%
- the cost index of the undertaking is in the range of 0.05 – 0.70, but if the index is above 0.3 then the reduction of the annual energy demand must be at least 25%.

The bonus amounts to 20% of the loan contracted for the investment, but it cannot be greater than 15% of the cost of the renovation undertaking.

Renovation undertakings

Projects can be considered under renovation audit if they improve the building's technical condition and cannot be realized under the Thermomodernization bonus, for example:

- replacement of lifts,
- renovation of staircases,
- wiring replacement.

The loan contracted for thermomodernization cannot be used to finance:

- renovation of rooms, except for replacement of windows or renovation of balconies (in multiple apartments);
- works resulting in increasing the building's usable floor area;
- works that are contracted under another loan that has received Thermomodernization or Renovation bonus or have received funding from the budget of the European Union
Other important Polish programs for supporting energy efficiency are presented below

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>PL2</td>
<td>Thermal Modernisation Fund</td>
<td>Grant (&lt;=25% of loan) for residential and tertiary building EE, reduction of losses in heat distribution and RE.</td>
<td>1998 -</td>
<td>High</td>
</tr>
<tr>
<td>Tertiary</td>
<td>PL10</td>
<td>Grant from GEF</td>
<td>Grant (if payback 10+ yrs) and guarantees to commercial banks for EE of buildings, district heating and heating networks.</td>
<td>2005 – 2011</td>
<td>Low</td>
</tr>
<tr>
<td>Cross cutting</td>
<td>PL5</td>
<td>National fund for environmental protection and water management</td>
<td>Subsidies and soft loans, including to EE and RE. The loans are soft loans from 0.2 to 1.0 times the Polish base rate, for up to 50% of total project costs. Loans are available for 20 years, however usually they are granted for 5 years. Every year around 800 projects receive support from the National Fund. Usually 200 projects receive loans and the rest grants. A portion are for the thermal performance of public buildings.</td>
<td>1989 -</td>
<td>High</td>
</tr>
<tr>
<td>Cross cutting</td>
<td>PL6</td>
<td>EcoFund Foundation</td>
<td>Grants (10-50%) for EE and RE in private and public sector, including financing of heat insulation works.</td>
<td>1989 -</td>
<td>High</td>
</tr>
</tbody>
</table>

Results. Until 2002 when the act was amended it was not successful, and only had 500 proposals in 3 yrs (Euro 15m), due to high interest rates and subsidy granted at the end of crediting period. However, as rates dropped and the premium was paid at investment completion, the volume of investment increased from 80m PLN in 2002 to 1369m PLN in 2007. Yearly total savings estimated at 131ktoe. Amendment in 2008 added Renovation premium for buildings built before 1961.

Results. In the years 1989-2008 more than 14,000 contracts were concluded (mainly in respect of loans and borrowings granted through Bank Ochrony Środowiska S.A.), and almost PLN 21.4 billion was allocated to funding environmental projects. Expenditure on projects which were co-financed from the resources of the National Fund in this period exceeds PLN 76.5 billion. During that time, the largest amounts of money were allocated to the protection of water and water management and to the protection of air.

Results. The material effects in the EcoFund projects were primarily achieved through the replacing of traditional coal-fired heat sources with boiler plants where renewable energy sources (straw, wood chips, solar collectors) were used or through the construction of new facilities of this type. However, energy savings were gained thanks to the financing of work related to the improvement of heat insulation of buildings. After completion in 2005, additional heat insulation was applied to 78,000 m2 of walls as well asdrafty windows and doors of almost 5,000 m2 total area were replaced.

Source: Various

Private Financing

Private financings for MFB refurbishment have been infrequently disclosed. Due to the widely distributed Thermomodernization and Renovation loans described above, direct financing for HOAs is not of high value. However, some of the energy efficiency measures (such as gas boilers) may be financed indirectly through a vendor financing formula. Some of these credit lines contain subsidy components granted by Voivodship Environmental Protection Funds.

ESCO financing has been explored in Poland since as early as 1991. However, this form of solving energy efficiency issues within the housing sector has not been successful for several reasons, including lack of awareness of the concept, lack of experience, and lack of legislation or existing models for performance contracting in Poland. The only real experience has been in lighting, for which ESCOs did some street lighting retrofits for municipalities.

1.3.7. Conclusions and lessons learned

HOA Decision making: Requiring 51% of all resident votes to make certain decisions seems to be a reasonable threshold. Small HOAs up to 7 units may not be able to easily make investment decisions due the requirement
of unanimity. The right of residents to appeal decisions over the course of what can be a year-long process is a disincentive for HOA managers to act; however, such is the cost of democracy. High heat prices in connection with deteriorating building conditions has proven sufficient to mobilize HOAs and co-ops to take loans for modernization.

**HOA Common Costs:** Residents in arrears on common cost payments can be taken to court only after a lengthy internal procedure is followed to cure non-payment; the court proceedings can take 3 years. Since common cost payments are generally an HOA’s main source of cash flow, residents are wary of incurring obligations that may need to be carried by a smaller number of owners in the event some default. A quicker means of recourse and recovery against non-payers should be instituted allowing the HOA to act unilaterally to force the apartment of a non-payer to be sold at auction after a defined cure period has not produced results. The HOA should be in control of disbursing the proceeds of the sale, with HOA arrears second in line behind tax arrears.

**Public Financing:** The economics of implementing a comprehensive energy efficiency renovation with private financing would result in monthly surcharges well beyond what MFB populations can generally afford. However, as the successful Thermomodernization program shows, the level of subsidy may vary depending on the scope of retrofit. The state has established a system of support to finance existing residential housing by apartment owners; this system is transparent and affordable for all social groups including financially vulnerable households under municipal care.

**Financing Requires Time and Flexibility:** First, all programs and products require a long lead time for planning, implementation and then uptake. Development of a program offering a financing product has been seen to be 1-3 years. Secondly, programs need to be adaptive. Thirdly, transaction and administrative costs seem to be a barrier to loan uptake; government funding for these costs could prove to increase adoption of certain products. Finally, financing programs must provide technical advisory in addition to funding.

**Lack of collateral:** MFBs manage the expenses related to common assets, but ownership belongs to the community of tenants. Normally, there are no financial buffers or assignable assets in the system that banks have recourse to. Designing a financial scheme with recourse to tenants is not an option, since by lending at the tenant level instead of at the condominium level, banks would lose scale and have to deal with a credit review of a much larger number of individual households.

**A problematic decision-making process:** Each decision, especially those relating to entering into a long-term loan agreement, requires the consensus of many people. This can often be a difficult process. Furthermore, there is a serious mismatch between the beneficiaries of the loan (the individual tenants) and the entity that is responsible for repaying the loan (the block house).

**Lack of financial skills:** Smaller HOAs tend to have one employee only, usually a tenant who has some free time but no specific financial skills. The banks need to find a new language to communicate with these clients offering support in the preparation of loan documentation.

**Demand:** One of the key drivers of the market is tenant demand. The increasing cost of energy is drawing attention to energy efficiency, and energy benefits are maximized if tenants act as a community and address the whole building envelope. Furthermore, by renovating buildings, not only do the tenants benefit from better insulation and more cost-efficient energy use, but the value of their property increases and the quality of their living environment improves.

**Local availability of technical solutions:** A wide range of relatively cheap and simple technology should be available locally, from building envelope insulation upgrades (including window replacement) to internal renovation of the heat distribution network (heat exchangers, pipes, radiators, etc.) and installation of heat regulation and metering devices to allow tenants to manage their consumption. Existence of well-supplied and qualified local contractors providing low-cost, high-quality services is of very high importance.

**Cash-flow based lending:** A lending scheme has been implemented requiring HOAs to increase tenants’ monthly common cost payment obligation to a level where on aggregate they cover the monthly debt service. These payments are then transferred to the lender. This form of lending should become more widespread, as the expectation of steady cash flow on the part of the lending community will induce commercial banks to lend to MFBs for modernization.
1.4. Latvia Best Practice Analysis

1.4.1. Executive Summary

- Recession then recovery: Latvia suffered the deepest recession recorded during the recession of 2008-2010, with GDP contracting 18% in 2009. Latvia received a bailout package from the IMF and a consortium of European countries and is on the road to recovery
- Aging housing stock: Latvia’s housing stock, 41% of which is comprised of pre-fabricated panel buildings, was built under Soviet rule; 50% of the housing infrastructure was built between 1961-1980. The age of the buildings and the poor standards to which they were built has led to some of the least efficient buildings in Europe; on average, over 60% of heat energy escapes from these buildings
- Privatization: Beginning in 1991, Latvia began the process of privatizing its apartment buildings, either by privatizing the apartments and the common spaces of a building, or privatizing just the apartments. The government is close to reaching its goal of privatizing 80% of the housing stock
- Slow adoption of Homeowners Associations: HOAs are registered as cooperatives but are not legal entities; however, HOAs have clear parameters governing voting and payment. HOAs are being adopted slowly, due to demographic differences among residents as well as disinterest in taking responsibility for the state of the building; however, HOAs do have clear protocol including governance, voting and collection of fees
- Energy is often unaffordable: The government has removed many heating subsidies, driving up the price of heat energy. 18% of households above 60% of the median income have utility bill arrears; almost 40% of households below 60% of median income have bills outstanding
- Energy efficiency begins to take shape: While energy efficiency is far from widespread, many buildings have begun to perform basic retrofits including the replacement of windows and insulation. These projects can reduce energy consumption by in excess of 50%. However, much work is left to be done on building envelopes, fuel switching and the heating system as a whole; less than 25% of buildings have been modernized
- Regulation is developing: Only in the past decade has Latvia begun to enact comprehensive policies for modernization and energy efficiency. Between 2005-2010, the government has laid out several comprehensive plans for the restructuring of the energy industry from now to 2050
- Barriers to modernization exist: Implementation of modernization is hindered by the low level of HOA adoption, which leads to splintered community that doesn’t easily reach consensus; additionally district heating companies have no little incentive to aid modernization, because their revenues are based on consumption
- Financing is paramount: Several financing pilots have attempted to provide capital to the housing sector for energy efficiency and modernization, but few have been able to stimulate high levels of private lending. Government policy will be needed to further incite lending to HOAs and individuals
- Barriers to financing exist: Public capital is being deployed in the form of grants and interest rate subsidies, but private financing has yet to reach scale; this is primarily due to the reticence of banks to be exposed to risk. The most impactful financing programs have been those that include public loan guarantees and private capital

1.4.2. State of Economy

Historical Growth

When Latvia gained independence from the Soviet Union in 1991, regulations and agencies that previously had supported the economy fell away. Consequently, Latvia entered a period of severe downturn beginning in the early 1990’s, with pre-crisis unemployment peaking at 10.2% in 199957. The first half of the 2000’s, however, showed extremely high growth in the Latvian economy. Much like in other Western countries, this growth was primarily fueled by a real estate boom and an accompanying rise in real estate prices, stimulated by access to cheap financing. In 2005, 2006 and 2007 the Latvian economy experienced double-digit growth, as well as above average inflation, as shown in the chart below58:

58 Oesterreichische Nationalbank Foreign Research Division, Eurostat, Economic Forecast of the European Commission
However, during this time of explosive growth, large imbalances were building. Private sector lending reached 95 percent of GDP and current account deficits peaked at 25 percent of GDP in 2007. With external debt at approximately 130% percent of GDP, much of which relied on hard currency denomination, Latvia was extremely vulnerable to the impending contraction in credit markets. As far back as 2005, the IMF warned publicly that the Latvian economy was in danger of overheating due to the high level of both lending and inflation⁵⁹. When the global crisis began in 2008, capital that had been financing the boom began to dry up, which led to the deepest recession recorded in any country: Latvia’s GDP contracted by 18% in 2009.

Recession Era

In December 2009, the IMF approved a EUR 7.5 billion package to rescue Perex bank and stabilize the national economy. The package allowed Latvia’s currency to remain pegged to the Euro, in exchange for certain sacrifices including spending cuts, wage reductions, addition of a value added tax and a pledge to keep its budget deficit below 5% of GDP. The bailout package was funded partly by the IMF (EUR 1.7 Billion) and partly by other Eastern European and Nordic countries with heavy exposure to the Latvian economy. In August 2010 the IMF released its latest tranche of the package (EUR 105 million), bringing total disbursements to EUR 1.15 billion⁶. Latvia’s austerity measures have impressed the funders of its bailout package; strong cost-savings measures on the part of companies have made Latvian products competitive throughout Europe, which has helped to correct its trade imbalance. Despite its huge recession in 2009, very strong positive growth is projected for 2011 and 2012 (3.3% and 4.0%, respectively).

Major Themes and Focus of Federal Financing Initiatives

72% of the Latvian GDP is comprised of the country’s service industry. The industrial sector has typically made up 10% of GDP, but since the recession, the Latvian government has placed an emphasis on the growth of this sector more so than growth in the service sector. State political leaders have stated that the development of production and industrial companies are the basis for economic recovery⁶⁰. Consequently, the government is focusing its budget on programs related to woodworking, metalworking, food production, pharmaceuticals and computer/electric equipment. The government has granted a tax credit equal to 25% of investments over EUR 7 million to these industries.

1.4.3. Housing Market

Overview

The Latvian housing market primarily consists of urban dwellings. Almost 70% of the country’s dwellings are urban, while approximately 30% are suburban or rural⁶¹.

---

Table 15: Economic Indicators

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Growth</td>
<td>10.6%</td>
<td>12.2%</td>
<td>10.0%</td>
<td>-4.2%</td>
<td>-18.0%</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>6.7%</td>
<td>6.5%</td>
<td>10.1%</td>
<td>15.4%</td>
<td>9.3%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>7.6%</td>
<td>6.9%</td>
<td>4.9%</td>
<td>7.0%</td>
<td>16.0%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Average monthly salary (EUR)</td>
<td>550</td>
<td>490</td>
<td>560</td>
<td>682</td>
<td>696</td>
<td>635</td>
</tr>
<tr>
<td>Retail (million EUR)</td>
<td>2,095</td>
<td>1,976</td>
<td>2,180</td>
<td>2,005</td>
<td>1,886</td>
<td>No Data</td>
</tr>
</tbody>
</table>

Source: Oesterreichische Nationalbank Foreign Research Division

---

⁵⁹ International Monetary Fund, “Latvia Caught in Vicious Economic Downturn”, May 2009
⁶⁰ Economy of Latvia, www.balticexport.com
⁶¹ Latvian Central Bureau of Statistics
Organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings and provision of recommendations applicable to the Russian context

Table 16: Housing Stock

<table>
<thead>
<tr>
<th>Housing Stock (million sq. m)</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of Rural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing stock per inhabitant (sq. m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Central Bureau of Statistics, 2010

Social housing—those buildings maintained by municipalities and inhabited primarily by underprivileged citizens, are overwhelmingly urban. As of 2006, there were approximately 750 social houses in Latvia, of which 645 were located in cities. Multi-family buildings ("MFBs") have been and continue to be the focus of the housing sector, given that only 25% of the housing stock is single-family housing.

From September 2009 to January 2010, INTENSE, a European agency, conducted interviews regarding homeownership and housing stock across several Eastern European cities. In Cesis, a town in central Latvia, this survey showed that of 111 households surveyed, 86% owned their homes. Over 50% of the apartments surveyed were between 41-60 square meters, while only 5% were between 81-100 square meters. The study also analyzed Riga, where the situation is similar. 71.6% of the 158 respondents own their homes. About 45% of homes are between 41-60 square meters. According to the OECD, the average housing space in Latvia per inhabitant is approximately 30-50 square meters smaller than the average dwelling in Europe. While most dwellings in Europe are 4-5 rooms, apartments in Latvia tend to be 1-2 rooms.

Physical Housing Stock

MFBs in Latvia, as in other Eastern European nations, were primarily built during the Socialist period. 15% of Latvia’s housing stock was built before 1918; 50% was built between 1961-1980; and 3% has been built since 1991.

41% of Latvia’s apartments are pre-fabricated concrete panel buildings in the style built across the Soviet Union from the 1950’s to the 1990’s. The oldest buildings are primarily 4-5 story buildings, while those built in the 1960’s tend to be 9 stories. Generally, MFBs are grouped in high density on outskirts of cities.

Due to a lack of proper maintenance and building standards two times lower than those of their Western European neighbors, Latvian MFBs chosen for renovation are often found to be in worse shape once the renovation is underway than initially expected at the outset. The share of housing stock connected to piped water is approximately 80%, with access to sewer systems remains under 80% of housing stock. On average, 60-80% of heat energy escapes through outer constructions of residential buildings; condensation, molding and other signs of deterioration are widespread. In 2009, commissioning of MFBs reduced by 42% compared to 2008, with 2,400 flats commissioned; without near-term investment, usable housing stock will decrease significantly.

1.4.4. Regulatory Framework

Privatization

The privatization process began in 1991. The process is managed by commissions organized in each municipality and is characterized by two types of privatization: Regular, or Full, Privatization, and Accelerated Privatization. Under Regular Privatization, an entire building is privatized and registered in the Land Book (the governmental database of all real estate) and each apartment, along with its pro rata ownership of common spaces, is registered as a private property. Under Accelerated Privatization, only the individual apartments are privatized and common area and land remain public. In 1996, approximately 30% of housing was privatized, and in 2002 approximately 74% was privatized. This level has now reached almost 80%, which is the target level of the privatization program.

Ekodoma, Country Survey InoFin Latvia, June 2006
INTENSE, “Energy Efficiency in your home: Survey in 12 Central and Eastern European municipalities”, 2010
G. Aistars, Energy Efficiency in Multi-Family Housing – A Social and Environmental Necessity, 2002
Governance of Buildings

The privatization of Latvia’s housing stock, as discussed above, is nearly completed. In those buildings that are not fully privatized, individual apartment owners continue to pay rent, maintenance and common cost fees to the municipality or management companies controlling the building. The market for management companies is not robust; typically, management companies are municipally-owned. Over the past several years, banks have created housing management subsidiaries to manage properties that they have come to own through loan defaults. One example of this is Salvus, Ltd., the housing management company arm of DnB Nord Bank. There are typically a handful (or as few as one) of management companies in each local market. Because the market is not extremely developed (i.e., demand outweighs supply), management companies are able to set management fees without downward pressure from competitors.

In 2001, the government adopted the Concept for Improvement of the Legislation Base and Institutional Structure in the Field of Housing and Rent. This legislation sets out certain responsibilities for apartment owners:

- Participate in decision making on housing maintenance issues
- Provide security in the case of joint borrowing
- Covering all expenditures for maintenance and upkeep of the home

An HOA cannot be formed unless all the apartments in a building including common spaces have been privatized under Regular, or Full Privatization. In buildings where Full Privatization has been completed, residents have the option of collectively terminating the maintenance or rent agreement with the municipality to form an HOA.

Homeowners associations have not reached widespread use in Latvia. The slow rate of HOA adoption has been attributed to two primary reasons. First, there is a high level of differentiation in income level across the residents in a given building, leaving a gap between measures that high income residents wish to take and those that low-income residents can afford. Secondly, the government has found through various surveys that there is a lack of interest in residents to become active members of their buildings given the state of disrepair of most housing. Increasing HOA adoption could be accomplished by implementing a requirement for HOAs in MFBs, as well as by maintaining or increasing financial incentives for HOAs relative non-HOA buildings. The offer of technical assistance to new HOAs could also be a useful tool, as lack of experience with legal, technical and financial matters can often be an impediment to organization.

HOAs in Latvia are not legal entities, but are registered as cooperatives with the government. HOAs operate within clearly-defined parameters once the residents of a building agree to form the HOA; these parameters include debt collection mechanisms. Consequently, HOA financing is possible despite the lack of legal status for HOAs. Existing HOAs in Latvia operate under the following governance structure:

- The HOA is responsible for the maintenance and upkeep of the building, as well as for procuring additional services including trash collection and upkeep of the premises.
- Maintenance fees are paid based on the square footage of each residence because meters are controlled at the building level, where heat regulators have not yet been installed (consequently, individual apartment owners are not incented to save energy or make investments on their own to do so).
- Votes are taken collectively by the residents of the building to take certain actions including the implementation of maintenance or modernization upgrade, as well as for incurring debt.
- Generally, a simple majority (51%) is required, though to access certain financing mechanisms, a qualified majority of 75% may be required.
- Once a vote is taken for a certain action, the decision is binding upon all residents in the building, including those who are not HOA members.
- In the case of non-payment of an individual resident, creditors (through the HOA or management company) have recourse including confiscation of salary, social benefits and eventually assets; however, this process often takes 2-3 years.
- In the recovery of arrears, collective fees for maintenance and debt are second behind taxes; recovery of arrears takes place in the general court system.

---

65 Interview with Eric Berman, Chairman of Renesco
Financing for HOAs

HOAs that seek bank financing are generally evaluated on the following criteria\(^6\):

- HOA is established and has operated for at least 6 months before submitting loan application
- At least 80% of residents have paid common cost invoices on time
- Building is insured
- Loan amount covers only materials and labor for specific upgrade
- Cash flow of MFB is pledged as security
- Bank may seek payment from individual apartment owners
- Buildings may hold reserve funds, but these funds are substantially insufficient in the case of default on capital intensive renovations; there is no standard minimum\(^9\)

Under the framework of the World Bank Housing Project (to be discussed later), a program was created for guarantees to banks for HOA loans for the renovation of MFBs. Under the program, the state-controlled Land and Mortgage Bank issued about 50 dollar-denominated loans for the renovation of MFBs for a total of 1.2MM USD (EUR 839K). Of this portfolio, the average loan size was $20K (EUR 14K) with interest rates from 8.5%-12\(^7\). Loans themselves were taken primarily by apartment owners and paid for energy audits as well as basic weatherization measures. The World Bank acted as guarantor on these loans, guaranteeing the first 70% of losses and leaving a local bank exposed to 30% of losses. The loan guarantee is only for principal and does not include lost interest; in the case of default, the World Bank guarantee is paid out before foreclosure, and the local mortgage lender has the authority to carry out foreclosure on behalf of guarantor.

The economic impact of this program on the individual members of a building may be tolerable depending on their income level. Based on the average statistics of the portfolio, debt service averaged approximately $5K (EUR 3.5K) annually for a building. Assuming that the average building had 20 households, the debt service for the loan would amount to approximately $22/month/household (EUR 15). This is almost 28% of average monthly housing expenditures, according to census data, and over 20% even net of theoretical energy cost savings. Thus, the mechanism would most likely be unaffordable by the majority of residents.

Organization and Regulation of services

**Building Maintenance:** Privatization—either partial or full—has made it harder for municipalities to play a role in modernization and upkeep. Furthermore, many also don't consider it their responsibility to do so. According to the Law on Apartment Ownership, residents own common space jointly and are responsible for their upkeep and maintenance. In the case the residents are members of an HOA, pro rata payments for common area upkeep are based on apartment size and paid directly to the HOA, which in turn remits payments to the municipality or management company. In the case that apartments are privatized but the owners are not members of an HOA, payments are remitted directly to the municipality or management company.

**Electricity Interconnection:** Municipalities are required to ensure that MFB's are interconnected to the electricity grid, but no longer control or subsidize electricity rates. While the electricity market was fully deregulated in 2007, JSC Latvenergo is still the dominant electricity company in Latvia. Latvenergo provides about 90% of all electricity generated in Latvia and ensures imports, transmission, distribution, and supply to customers. Additionally, there are more than 100 small power plants and 10 companies licensed to distribute power\(^67\).

**Water and Sewer:** Over the past ten years, individual water meters were installed in most buildings; consequently individual apartment owners are responsible for payment based on consumption. Municipalities are responsible for the upkeep of water and sewer systems throughout their city. However, due to Latvia's austerity measures and the lack of funding in many cities across the country, sewer systems have not been modernized in several decades. While municipalities ensure that MFB's are connected to running water and sewer systems, technical difficulties at the building level must be paid for by the owners (or the HOA, if applicable) according to terms similar to those discussed above under "Building Maintenance."

---

\(^6\) A. Reinholds, Technical Unit of Ministry of Finance, "Guarantees to Banks for the Loans of House Owner Associations Taken to Renovate Multi-Apartment Buildings"

State and Municipal Oversight

Housing regulation is currently overseen by the State Housing Agency, which was formerly known as the Residential Buildings Privatization Commission. The agency was initially created to handle apartment privatization but now deals with national housing issues. One of its primary tasks is to help speed the adoption of and develop HOAs.

Until the early 2000’s, housing policy functions were spread across several institutions:
- The Ministry of Economics Energy Department was responsible for energy and energy efficiency policy
- The Ministry of Environmental Protection and Regional Development Building Department was responsible for setting building codes and developing housing policy
- The Ministry of Welfare was responsible for developing social assistance policies for low income groups.

To increase simplicity and efficiency of government affairs, all of the functions except privatization were transferred to the Ministry of Environmental Protection and Regional Development Building Department. However, this department has been expected to handle the additional responsibility without any additional funding.

Day to day housing matters including setting rent / maintenance fees, executing privatization, providing and structuring social assistance (to be discussed below), and maintaining municipally owned housing are controlled by the municipality. Until 2001, rent and maintenance fees were set entirely by municipalities. Payment levels were kept artificially low in an attempt to alleviate housing costs on low-income residents; payments were so low that they were not able to cover total maintenance costs, and consequently vital maintenance was not undertaken. In 2001 this law was amended, allowing management companies to charge rents that could cover all maintenance costs and also turn a profit. Despite the liberalization of rent and maintenance fees and their increasing total cost, charges are generally set below market levels, with flat rent structures that do not represent the actual value or location of the property. Furthermore, rent structures are not sensitive to demand.

Municipalities control housing allocation for non-privatized buildings, as many cities in Latvia experience housing shortages. For example, Riga has a history of having about 33% of its residents on a housing waiting list at any given time. Currently, 3% of the total population Latvia is on a waitlist for housing. Municipalities are also charged with managing demand-based assistance for underprivileged residents per the Law on Social Assistance of 1995. Expenditures for social assistance currently account for approximately 35% of the municipal budget. However, due to the recession and Latvia's current austerity measures, many municipalities are underfunded for such programs.

Policy and Regulation

Housing Policy: The Housing Policy Framework Document was created in 1996. Its objectives were manifold. First, the document sought to managing housing stock in a financially viable manner, ensuring profitability and regular return on investments in the housing sector. It also sought to increase the use of energy savings solutions during building renovation, including insulation materials and other energy efficient building materials for new construction. Finally, the document sought to introduce metering for water, heat and gas and to de-centralize the control of consumption.

These goals were restated in the National Building Program, a long term set of activities adopted in 2002 for residential buildings. The National Building Program seeks to improve construction methods and construction quality. While both the Housing Policy Framework Document and the National Building Program set out clearly-defined goals, the documents are not specifically equipped to provide capital or other technical resources to achieve them.

Energy Policy: In 1998, the Latvian Government passed the Energy Law. Under Latvian energy policy in the 1990’s, district heating companies (other than Latvenergo) were under the control of municipalities. One of the Energy Law’s main objectives was to eliminate state subsidies such that actual costs of energy would be paid by end-users. The overall objective of the law was to increase energy efficiency in buildings. However, the law itself focused primarily on energy generation and delivery and did not focus on end-user efficiency and did not focus on existing buildings. Part of the problem was that at the time of passage, the functions of the Ministry of Economy and the Ministry of Environmental Protection and Regional Development Building Department were separate. Because the law was put forth by the Ministry of Economy, it did not address the concerns of the MEPRD BD.

---

In 2000, as the functions of several ministries had begun to converge, a more comprehensive document was passed into law. The National Energy Efficiency Strategy set a goal improving energy efficiency by at least 25% before 2010; as of this time, it has not yet been publicly confirmed if this goal was in fact met. This law did not provide any financing to meet its goal, but did provide strategy across certain time periods. For example, the strategy for the years 2008-2010 included energy audits and retrofits for MFB that would reduce average energy demand in buildings from 220-250 kWh/m²/year to the European average of 150 kWh/m²/year.

Since the passage of the Energy Law and the Energy Efficiency Action Plan, the Latvian government has passed several legislative acts summarized below:

### Table 17: Selected Housing Regulation

<table>
<thead>
<tr>
<th>Law Name</th>
<th>Key Points</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Construction, Renovation and Automation Long-Term Leading Framework Document</td>
<td>Financing and energy efficiency</td>
<td>Stimulate building of private houses through long-term, lower interest, loans; develops main priorities for EE in MFBs</td>
</tr>
<tr>
<td>Law on Apartment Ownership</td>
<td>Obligations of apartment owners</td>
<td>All apartment owners must pay pro-rata share of management and maintenance for common areas</td>
</tr>
<tr>
<td>Law on Apartment Rental</td>
<td>Governor of the setting of rent for multi-family buildings</td>
<td>Allows apartment owners (as opposed to municipalities) to meet rents to cover maintenance fees and to make a profit</td>
</tr>
<tr>
<td>Energy Development Concept for 2007-2015</td>
<td>State energy policy objectives</td>
<td>Policy planning document created in 2006 to define state level objectives and actions over a 10-year period</td>
</tr>
<tr>
<td>Latvia Sustainable Development Strategy</td>
<td>Energy Efficiency and Renewable Energy</td>
<td>15-year tasks and objectives for ensuring sustainable development in regard to the increase of energy efficiency and the promotion of renewable energy</td>
</tr>
<tr>
<td>Guidelines for Energy Sector Development 2007-2016</td>
<td>Implementation benchmarks for energy efficiency</td>
<td>Not a number of implementation benchmarks in the field of energy efficiency, such as energy intensity improvement, increase of cogeneration potential, reduction of energy consumption in different sectors, boiler house energy efficiency increase, and more</td>
</tr>
<tr>
<td>Energy Efficiency Action Plan</td>
<td>Energy efficiency measures</td>
<td>Passed in 2004, identifies a set of measures for energy efficiency to achieve the primary energy consumption per unit of GDP by 2006</td>
</tr>
<tr>
<td>Energy Law</td>
<td>Framework for energy industry regulations</td>
<td>Passed in October 1998, designed to promote competition, introduce transparent pricing, and develop new energy sources, including renewables</td>
</tr>
<tr>
<td>Amendments to Energy Law</td>
<td>Governance for environmental impact</td>
<td>Passed in 2001; provide rules for installation of generation equipment and purchase of electricity produced from renewable and cogeneration</td>
</tr>
</tbody>
</table>

Source: various

These acts, as described above, have set out a path for Latvia over the coming 40 years by creating energy efficiency and renewable energy standards, as well as providing guidelines for energy audits and technical assistance. However, these acts have not been sufficient to spur mass adoption of HOA organization. Furthermore, regulation has not yet created a financial incentive for residents or heating companies to reduce energy consumption.

**Heating Services**

As of the year 2009, district heating accounted for 39% of primary energy consumption. In Cesis, 77.1% of all apartments are connected to a district heating system, while in Riga, 85% of the dwellings built before 1990 are connected and about half of the dwellings built after 1990 are connected. Latvia’s district heating is usually a one-pipe system connecting buildings, meaning that radiators for those residences on the loop cannot be turned on or off. Consequently, buildings at the beginning of the loop (and closer to the heat source) are frequently overheated and residents are known to keep windows open throughout winter. On the other hand, buildings at the end of the loop (farthest away from the heat source) are known to be very drafty. In Cesis, only 35.2% of apartments surveyed in the 2010 study had an individual heat meter, and only 34.5% of residents had the ability to regulate their radiators. Similarly, in Riga only 20.5% of apartment dwellings had individual heat meters, and over 83% of the dwellings built from 1961-1980 have no ability to control their radiator settings.
Due to the heat inefficiency of Latvia’s panel buildings, it is estimated that 77% of energy used for space heating on average is lost. This is equivalent to the loss of approximately 100 LVL (EUR 141) per household per year based on current energy rates and consumption levels. Pricing formulae for district heating vary but are about 15-17 LVL/MWh (EUR 21); state subsidies have been phased out over the past decade, which has allowed substantial price increase. Generally, buildings are charged for usage at the building level, with costs then spread across tenants based on pro-rata living area. Those buildings that are not connected to the district heating loop are heated by local boiler heating (one boiler per building) or stove heating for individual apartments.

Heat costs are regulated in two ways:
- regulation through regional public service regulatory institutions, which operate separately from municipalities and are governed by the Energy Law (all district heating tariffs from boiler houses)
- regulation through Ministry of Environmental Protection (for all cogeneration)

In most instances, residential costs are calculated under the first scheme. Tariffs are comprised of energy production and distribution and are calculated in one of two ways. If a building has individual meters for apartments, which is rarely the case, billing is based on real consumption. If no meter is installed, a so-called two tier heat tariff is applied which includes fixed costs and variable costs and is calculated based on the surface area of a resident’s apartment. For MFBs occupied by HOAs, district heating companies bill the HOA who collects payments from residents (as discussed earlier). For partially privatized buildings, DHCs seek payment directly from residents.

According to the Ministry of Welfare, 60% of Latvia’s inhabitants are living below the “crisis subsistence minimum” of 55.78 LVL/month (EUR 83). As heating subsidies have been removed over the past decade, this has made payment even more difficult for the low-income tier of residents. Average energy costs are 12.5% of the total household budget, or about EUR 50 per month. 67% of households have difficulty paying monthly rent and utility bills.

While approximately 10% of Latvian residents have rent or maintenance payment arrears, 23% of urban households have debts for utility bills. As shown below, 18% of households above 60% of the median income have utility bill arrears; almost 40% of households below 60% of median income have bills outstanding.

<table>
<thead>
<tr>
<th>Year</th>
<th>Above 60% of Median Income</th>
<th>Below 60% of Median Income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>16.80%</td>
<td>25.30%</td>
<td>18.50%</td>
</tr>
<tr>
<td>2006</td>
<td>11.10%</td>
<td>20.40%</td>
<td>15.30%</td>
</tr>
<tr>
<td>2007</td>
<td>7.70%</td>
<td>15.20%</td>
<td>8.80%</td>
</tr>
<tr>
<td>2008</td>
<td>10.50%</td>
<td>16.40%</td>
<td>12.00%</td>
</tr>
<tr>
<td>2009</td>
<td>16.00%</td>
<td>24.60%</td>
<td>18.20%</td>
</tr>
<tr>
<td>2010</td>
<td>18.10%</td>
<td>39.40%</td>
<td>23.20%</td>
</tr>
</tbody>
</table>


In the case of non-payment, it is difficult for DHCs companies to take action in the short-term. However, households may be evicted if they accrue a debt of more than 300LVL (EUR 423) consisting of electricity bills, taxes, common cost payments or a combination thereof. Municipalities are responsible for providing housing for all vulnerable and socially disadvantaged groups, which include families with children, invalids, pensioners, etc. Households that fall into one of those categories cannot be evicted for nonpayment until another dwelling has been found for them.

1.4.5. Energy Efficiency for MFBs

Existing Use of Energy Efficiency for MFBs

Over the past decade, several types of building modernization retrofits have been implemented in MFB’s. According to the INTENSE study from 2010, the majority of the homeowners in the city of Cesis have made some upgrade to
their dwellings. 71% of those who responded to the study had installed new windows, while 26% had installed roof insulation and 17% had installed wall insulation. Similar levels of retrofits have been found in Riga, according to the same survey.

The first step of energy efficiency retrofits includes weatherization measures and is consequently the low hanging fruit; however, these measures are only effective if done to the entire MFB. Management companies and HOAs spent LVL 21.7 million (EUR 30.6 million) in 2009 on repairs, of which LVL 3.3 million (EUR 4.7 million) or 15% were spent on insulation of the dwellings. Fuel switching is also extremely effective because fuel oil, which is by far the least environmentally friendly fuel source, is used in the majority of Latvian boilers. One of the biggest barriers is properly sizing boilers or other heating systems because demand estimates are inaccurate due to lack of individual meters.

Renesco, which operates in Latvia using the ESCO model, has implemented projects in Cesis, Valmeira and Salaspils, with plans to commence several additional projects in 2011. For the Cesis project implemented in 2010, a 70-unit apartment built in 1975, the modernization retrofit included:
- Insulation of building and basement walls
- Window replacement
- Insulation of basement ceiling and attic floor
- Renovation of heating system and restoration of pipe insulation
- Renovation of hot water system
- Installation of energy monitoring system
- Repair work including staircases, ventilation shafts and other common areas
These measures are expected to result in a combined 53% energy savings.

Several packages of energy efficiency retrofits are recommended for Latvian MFBs with payback time as short as 2 years. Even the least costly measures are estimated to save approximately 20% of energy use, as shown below:

### Table 19: Energy Efficiency Technology

<table>
<thead>
<tr>
<th>Type</th>
<th>Cost / unit</th>
<th>Estimated Savings</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weather Stripping</td>
<td>EUR 317</td>
<td>11.19%</td>
<td>Payback time ranges from 2.2 to 3.4 years</td>
</tr>
<tr>
<td>Thermostatic Radiator Valves</td>
<td>EUR 526</td>
<td>22-33%</td>
<td>Payback time 2.2 to 2.8 years, highly dependent on active use of building and residents</td>
</tr>
<tr>
<td>All Low-Cost Measures</td>
<td>No data</td>
<td>20%</td>
<td>Weather stripping windows and reflective panels behind radiators, payback time under 2 years</td>
</tr>
<tr>
<td>All Medium-Cost Measures</td>
<td>No data</td>
<td>40%</td>
<td>Building level selections, heat system balancing, requires preparation of individual bills</td>
</tr>
<tr>
<td>Comprehensive Building Retrofit</td>
<td>EUR 2,115</td>
<td>50.94%</td>
<td>Weather stripping, radiator valves, insulation of all water construction, payback time 3.5 to 5.5 years</td>
</tr>
</tbody>
</table>


### Case Study: Energy House in Riga

Energy House in Riga, which was funded as a gift by the City of Berlin. The Energy House program retrofitted two nearly identical buildings, one in Berlin and one in Riga. Detailed feasibility studies were carried out before the work was done; the project’s first heat savings were recorded in 2001. All outside walls, roof and basement were insulated, new windows were installed and heating systems were made individual. The program projected costs for the project at 230,640 LVL, or 58.31 LVL per square meter, with projected energy savings of 60%. The actual costs were 80 LVL per square meter with heat savings around 50%. At an average size of approximately 50 square meters per apartment in Latvia’s MFBs, such a retrofit would cost an individual apartment owner 4,000 LVL, four times the cost of the retrofit at Celmu Str. 5.

72 www.sunenergy.lv (Renesco website), „Improvement of energy efficiency of multi-family dwelling house in Cēsis, Kovārņu Street 31”
According to current data from Renesco, comprehensive renovations such as the Cesis retrofit described earlier cost approximately EUR 6,000 per apartment (with renewable energy installations accounting for an additional EUR 2,000-3,000). These sums are difficult for residents to afford in cash (for which reason an ESCO model is necessary, to be discussed below). Payback periods are usually 4-5 years (subsidized) or up to 10 years unsubsidized.

1.4.6. Financing Mechanisms

State and Supranational

World Bank Housing Project: The Latvian government began working with the World Bank in 2003 to create a housing program. Under this program, World Bank provided approximately $2 million to the Latvian Government in 2003 to provide guarantees to local banks providing mortgage loans. Under this program, three financial products were developed: first, the program created a guaranteed mortgage for first-time home buyers which allows the home buyers to make a smaller down payment than normal (10% vs. 30%). The second product is a reverse mortgage program for pensioners, which provides the elderly with funds to make payments on building renovations. Finally, the program created a guaranteed loan for MFB renovation. This program had significant economic impact on individual homeowners, since for those seeking to buy a home for the first time, upfront costs were reduced by 2/3. Furthermore, pensioners were able to afford retrofits that greatly increased the comfort level of their homes. Those pensioners who previously might have had to seek social housing were able to afford common maintenance charges voted to be incurred by their building.

Law on Energy Performance of Buildings: In February 2008, the Ministry of Economy allocated part of the state budget for the co-financing of energy efficiency in MFBs. This program provides 200 LVL (EUR 282) per MFB for auditing, then provides 20% of the total project cost as co-financing with a bank loan. To use this financing, 51% of an MFB’s residents need agree to take the loan. The 20% subsidy is paid directly to participating bank to reduce the overall size of the loan. This product can be extended to HOAs or management companies seeking to upgrade privatized buildings.

Modernization Program for Residential Buildings: Under the Modernization Program for Residential Buildings, the Latvian Economics Ministry provides approximately EUR 62 million, with approximately EUR 10 million earmarked for the modernization of social housing. In conjunction with the Economics Ministry, the European Fund for Regional Development awards grants of up to 60% of project costs to a maximum of EUR 50 per square meter. Together, the program can finance up to 85% of a retrofit. In 2009, EUR 45 million was invested in 56 projects, with an energy savings target of 25%. EFRD funds support the work of ESCOs in Latvia, to be discussed below.

Green Investment Scheme: On October 5, 2009, the New Energy and Industrial Technology Development Organization (NEDO) signed an agreement with the government of Latvia to purchase 1.5 million Assigned Amount Units under the Kyoto Protocol for the implementation of a Green Investment Scheme. Latvia will continue to enter into contracts for its AAU’s and use the proceeds to fund renewable energy and energy efficiency measures. Latvia uses GIS funds to provide a 50% subsidy for project costs. The beneficiary of GIS funds is the HOA or group of apartment owners; however, under Latvian law, the HOA or group owners can mandate that the subsidy be transferred directly to an ESCO or other project developer.

Public-Private Partnerships

Home Improvement Loan Program: The Home Improvement Loan Program was developed by the Latvian government in conjunction with the Land and Mortgage Bank to stimulate the private housing market. The program was created in 2000, with a pilot program implemented in 2001. Under this program, the government guaranteed low-interest loans for 3 types of borrowing:

- Renovation and energy efficiency retrofits of common space in MFBs
- Renovation and purchase of apartments for first time buyers
- Completion of unfinished housing projects

---

74 Cabinet of Ministers, Home Improvement Loan Program, 2000
The program provides funds only for groups of owners with similar income and credit levels who are interested in taking loans. Loans have averaged 60,000 LVL (EUR 85,000) loan at 9% for 8 years terms. The economic impact of servicing this debt would be approximately 135 LVL (EUR 190) annually per household. However, the actual cost to end-users is much lower due to 30% or more energy savings per project.

**Private Loans**

**ESCOs:** The energy service company (ESCO) model has existed in Latvia for several years. Primarily, ESCOs in Latvia enter into energy delivery contracts (EDCs) more frequently than energy performance contracts (EPCs). Under energy delivery contracts, ESCOs are contracted to deliver heat to a building at an agreed-upon temperature.

Agreements between ESCOs and end users can be either collective or individual, typically for terms of 20 years. In the case of a building controlled by an HOA, the HOA is responsible for payment to the ESCO, and in turn collects individual payments from residents. In the case that a building is not controlled by an HOA, payment is assigned to the existing management company who is responsible for servicing the debt from individual homeowners.

Under the model used by Renesco and other ESCOs, projects have been funded using several sources:
- European Regional Development Funds (as discussed earlier)
- Green Investment Scheme Funds (as discussed earlier)
- Loan guarantees (provided from sources including Dutch International Guarantees for Housing)
- Equity

While ESCOs have faced difficulty obtaining debt financing over the past decade, Renesco has indicated that it is closing a project loan from a syndicate of two banks, including Nordea Bank AB. The following summarizes typical terms for current loans for MFB modernization:

<table>
<thead>
<tr>
<th>Typical MFB Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Currency</strong></td>
</tr>
<tr>
<td><strong>Term</strong></td>
</tr>
<tr>
<td><strong>Amount</strong></td>
</tr>
<tr>
<td><strong>Security</strong></td>
</tr>
</tbody>
</table>

*Source: Interview with Eric Berman*

**NGO**

While the program did not provide any direct funding or loan guarantees, it is important to mention the Latvian Volunteers for Energy Efficiency, a joint project across several NGOs from Rezekne, Madona and Smiltene. This NGO project was initiated by the Public Policy Institute to raise awareness about energy efficiency in Latvia and was developed in conjunction with International Energy Brigades, a network of NGOs that works across Central and Eastern Europe. Volunteers in Latvian cities were trained in window and door weatherization, which can save up to 10-20% of a home’s energy usage for up to 10 years. Volunteer programs such as this raise awareness about energy efficiency and are able to provide labor for free through volunteers, along with a product (in this case weatherization strips) that costs very little while saving residents as much as EUR 10-12 per month over the course of 10 years.

1.4.7. Conclusions and Lessons Learned

**Need for Change in Maintenance Tariff and Meter Structure:** The structure of maintenance tariffs does not allow housing maintenance companies to recover the cost of energy efficiency modernization. However, individual apartment owners also have no way to recover capital expenditures for energy efficiency since they are generally
charged a portion of the building’s metered energy charges based on area of apartment. Either individual meters should be installed so that apartment owners can benefit from reduced consumption or maintenance companies must have the ability to recover the costs of modernization through an increase in common area charges.

**DHC Structure:** District heating companies such as Dalkia have no incentive to improve end user efficiency because their revenue is based on energy consumption. Furthermore, load reduction actually makes the district heating system less efficient, compounding the negative effects of energy efficiency as seen from the point of view of the DHC. Consequently large DHCs may attempt to lobby against energy efficiency legislation. DHC revenue must become disconnected from actual energy consumption in order for DHCs to embrace energy efficiency. This process, which is widespread in countries such as the U.S., is known as decoupling.

**Public Subsidy Makes Modernization Affordable:** Comprehensive energy efficiency and modernization retrofits can cost EUR 4,000-6,000 per apartment. Because debt financing does not typically cover more than 75% of project costs, a significant upfront burden (up to EUR 100,000 based on an average building) rests with apartment owners. Without requirements for building reserves, subsidies are needed to cover part of this upfront expense. Also, depending on the type of financing, debt service for such measures can constitute 25% or more of the average household budget. Latvia should continue to provide interest rate subsidies to reduce the debt service burden in a country where already 23% of the population has utility bill arrears. Furthermore, the government should provide technical assistance programs, but to help citizens understand the modernization itself as well as to understand how various subsidies can work together.

**Risk Must Be Shared:** As discussed, many public financing programs exist for modernization and energy efficiency. While funding programs such as the Modernization Program for Residential Buildings deploy tens of millions of Euro towards modernization projects, loan guarantee programs such as the CEEF mobilized a much higher level of total investment. Latvia should deploy a large portion of its capital in the form of loan guarantees to leverage private investment. According to Eric Berman, chairman of Renesco, many banks are waiting on the sidelines to deploy capital but are unwilling to assume all project risk. Risk sharing programs would help bring lending to scale.

**ESCO Model Brings Both Technical Skills and Risk Assumption:** ESCOs in Latvia primarily operate under heat delivery contracts rather than energy performance contracts. However, ESCOs are beginning to implement full renovation including energy efficiency in addition to heating services only. ESCOs play a valuable role in acting as a “one stop shop” for modernization: MFBs have difficulty implementing projects on their own unless the residents themselves are experienced in legal, financial and engineering disciplines, which is rarely the case. Most importantly, ESCOs assume risk that, in the absence of government programs, banks are unwilling to tolerate.

**Support Formation of HOAs and Private Investment:** While Latvian HOAs are not legal entities, they do have a functional system of decision making and debt collection. These parameters have allowed HOAs to act as a single counterparty in agreements with management companies and creditors. However, potential lenders may feel more comfortable lending to HOAs if HOAs become legal entities. In addition to changing the status of HOAs, the government should offer financial incentives or technical advisory to spur the adoption of HOAs. Encouraging residents to form HOAs will instill a greater sense of responsibility for space and will improve the social interactions between residents. HOAs should institute building reserve requirements which could both cover part of the upfront costs of modernization and/or provide collateral for a bank loan. Based on Latvia’s experience, the availability of direct loans to HOAs is not enough to promote the modernization of Latvia’s housing stock; it must also be paired with awareness and low-income support as described above.

**Recognize Need for Cost Differentiation:** The housing sector still operates like a ‘command’ system in which ownership and management is vested with the state and municipalities and pricing policies are not sensitive to demand or quality of housing services. Maintenance and management, for the most part, is still a municipal monopoly and public landlords manage most of the privatized housing. Latvia needs to create policies that lead to competition in the maintenance and management of housing. In addition, Latvia must find a cost recovery rent level that moves with supply and demand dynamics.

**Need for Low-Income Support:** Latvia needs a more comprehensive safety net for the low income demographic. There is some level of low income residence in every building and because they can’t afford building improvements, a high enough population of low income residents could prevent an entire building from modernizing. Some social assistance should be provided so that they can finance their share of these upgrades. Current needs based heating
subsidies are actually an impediment to modernization because the funds can only be used to pay for heating bills, and not for upgrades. The heat related subsidies could be shifted by the residents to modernization upgrades in their building.

**Need for Increased Awareness:** Raising awareness through public campaigns could have a large impact; according to INTENSE, less than half the residents of Cesis feel adequately informed about energy efficiency. 13.6% claim not to be informed at all; in Riga, 8% are not informed at all. On the other hand, in both these studies, over half of the population felt that energy efficiency issues were quite important. Because internet and television are where most people get their information, these may be the best media to spread information. Information could also be distributed through housing advisory centers or through social services departments.

1.4.8. Bibliography

in order of appearance


International Monetary Fund, "Latvia Caught in Vicious Economic Downturn", May 2009


Latvian Central Bureau of Statistics, 2010

Ekodoma, Country Survey InoFin Latvia, June 2006

INTENSE, “Energy Efficiency in your home: Survey in 12 Central and Eastern European municipalities”; 2010


A. Reinholds, Technical Unit of Ministry of Finance, “Guarantees to Banks for the Loans of House Owner Associations Taken to Renovate Multi-Apartment Buildings”


Interview with Eric Berman, Chairman of Renesco, 18 May 2011

Cabinet of Ministers, National Energy Efficiency Strategy”; 2000

Utility Bill Arrears in Latvian Households, www.datamarket.com


S. Treija, Riga Technical University, “Development Process of Large Scale Housing in Latvia”, 2009

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Germany) and Vides Ministrija (Latvia), “Energy related modernization of residential buildings in Latvia”, 2004

USAID, Ekodoma, MUNEE, "Demand Side Management Project, City of Valmeira, Latvia", 2006

Cabinet of Ministers, Home Improvement Loan Program, 2000

IFC, "CEEF Program: Achievements and Lessons Learned", 2007

OECD, 4th OECD Workshop on Housing Finance in Transition Economies

S. Tsenkova, “Towards a New Urban Agenda for Greater Europe: Enhancing the Competitiveness of Cities in Latvia”, 2004
1.5. Slovak Republic Best Practice Analysis

1.5.1. Executive Summary

- Slovakia's multi-family housing stock has the typical physical characteristics of former Socialist bloc countries, consisting mainly of buildings made using concrete panel technology during the 1960s to 1980s. There is a strong need for housing refurbishment and increased energy efficiency, especially in terms of thermal insulation of panels and repairing structural flaws.
- Slovak Homeowner's Associations (HOAs) constitute over 70% of the MFB stock. This is due to widespread and affordable privatization of the housing stock formerly belonging to municipalities and the State at the beginning of 1990’s. The balance of MFBs is organized as cooperatives which are declining in prevalence; new buildings are all managed by HOAs.
- Although there remains a strong need for housing refurbishment to improve the technical state of MFBs, Slovakian housing blocs are generally well-managed and by regional standards offer a good level of amenities.
- Almost all of the Slovak MFBs are connected to gas-fired district heating systems.
- The Slovakian energy sector was also privatized; the impacts on the population were initially softened by subsidies for households. In recent years, however, households have been affected by a significant increase in heating, water and electricity costs.
- HOAs are mostly regulated by one specific law, which is occasionally updated for current needs, but contains a comprehensive and complete set of rules regulating HOA structure, obligations and relations to external bodies.
- Debt collection from resident non-payers to an HOA may be solved in two-ways: traditional, lengthy courts procedure, or by voluntary auction of the non-payer’s apartment, which is a fast and efficient way to sell a debtors’ apartment to cover his/her debts, making external financing of HOA’s easier.
- Slovakia didn’t suffer much during the global recession; it’s economy contracted only during 2009; however, one of the country’s permanent and most recognizable problems is its high level of unemployment, a lingering effect of the economic transition from the socialist period.
- The State Housing Development Fund is a central fund, established by the state to improve housing quality in Slovakia. It is a half self-financed, half-subsidized tool supporting and also influencing the banking sector to lend for housing development and refurbishment.
- The Slovak market provides multiple ways and products to finance building renovation. The main and most experienced institutions are the German style Bausparkassen (Building Savings Societies). Thanks to a wide range of government subsidies or loan guarantees, HOAs can choose among many repayable and non-repayable financial mechanisms. Government loan guarantees encourage the private sector to lend money for HOAs.

1.5.2. State of Economy

Historical Growth

Slovakia is a small country with a population of almost 5.5 million. Slovakia’s public expenditure structure is typical to post-transition economies; the biggest share in its public budget are social expenditures and costly public services. Unemployment is perceived as the biggest social problem, and is among the highest in the EU. In December 2007, the Slovak Parliament approved the Bill on Investment Aid, which is supposed to aid in development of the poorest regions. State aid is focused on fighting unemployment by developing industries, technological centers, strategic services centers, and tourism centers.

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP growth</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long term interest rate</td>
<td>8%</td>
<td>6.90%</td>
<td>5%</td>
<td>5%</td>
<td>3.50%</td>
<td>4.60%</td>
<td>4.50%</td>
<td>4.70%</td>
<td>4.70%</td>
<td>3.90%</td>
</tr>
</tbody>
</table>

There are more than 38 industrial parks in Slovakia, waiting for new investors, offering prepared infrastructure, incentives for land purchase and tax relief. Slovakia is currently in the process of a transition to a more decentralized political system with the introduction of functional budgeting into public spending.
Recession Era

Slovakia is still struggling with the international economic crisis along with all countries in region, but avoided supranational interventions. The country joined the Eurozone in 2009 in order to soften the effects of the financial crisis and to help protect its citizens savings from devaluation. Slovakia, along with its neighbor Poland, remained relatively strong during the crisis. The Government adopted an anti-recession package in late 2009 which included a more effective use of EU funds, public spending cuts, support to innovation initiatives, and pressure on energy companies to lower prices.

One of the biggest economic problems in Slovakia has been energy price increases. To soften the impacts of energy sector privatization on the population, the government provided energy cost subsidies to households. After the subsidies ended, energy prices rose dramatically with the most significant annual change in rates occurring in years 1999-2000, around 40% per year. Another peak was reached during 2003-2004, with 20% and 14.5% annual increases respectively and again with nearly a 10% increase in 2006.

Table 22: Household Spending

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR per month and person</td>
<td>52.58</td>
<td>51.25</td>
<td>61</td>
<td>61.49</td>
<td>63.45</td>
<td>61.32</td>
<td>62.56</td>
</tr>
</tbody>
</table>

Source: Slovstat

1.5.3. Housing Market

Overview

Half of Slovaks live in MFBs, which are mostly high-rise concrete buildings constructed before 1989. According to the latest available census, Slovakia has 1,665,536 occupied apartments and about 50% of them (869,472) are in multifamily blocks. Out of the MFB stock in 2004, 37.5% of apartments are in high-rise buildings of more than 4 stories. More than 90% percent of occupied MFB apartments are privately owned.

In 2001, the total number of MFBs was 61,855. Most of them (88.5%) were built during the times of Socialist-ruled Czechoslovakia (1946-1990) using the technology of pre-fabricated panel houses widely spread in former Eastern Bloc countries from Czechoslovakia to Mongolia. In 2001, an average MFB was 26 years old, and consisted of 14 apartments each with an average habitable floor are of 44 square meters and 2.5 rooms per apartment (around 54% of apartments in MFBs have 3 habitable rooms). According to 2001 Census data, the average number of residents per one room in MFBs is approximately 1.5.

Most of the Slovak housing stock is in relatively good shape. In 2001, only approximately 13% of buildings had no central heating and about 10% had insufficient or no basic amenities, a number which has likely since declined significantly. 72% of apartments are in buildings providing all the basic amenities and central, remote or individual apartment heating. Almost all of the houses have connection to sewage network, water supply, bathroom, flush toilet and hot water.

A 2009 survey showed, that compared to the EU countries, Slovakia has one of the lowest shares of population with perceived housing quality problems like leaking roofs, lacking of bath or shower, flushed toilets, and electrical blackouts. Considering these indicators, Slovakia is on the top of the list of housing quality in European Union. However, the housing deprivation rate is among the highest\(^75\). The construction market in Slovakia is not able to fully meet citizen’s needs, and we can observe a rising number of persons per room in Slovakian houses, increasing by 40% from 1 in 1991 to 1.4 in 2007

\(^75\) Housing conditions in Europe 2009, Statistics in Focus, Eurostat
Today, most of the occupied MFB apartments in the Slovak Republic are still located in old, Socialist-era, prefabricated panel houses. From 1991 to 2008, the stock of apartments in MFBs increased only by around 150,000, a rather low result for a period of almost 20 years76.

**Legal Organization of MFBs**

Currently, there are 4 main types of legal organization of MFBs in Slovakia:

- **Cooperative Houses**; according to 2001 Census, co-ops own only 20% of the MFB stock in Slovakia. Co-ops in Slovakia manage a stock inherited from the Socialist era. They are not involved in building new houses; on the contrary, they tend to lose members. The Slovak Union of Housing Cooperatives (SZBD, founded 1969) is the main association of housing co-ops, claiming to represent 98% of them. All most all of the co-op housing stock consists of post-war concrete pre-fabricated panel houses. By 2009 co-ops had decreased their share of the total housing stock to only 15%77. In 2007, SZBD represented 210,000 individual members living in 270,000 apartments. Co-ops are regulated by the Commercial Code.

- **Homeowners Associations – HOAs** (Spoločenstvo vlastníkov); This is the most popular form of legal organization of MFBs in Slovakia, representing 70% of all apartment units. It was introduced in 1993 by Law no 182/1993. Homeowners associate themselves into a legal form, create a status containing responsibilities of the HOA towards the residents and of the residents towards the HOA, establish regulations of payments from residents to the HOA, pick a manager (which can be a hired professional) and share costs and duties related to managing the building. They are run democratically and elect their own bodies. They must be registered as an association at the Ministry of Interior. Slovakian HOAs can also join group interest associations, of which the most renowned are “Združenie domových samospráv” and “Združenie SVB”.

- **Municipal Social Housing** was only 5% of the MFB stock in Slovakia according to the 2001 Census. Mass privatization allowed most of the Slovaks to buy out their apartments with only the poorest of the population still living in rental units. Apartments in municipal social housing buildings can be rented just for 3 years by a tenant living in a household with a maximum income of three and half times living wages78. This means, that social housing in Slovakia aims to provide a short-term solution rather than long-term affordable housing for citizens.

- **“Hybrid Homes”**; in 1993, after separating from Czechoslovakia, the Slovak parliament adopted Law no. 182/1993 which allowed and regulated a buy-out of a apartment from a co-op by a tenant. In some MFBs, there is a mixed ownership status. Residents who are no longer in the co-op may form an HOA and administer the same building along with co-op apartment owners.

**District heating as a main heating source in MFBs**

District heating is provided in 93% of MFBs in Slovakia. Energy supply sources for district heating are mostly natural gas (60.5%) with 37.1% generated by coal. Geothermal and renewable sources of energy account for only 2.5% of energy generation79.

**1.5.4. Regulatory Framework**

**Privatization**

The initial step towards privatization was made in 1991, while Slovakia was still part of Czechoslovakia; the Transformation Act aimed to transfer cooperative housing with a fixed price for transfer of ownership to a private tenant. It is worth noting that even under Socialism, almost half of the apartment stock was in private hands before 1989 (mostly single family houses).

---

78 Social housing in slovakia. the task and justness of the non-profit housing organizations, Cervenov, L’ubomra, 2005 http://www.join-inofin.eu/docs/Slovakia-SocialHousing.pdf
But the main step toward privatization was made after separation from the Czech Republic in 1993. The Bill on Ownership of Residential and Nonresidental Premises of 8th July 1993 introduced the transfer of all state and municipal apartments to their inhabitants. This process can be considered a success: in 1991 27.7% of housing belonged to municipalities or state enterprises, and 22.2% to housing co-ops. By 2009 76% of apartments were held by private owners, 15% by coops and only 3.5 % by municipalities.80

HOA Legal Framework

The legal framework of Homeowners Associations is regulated by the Bill on Ownership of Residential and Nonresidental Premises (182/1993). All HOAs must be registered at the Ministry of Interior.81

HOAs are broadly required to have:
- Organized authorities with specified competences
- Agreed upon means of managing, maintaining and repairing the HOA common space
- Regulations on rights and obligations of owners of apartments within HOA
- HOA members should have legal ownership title
- Organized rules to manage finances and cash flows82

Slovakian HOAs are governed by collective bodies made up of owners, which are eligible to decide about all of the aspects of the HOAs activities. Unless a contract with an external manager is signed, the HOA itself is the legal body responsible for provision of services connected to operation and maintenance of the building.

The governing bodies of an HOA are the: President, Council, Assembly and any other authority described by the HOA Articles of Association (up to owners decision). The President represents the HOA and is responsible for building management. He is elected by an absolute majority of votes of apartment owners for 3 years. The President is responsible for whatever the HOA Articles of Association assigns to him. In general however, the President proposes, for approval by the Council, the annual budget, monthly payments, monthly report, operations and maintenance report, financial report, and all billing and payments transactions. He is also responsible for carrying out the voluntary auction of non-paying HOA members apartments.

The supervising body of the HOA is the Council, also elected to a 3-years term. It must have at least 3 members. The President cannot be a member of the Council. The Council takes decisions with an absolute majority of votes. Its members can inspect any of the HOA documents at any time.

The Assembly is the direct representative body of the HOA. It consists of all owners of apartments or business premises in the building. It meets at least once per year or when requested by the President or called by a minimum of ⅓ of owners. A valid Assembly must gather at least ⅔ of owners. The Assembly approves the budget, annual costs and bill payments, monthly payments, decides upon use of funds, activities for maintenance and repairs, acts on loan and security of claims resulting from taken credits, decides on reporting or administrative methods and all the other things not enumerated by Law 182/1993.

All HOA members must be notified by letter in advance of an Assembly meeting. All votes can be passed by absolute majority of votes of all HOA owners, unless they concern security of the building or taking a loan. In these cases 2/3 of votes of all owners are needed. The dissenting owners have a 15-day period to appeal to court.

One vote represents one apartment or business premise, so an owner of multiple apartments or premises can hold more than one vote. Also, residents in an HOA-operated building, who aren't HOA members are obligated by Law to either submit to HOA decisions. New owners are obligated to join the HOA formally as soon as possible.

An HOA is responsible for all financial obligations connected with maintenance and upkeep costs of the property. It must provide detailed financial information to members. Owners of apartments or commercial premises are responsible for regular payments for the costs of running the building. The HOA is responsible to ensure that all bills to external service providers are paid, so in case of non-payment by an apartment owner, all remaining members of the HOA must cover the debt to keep providing goods and services like heating, cleaning, water, etc., or to repay a loan.

81 Associations of the Owners of Residential and Non-residential Premises http://portal.ives.sk/registre/zoznamSVB.do
The HOA can enforce payments of debts owed to it by non-paying residents post-factum. It cannot stop paying to service or goods providers or to lenders because some of its members have stopped paying their obligations to HOA. Commonly, part of the monthly payment is reserved as an emergency fund to keep goods and services running in case of a non-paying member. The HOA is required to maintain a building reserve fund which is paid into by the members along with other payments monthly.

The HOA can assume loans to repair, reconstruct and upgrade common areas or facilities or buy necessary accessories. In the case of multi-building HOAs, only inhabitants of the building to which the loan relates can be charged for its repayment cost. Apartment or commercial premise owners are responsible for credit liabilities only up to the value of their property (estimated by independent experts).

**HOA Contracted Management**

HOAs can be maintained by a contracted Manager, which is the most popular form of building management in Slovakia. A Manager may be an individual person or a legal company. The HOA and Manager sign a contract designating and regulating all relations and responsibilities between them. The Manager is required to negotiate the most favorable price for procurement of goods and services and is also responsible to propose the Voluntary Auction of a non-paying HOA member's apartment.

It isn’t mandatory in Slovakia to hire professional, certified manager. This market segment is widely distracted from individuals via small companies offering basic services like day to day repairs up to larger management companies still owned by municipalities and highly professional branches of international property management companies. As in Poland and Hungary in larger cities the market is dominated by privately owned management companies while in smaller cities municipality owned companies keep dominant position.

**Common Cost Payments**

Residents pay their bills to the HOA one month in advance. Payments are made by owners according to the size of their property. As discussed previously the, HOA is responsible to ensure continuity of providing services and goods to its members. If a member stops paying, it must use a reserve fund to cover bills to the supplier or lender or assess the remaining owners to make up the difference. While meeting its obligations, the HOA can take legal actions to execute the payments.

Acceptable billing formulas are: by person (per capita) living in a household, by apartment surface area, or by a mixture of apartment surface area and measured consumption of supplied media. The surface area calculation approach is more favorable to multi-person households, whereas the per capita calculation approach is more favorable for owners with larger properties or multiple apartments. The decision of which methodology to deploy is taken by a majority vote of owners at the Assembly. Different media and services may be handled according to different approaches as follows:

- Water can be paid per capita or by measured consumption
- Heat can be paid by apartment surface or by mixed solution (surface area.+ measurements)
- Cleaning, lighting of common building area and maintenance is billed per capita
- The cost of hot water is calculated as the cost of cold water plus cost of heating the water; also the hot water use must be measured in every building. The cost of heating the water is counted as 10% of building hot water cost (for heat and hot water combined) divided by the number of inhabitants.

**Voluntary Auction as an Effective Tool to Execute Debt**

Besides generic ways to enforce debts of resident non-payers in the courts, provided by the Commercial Code, the law on home ownership (182/1993) allows for a swifter solution known as a “voluntary auction”. Contrary to involuntary auction, which requires a long court proceeding, voluntary auction can be agreed as an obligation for HOA members. It may be agreed, that in case of enduring non-payment of some minimum amount after an agreed period of time, the non-payer’s apartment or commercial premises can be sold at an auction ordered unilaterally by the HOA Assembly. The procedure is much shorter than in case of involuntary auction. Providing a replacement residence is not obligatory in voluntary auction.
If the Building Manager cannot pay an invoice because of a non-payer, he has the right to start the procedure of voluntary auction. Voluntary auction must be agreed by a simple majority of owners at a meeting of the Assembly. It requires advance notification to the debtor in advance. Usually, most of the debtors prevent the auction on the moment of the final notification, by agreeing to pay their debts. There is no limit of debt allowing voluntary auction, but practice shows that it is taken, when debt exceeds EUR 700.

Court action and voluntary auction can be taken only when all the other ways to recover debt failed. There are special situations that can be taken into account in defense of a debtor, like unpredictable situations, natural disasters, death, unforeseen increase of costs etc.83

1.5.5. Energy Efficiency for MFBs

Two factors have prompted Slovakia to focus on energy efficiency in MFBs. First, most of the MFBs were constructed with highly inefficient concrete panel technology during the Socialist era. Second, energy prices (heating and electricity) rose exponentially during the period up to 2004. Between 1998 and 2006, the housing sector energy efficiency index (ODEX) decreased in Slovakia by 7%, which implies an annual average improvement of 1%.

Concrete panel technology (“Panelak”), which is the dominant MFB construction in Slovakia, has a low energy efficiency level. Windows are not well insulated or sealed, the concrete panel bindings are not hermetically sealed, allowing heat to escape the building and moisture to gather. Also heating pipes were not optimally designed. “Panelaks” are considered inferior building technology comparing to brick housing, although when upgraded for energy efficiency and thermally insulated, panel technology can provide excellent performance and comfort.

Most of the MFBs in Slovakia are connected to district heating systems, and do not have their own heating sources. However, rising prices of energy and inefficiency of district heat suppliers have led some houses to disconnect from the central heating loops and invest in their own heat sources84. Heating and electricity use in households have fallen since 2000–2001. Rising prices, deteriorating structural conditions and widespread lack of living comfort all combined to spur policy initiatives to promote energy efficiency investments. As a result, today 88% of MFBs are measuring heat input, 57% have hydraulic balancing of heat delivery and 55% have heat regulators inside apartments85.

Slovakian law obligates building managers or other bodies responsible for building operation and maintenance to report once every three years about the energy efficiency of their building, mostly in the terms of heat and hot water consumption. They must evaluate heat performance, including climatic data. They must also verify possibilities of increasing energy efficiency in the managed buildings, by presenting in the report information from consulting companies, from other building managers, and providing information on investments. All reports are required, analyzed and gathered by the Slovak Energy Agency (www.sea.gov.sk).

Summary of available information on housing stock refurbishment in the past:
- Number of apartments for renovation (older than 20 years) at the end of 2004: 808,848 apartments
- Number of apartments refurbished, which have been using loans from the SHDF and subsidies from the MCRD SR

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of apartments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>11,174</td>
</tr>
<tr>
<td>2006</td>
<td>14,936</td>
</tr>
<tr>
<td>2007</td>
<td>27,951</td>
</tr>
<tr>
<td>2008</td>
<td>22,501</td>
</tr>
<tr>
<td>2009</td>
<td>41,978</td>
</tr>
<tr>
<td>TOTAL</td>
<td>118,540</td>
</tr>
</tbody>
</table>

84 Refurbishment of Multi-Story Panel Block Residential Buildings in the Region of Banská Bystrica; Nadejda Komendantova, 2006, Institut für Immobilien, Bauen und Wohnen GmbH Wien
85 In-depth review of energy efficiency policies and programmes: Slovak Republic 2008, Energy Charter Secretariat
Typical scope of residential buildings reconstruction

Residential building reconstruction in general includes the following measures, which contribute to a decrease in energy consumption:
- Thermal insulation of outdoor walls
- Roof insulation (damp proof insulation and thermal insulation)
- Exchange of windows in common areas and entrance doors exchange
- Exchange of all windows (usually provided individually by apartment owners)
- Thermal insulation of cellar ceilings
- Thermostatic valves and adjustment of heating system
- Reconstruction of vertical pipes and horizontal distribution pipes
- Reconstruction of electric installations (inside of apartments provided by apartment owners)
- Reconstruction of conductors
- Reconstruction of balconies
- Reconstruction of elevators and elevator shafts

Subject to certain conditions this set of measures could be expanded by measures for the utilization of renewable energy sources in residential buildings (these measures do not decrease energy consumption but do contribute to a decrease of energy costs):
- Installation of solar thermal collectors for hot water preparation
- Installation of heat pumps for heating and hot water preparation
- With regard to the preference and the financial or economic situation of HOAs, utilization of the measures 1-12 is a common practice.

Average costs connected with complex reconstruction, including all of these measures, have been based on an analysis estimated in the amount of EUR 17,754 per apartment.

CASE STUDY

Locality: Bratislava
Age/Year of apartment inspection: 25/1985
Building construction: panel
Number of apartments: 48
Overall floor surface: 3,298.96 m²
Floor surface of the common utilities: 253 m²
Annual heat consumption: 1423 GJ
Annual contributions to the of the maintenance fund: EUR 2,163
Building management: Association of apartment Owners

Certain partial measures have been already realized in the house:
- Exchange of windows in the apartments (paid for by the individual owners)
- Regulation of the heating and warm water distribution
- Reconstruction of the roof

Content of the project

At present the owners have interest in the realization of further measures which would contribute to the improvement of the technical condition of the building, as well as to a decrease of energy consumption. For this reason they have prepared a project which includes the following measures:
- Insulation of the periphery walls and balconies
- Removal of systemic defects of balconies
- Exchange of windows in the common utilities
- Exchange of glass stuffing on each floor

The overall costs for the project in the scope described are within the project documentation estimated in the amount of EUR 177,696, or EUR 3,702 per apartment. The assumed length of the construction period is 16 weeks. The most important economic effect of the proposed project would be the savings in energy consumption. The decrease is
projected at about 448 GJ/year, which represents a 31.5% savings. In financial terms this savings represents an asset of EUR 8,194 annually for the building as a whole (in 2010 euros). The comparison of the costs and savings shows that the simple payback period of the investment is 21.7 years.

Based on methods usual within the submission of loans of this type, it is possible to expect following formal requirements of the bank to the applicant:

- Administration of a common account in the financing bank,
- Sustainability of the owners structure,
- Sustainability of the contributions to the maintenance fund (as these contributions are required by law, financial discipline of apartment owners is considered in first place),
- Description of the project;
- Approval of a two third majority of owners of the investment activity, the loan application and the guarantee to be provided (at the present usually an insurance pledge and the establishment of a standby right for the assets of the maintenance fund).

For the pilot project financed through a loan with the parameters mentioned in the previous part, we could consider the following increase of costs:

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Cost per Apartment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 years</td>
<td>EUR 2,346</td>
</tr>
<tr>
<td>15 years</td>
<td>EUR 1,809</td>
</tr>
<tr>
<td>20 years</td>
<td>EUR 1,280</td>
</tr>
<tr>
<td>25 years</td>
<td>EUR 908</td>
</tr>
</tbody>
</table>

After an analysis of options, the residents indicated their preference, on average, for a loan of 15 years.

1.5.6. Financing Mechanisms

The system for financing housing renovation in Slovakia is very well-developed. The main source of financing are loans based on the building savings societies, or bausparkassen (69%); mortgage loans account for 19% of the market and the State Housing Fund 12%. The rest of the market is divided among many European Union programs.

**State Housing Fund:** Slovakia’s main housing financing institution is the State Housing Fund (SFRB). Established in 1996 by the National Council of Slovak Republic (Law 124/1996), its goal is to provide affordable loans, interest subsidies, guarantees or grants in order to develop and renovate the Slovakian housing stock. SFRB covers most of the State’s support to the housing sector. Its beneficiaries are private persons and companies with the aim to develop or renovate housing. The applicants to SFRB must have their own funds in order to cover part of the investment (see below), and demonstrate ability to pay installments and interests of loan.

The Fund’s resources are generated by loan income, as well as by gifts and ongoing budget allocations. SFRB is a budgetary unit with a separate bank account. The National Bank is responsible for carrying out SFRB transfers, and management control lies under Ministry of Finance.

SFRB provides support for purposes of: apartment purchase, construction or completion of a MFB or single family house, construction or completion of social facilities designed to provide rented housing, thermal protection for buildings and other types of renovations to meet law requirements and eliminate construction faults.

Loans for the renewal of apartments or for building common property can be granted to individuals or HOAs for up to 80% of project costs at an interest rate of 60% of basic interest rate, but minimum 2.7% for 20 years. Thermal insulation, house upgrading to meet newest construction standards and elimination of building system failures are all eligible measures to be financed. The loans also cover hydraulic regulation of the heating system to increase heat installation insulation, cost of heat metering equipment and regulating devices, and elimination of cracks in the walls. Estimated cost of renovation cannot exceed EUR 200 per square meter of the housing area, but this measure can be adjusted adequately to market situation. Purchase of apartments in MFBs or their completion or renovation applies only to apartments not exceeding 80 square meters.

To be eligible to apply to SFRB, an individual or an HOA must prove ability to pay interest rates and secure at least 20% of project cost in cash. Private persons’ monthly income cannot exceed 3.5 times the minimum social income. Applicants must demonstrate a good credit history. Citizens or buildings affected by natural disasters do not need...

---

86 How to make the housing stock refurbishment more efficient in Slovakia, Andrea Szabová, 2005
to have their own capital in order to apply to SFRB. Applicants, while selecting a contractor, must use a form of construction contract provided by SFRB [LAW 124/1996]. In case of a loan to an HOA for a project concerning the building common property, consent of owners to take on debt is required according to the legal regulations of HOAs (see above).

**Building savings companies (Bausparkassen)**

Slovakian housing finance is also characterized by the wide popularity of the bauspar system, adopted from Austria and Germany. Currently there are 3 subsidiaries of the German bausparkasse Schwaebisch-Hall and the Austrian bausparkasse Raiffeisen Bausparkasse; the local Slovakian savings bank is the PSS. Almost one third of Slovaks have drawn credit from this system, and 69% of housing financing derives from it. This type of saving institution has 2,600,000 clients in Slovakia. Bausparkassen entered the Slovakian market in 1992, gaining an instant popularity; the dominance of panel housing created a large demand for affordable housing loans. 51% of loans, (totaling more than EUR 1.5 billion since 1992) are devoted to modernization and refurbishment, 27% to support home purchases, and 20% to new construction. Using this type of loan, a client picks a saving plan, then he is required to contribute savings regularly into the bauspar, and after properly completing the savings period he can take a low-interest rate loan, which is also a source of income to the Bauspar. Bausparen were also the first institutions in Slovakia to start offering products for MFB renovation, long before commercial banks did so.

An HOA may draw the loan after a minimum 2 years long saving plan. The loan may be unsecured up to EUR 40,000 based on cash flow projection only. Above this limit the mortgage has to be established on the building's common premises or individual apartments or alternatively a guarantee from the Slovak Guarantee and Development Bank(SGDB). The basic condition for utilization of finances from building savings companies is a conclusion of a contract between an individual and the building savings company regarding the individual’s saving for an agreed target sum (the government subsidizes these savings). The advantage of building savings schemes is that after a few years of saving, the individual can obtain from the building savings company a loan (for the purpose of construction/renovation of housing) with an advantageous interest rate, which is fixed during the whole period of the repayment of the loan. There is also a limit on the difference between the interest charged by the building savings company on the loan and offered on the savings. The building saving schemes are focused on reconstruction of housing, whether by individual owners or by associations of apartment owners. One advantage of building saving schemes is the possibility receiving a state bonus (typically in the range of 10-15%) on the amount saved each year (the bonus is typically extended only for a limited number of years), which represents a certain incentive for the savers; the amount of the state premium is calculated according to the formula stipulated by the Act on Building Saving. The period of repayment of reconstruction loans typically ranges from 10 to 20 years. Below is an overview of loans and interim loans provided by building savings banks:

<table>
<thead>
<tr>
<th>Program</th>
<th>Value of the loan (min. amount – max. amount)</th>
<th>Maturity in years</th>
<th>Guarantee (depending on the amount of the loan)</th>
<th>Interest rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prvá stavebná sporiteľňa, a.s.</td>
<td>–</td>
<td>Min. 15 000 euro</td>
<td>Up to 20 years</td>
<td>Solidary guarantee of the owners of the apartments, terminated by a depot, creation of stand-by law for the property or to assets from the reconstruction fund, or bank guarantee of the SGDB</td>
</tr>
<tr>
<td>Wüstenrot stavebná sporiteľňa, a.s.</td>
<td>REKOFOND</td>
<td>Up to 3 000000 €</td>
<td>Up to 20 years</td>
<td>Ditto</td>
</tr>
<tr>
<td>ČSOB Stavebná sporiteľňa, a.s.</td>
<td>Reconstruction</td>
<td>No reference</td>
<td>Up to 25 years</td>
<td>Ditto</td>
</tr>
</tbody>
</table>

---

**Footnote:**

Bausparen in Slovakia, [http://www.bausparkassen.de/fileadmin/user_upload/english/Bausparen_in_Slovakia.pdf](http://www.bausparkassen.de/fileadmin/user_upload/english/Bausparen_in_Slovakia.pdf); The Implementation Contract Savings Schemes (Bausparen) in Russia – Features, Recommendations and Examples, Presentation by Dr. Friedemann Roy, Association of Private Bausparkassen Berlin, in Moscow, 10 February 04
SLOVSEFF 2: Slovseff is a facility established by the European Bank of Reconstruction and Development in cooperation with the Slovak Ministry of Economy. It aims to provide loans to support investments in housing energy efficiency. Loans between EUR 20,000 – 2,500,000 are offered through selected private banks. There are also grants available in between 7.5% and 15% of the loan amount, plus free technical assistance for lenders. Subsidy is provided after successful completion of project and positive verification88.

Banks which are partners to SLOVSEFF include:
• Czechoslovak Trade Bank, as
• Slovak Sporitelňa
• Tatra Banka, as
• UniCredit Bank Slovakia, as
• General Credit Bank, Inc.

Slovak Guarantee and Development Bank

The State owned Slovak Guarantee and Development Bank (SGDB) provides Bank Guarantees for up to 100% of principal for up to 20 years for energy saving investments or developers investing into development of municipal rental housing. Guarantees for energy saving projects can be obtained by HOAs and used to obtain a loan from a commercial bank. The maximum amount of a loan to an HOA to be covered by a guarantee is EUR 7,300 per apartment. SZRB guarantees were introduced to stimulate private banks to engage into lending money for renovation of houses89. Introducing state-guaranteed loans stimulated private banks to introduce renovation loans to housing communities.

While comparing bank guarantees on the actual market, the bank provides a guarantee for common commercial bank credits/loans with markedly preferable conditions. The following table shows the development in the segment of provided guarantees in the refurbishment of housing stock.

<table>
<thead>
<tr>
<th>Year</th>
<th>Value in €</th>
<th>Number in pcs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>4 582 656</td>
<td>64</td>
</tr>
<tr>
<td>2006</td>
<td>10 960 206</td>
<td>89</td>
</tr>
<tr>
<td>2007</td>
<td>20 935 201</td>
<td>138</td>
</tr>
<tr>
<td>2008</td>
<td>18 209 653</td>
<td>72</td>
</tr>
<tr>
<td>2009</td>
<td>20 874 646</td>
<td>91</td>
</tr>
<tr>
<td>Assumption- 2010</td>
<td>16 000 000</td>
<td>80</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>91 562 361</strong></td>
<td><strong>534</strong></td>
</tr>
</tbody>
</table>

Commercial Financing

Private and commercial banks also offer a wide variety of lending products for MFB refurbishment. The majority of the banking houses offer financial resources for the reconstruction of the housing stock through specialized loan products. The first financial institutions that began lending for housing refurbishment were construction banks, which began offering products in the year 2000. The commercial banks did not give enough attention to this segment in the beginning, mainly due to their discomfort with obtaining adequate security. Changes started in 2003, when commercial banks first began offering similar loans. One of the solutions to minimize the problematic guarantee was the issue of state obligations through the State Guarantee and Development Bank (the program started in 1999). Whereas the issue of guarantees was a long-term process, the financial institutions have been forced to find new types of security, e.g. through solidarity guarantee of loans, which have been utilized mainly by construction banks. The problem with such type of guarantee is the fact that the whole risk of non-repayment of the loan is laying on several owners of the apartments. During a couple of years there were certain changes in the area of this segment; the present situation could be characterized as follows:

88 SLOVSEFF website http://www.slovseff.eu/index.html
89 SZRB website, http://www.szrb.sk/
A loan could be offered to a community of owners of apartments (HOA) and non-residential spaces, to an apartment cooperative, to a legal or physical person executing maintenance of the apartments as well as to a city apartment enterprise. The term of the loans is between 10 to 20 years with interest rate of 4-7% depending on the actual situation of the borrower. The minimum loan amount is approximately at the amount of EUR 6,650. The biggest problem within financing communities of apartment owners and non-residential spaces and the administrators of the apartments is loan security. The Program of the State Support of the Reconstruction of the Housing Stock began offering bank guarantees to loans through SGDB to deal with this issue. Acceptable forms of guarantees at the present are mainly bank acceptances, promissory notes, notary memoranda, and affiliate with an obligation (solidary guarantee), bank guarantees, and assets in the date of maturity. On the basis of the ban-king sector’s experiences with the housing segment, as well as the competitive environment, 2010 would probably be the year of testing of first banking products for the reconstruction of residential buildings with a minimum form of guarantee. An overview of conditions of the most frequently offered banking loans in the area of reconstruction of residential buildings is illustrated by the following table:

<table>
<thead>
<tr>
<th>Bank</th>
<th>Product</th>
<th>Value of the loan (min. amount – max. amount)</th>
<th>Maturity in years</th>
<th>Security (variable possibilities)</th>
<th>Interest rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>ČSOB</td>
<td>Program RENOVO</td>
<td>–</td>
<td>Up to 25</td>
<td>Up to 100 000 euro/ apartment unit – without a guarantee, guarantee of the SGDB</td>
<td>Individual possibilities of fixation</td>
</tr>
<tr>
<td>VÚB, a.s.</td>
<td>Investment loan</td>
<td>Max. 266 000 euro for one residential building, within administrators without limitations</td>
<td>–</td>
<td>Stand-by law to assets from reconstruction account and the insurance contract, possibility of a bank guarantee SGDB</td>
<td>–</td>
</tr>
<tr>
<td>SLSP, a.s</td>
<td>Investment loan</td>
<td>from 7 000 €, max. without limit</td>
<td>4 – 20</td>
<td>Advancing of assets from the reconstruction account, insurance deposit</td>
<td>1/3/6 or 12 M EUROIBOR + margin from 1,2% – 3,1% p.a., Fix for 5 years From 5,80 % p.a. to 4,20% p.a. – fix, variable</td>
</tr>
<tr>
<td>Tatra banka, a.s.</td>
<td>Financing of the reconstruction of a residential building</td>
<td>–</td>
<td>do 20</td>
<td>Stand-by law to assets, guarantee of the SGDB, own blank bill bank acceptance of the community of the apartment owners</td>
<td>From 4,20% p.a. – fix, variable</td>
</tr>
<tr>
<td>Dexia banka, a.s.</td>
<td>Deadline loan</td>
<td>Without limitation</td>
<td>Up to 20</td>
<td>Advancing of assets from the reconstruction account</td>
<td>As of 5,63 % p.a.</td>
</tr>
<tr>
<td>OTP Banka</td>
<td>Investment loan</td>
<td>Without limitation</td>
<td>Up to 20</td>
<td>Stand-by law to assets of physical persons, insurance deposit of physical persons, bank guarantee of the Slovak Guarantee and Development Bank up to 100 % of the stock of the loan</td>
<td>–</td>
</tr>
<tr>
<td>Volksbank, a.s.</td>
<td>Loans for the reconstruction of the housing stock</td>
<td>–</td>
<td>Up to 20</td>
<td>Insurance deposit of the residential building, deposit of financial means at the account of the client</td>
<td>BASE RATE 2,95% p.a. + margin = from 4% p.a.</td>
</tr>
<tr>
<td>UniCredit Bank</td>
<td>Investment loan</td>
<td>minimum 8300 euro maximum 13 300 euro/ 1 apartment</td>
<td>Up to 20</td>
<td>Insurance deposit of the residential building, deposit of financial means at the account of the client</td>
<td>12M or 6M IBOR** + 1,50 + margin of the bank</td>
</tr>
</tbody>
</table>

Table 26: Overview of existing products of commercial banks (April 2010)

**Direct Subsidies**

State Housing Development Fund: The State Housing Development Fund was founded by the National Council Act No. 124/1996 on State Fund for Housing Development. The demand for funds from the State Fund for Housing Development is higher than the amount of available funds. The approved 2010 budget of the SHDF projected...
expenditure for the reconstruction of apartment houses in the amount of EUR 27,000,000. According to information published as of January 2010, the Fund received applications totaling EUR 29,111,898, which exceeds the approved budget by approximately EUR 2.1 million.

Table 27: State Housing Development Fund supported apartments in the last 5 years Budget

<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Number of appl.</th>
<th>Requested support</th>
<th>Number of appl. Offered support</th>
<th>Reconstructed h. u.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>U5</td>
<td>8 298 479,72 €</td>
<td>102</td>
<td>26 669 454,95 €</td>
<td>8 298 479,72 €</td>
</tr>
<tr>
<td>2006</td>
<td>U5</td>
<td>23 235 743,21 €</td>
<td>152</td>
<td>28 297 151,96 €</td>
<td>23 018 555,40 €</td>
</tr>
<tr>
<td>2007</td>
<td>U5</td>
<td>33 758 215,49 €</td>
<td>228</td>
<td>36 423 255,66 €</td>
<td>31 759 901,75 €</td>
</tr>
<tr>
<td>2008</td>
<td>U5</td>
<td>24 895 439,16 €</td>
<td>291</td>
<td>57 820 321,32 €</td>
<td>24 932 881,90 €</td>
</tr>
<tr>
<td>2009</td>
<td>U5</td>
<td>26 360 226,39 €</td>
<td>507</td>
<td>115 242 682,22 €</td>
<td>26 299 497,05 €</td>
</tr>
<tr>
<td></td>
<td>GIP</td>
<td>71 000 000,00 €</td>
<td>505</td>
<td>97 897 558,02 €</td>
<td>70 870 807,43 €</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>187 548 103,97 €</td>
<td>1785</td>
<td>362 350 424,13 €</td>
<td>185 180 123,25 €</td>
</tr>
</tbody>
</table>

1.5.7. Conclusions and lessons learned

Obstacles to the use of commercial loans from the loan applicants’ point of view were the length of administrative process and securing of the loan. Both factors are slowly being addressed. The first factor is connected with the approach of the apartment owners towards the maintenance of residential building. Before submitting a loan application, it is necessary to agree on the decision to make the investment. 2/3 majority of apartment owners are needed; in some apartment houses this could represent a communication barrier due to the various interests of the individual owners. Consequently, after the approval of a bank guarantee, the assessment process about the suitability to issue a guarantee by the SZRB or the Commercial Bank, was postponed. These factors excessively prolong the administration process within preparation of the necessary technical documentation and the bank activities.

Collateral: Regarding the loan provision, there has been a reduction in the amount and type of collateral. At present, restriction of the right of renewal fund debt disposal and immobilization of residential building insurance in favor of the credit is a standard procedure. Apartments as collateral for the loan— a solidarity guarantee—is slowly becoming one of many options of securing the loan means. This could be caused by the competitive environment as well as by the financial stability of this segment.

Banks do not issue a loan to a residential building with a high rate of non-payers or an insufficient amount of reconstruction funds to serve as loan repayment. If a commercial bank grants a loan to a residential building, this is based on the assumption that the given residential building will not represent a risk of insufficient funds in order to pay the installments.

Several financial institutions provide benefits for MFB reconstruction loan applicants. These benefits include:

- Complimentary assessment of energy efficiency state/ energy consulting
- More favorable conditions for saving programs
- Cooperation with the providers of construction works (more favorable costs for construction works and professional consulting)
- State bonus in case of building society savings account

The increase in the renewal fund must be agreed to by a 2/3 majority of owners. This could represent a problem, and for the whole residential building this could exhaust all possibilities for loan withdrawal. Following discussions with commercial banks we understand that for competitive reasons, the banks are not willing to provide specific data about the number of loans issued. On the basis of competent estimates of bank representatives we can observe that within the next three years we could count on the increase of loans within the residential buildings reconstruction segment. The aggregate estimate within the whole banking sector represents a capital base of approximately EUR 500 million.

Slovak legal and financial systems may be considered favorable for energy efficiency and modernization investments. In the beginning this segment was mostly direct subsidy driven; going forward, financing programs should focus on loan subsidization.
1.5.8. Bibliography

In order of appearance

http://abonneren.rijksoverheid.nl/media/dirs/436/data/housing_statistics_in_the_european_union_2010.pdf


Social housing in slovakia. the task and justness of the non-profit housing organizations, Cervenov, L’ubomra, 2005http://www.join-inofin.eu/docs/Slovakia-SocialHousing.pdf


Refurbishment of Multi-Storey Panel Block Residential Buildings in the Region of Banska Bystrica; Nadejda Komendantova, 2006, Institut für Immobilien, Bauen und Wohnen GmbH Wien


In-depth review of energy efficiency policies and programmes: Slovak Republic 2008, Energy Charter Secretariat


How to make the housing stock refurbishment more efficient in Slovakia, Andrea Szabová, 2005

SZRB website, http://www.szrb.sk/

Bausparen in Slovakia,
http://www.bausparkassen.de/fileadmin/user_upload/english/Bausparen_in_Slovakia.pdf

The Implementation Contract Savings Schemes (Bausparen) in Russia – Features, Recommendations and Examples, Presentation by Dr. Friedemann Roy, Association of Private Bausparkassen Berlin, in Moscow, 10 February 04


SLOVSEFF website http://www.slovseff.eu/index.html

JESSICA Evaluation study – Final Report Slovakia, June 2010, EIB
1.6. Hungary Best Practice Analysis

1.6.1. Executive Summary

- Hungary was the country hardest hit by the global financial crisis in the Eastern European region, which resulted in a GDP contraction of 6.5% in 2009. The economy rebounded in 2010 with a big boost from exports; growth of more than 2.5% is expected in 2011. Unemployment remains high, at more than 11%.
- Approximately 90% of the Hungarian housing stock was built before 1990, while 60% of inhabited apartments require full or partial renovation. Implementation of energy efficiency options that reduce CO2 would result in energy savings of approximately 54%, while the maximum potential achievable is estimated as high as 73%.
- Approximately 17% of households are connected to district heating systems, 26% receive heat from single apartment central heating systems, and 57% rely on individual room heaters and water heaters.
- Privatized buildings have to be turned into condominiums, which are legal entities and can borrow from banks and enter into loan and other agreements. Decisions on renovation are passed with a simple majority (50+1%). In order to force owners to pay their fees, a lien can be put on the property without lengthy court procedure in the case of debts over 6 months.
- In general, HOAs become eligible for a loan for renovation if they have collected funds for renovation for at least four years in a Building Society Fund, through which the principal is paid. A cash deposit equal to 5-20% of the loan may be required if there is no government or IFC guarantee as a security of the loan.
- The Hungarian government has passed an extensive number of financial subsidies to stimulate construction and renovation in the housing market. The most important programs, however, require municipality co-financing, which is limited if the local government is poor. The result of the programs is that approximately 25% of apartments have been renovated to some degree. However, the majority of benefactors have been middle to upper income MFB’s, while the poorest municipalities and residents, which tend to have buildings in the most urgent need of renovation, are unable to provide own contribution. Low income building renovation has been driven mainly by NGOs and the GIS program.

1.6.2. State of Economy

One of the most economically advanced countries in Central and Eastern Europe, Hungary enjoys the status of an upper middle-income economy, as classified by the World Bank. The country transitioned from communism to a free-market economy with relative ease in comparison to its peers. Gaining entry into the European Union (EU) in 2004, Hungary committed to meeting the economic criteria necessary to adopt the euro.

With an extremely open economy, Hungary has harbored high levels of current account deficit, while half of its household and corporate debt has been denominated in foreign currencies. As such, Hungary has been highly leveraged and susceptible to volatilities in the global economy. Levels of current account deficit were as high as 6%-7% in 2005 and 2006, and around 5% in 2008.

Excessive spending by successive governments since 2000 has caused the country’s public debt and fiscal deficit to swell. Subsidy schemes for the housing sector, wage hikes by over 50% in the public sector, and an ambitious road construction project left Hungary with a spiraling budget deficit by 2005-06. Government debt as a percentage of GDP, which was brought down to about 52% in 2001, increased to about 73% by 2008, and about 78.3% in 2009, one of the highest in the EU. Also, the fiscal deficit, which was brought down to about 3% of GDP in 2000, ballooned to over 9% by 2006 before being brought down through spending cuts to 3.8% of GDP in 2010.

The global economic slowdown and plummeting demand from its major export markets took a severe toll on the country’s economy. Investors’ concern about the ability of the highly leveraged Hungarian economy to service its huge foreign debt resulted in the country’s currency, the forint, to slump by 40% against the US dollar and the Euro. In order to defend its plunging currency, Hungary’s central bank raised the benchmark interest rate from 8.5% to 11.5% in October 2008. Protecting the forint was seen as a priority since many Hungarian households and businesses have their borrowings in foreign currencies, including the Swiss franc and the Euro. The private foreign exchange denominated debt issue remains crucial to future economic prospects.

---

90 Thomas White Global Investing
91 ibid
92 qfinance
The emerging economy was the hardest hit by the global financial crisis in the Eastern European region. In November 2008, Hungary was the first country in the EU to secure a $25 billion package of loans from the IMF, World Bank and the EU, largely because the country was deemed at risk of defaulting on its short-term debt. In exchange for the rescue package, Hungary agreed to restructure its public sector finances through a series of austerity measures—including reduced public-sector pay, tax rises, and curbs on social spending. The program is unpopular, as Hungary's economic growth was already weak, and the government had already reinued in spending and increased taxes under the earlier IMF-mandated austerity measures of late 2006. Hungary has consequently seen little of the interest rate stimulus to its housing markets experienced elsewhere in Europe over the past three years. As interest rates are so important for both housing demand and supply, the downsizing in the housing market has been intensified by monetary policy rather than counteracted by it, as has been the case elsewhere.

Having entered a period of economic contraction in the fourth quarter of 2008, Hungary is currently facing its worst recession since 1991. While GDP growth tumbled to 0.6% in 2008, economic activity contracted about 6.5% in 2009, and the modest 1% recovery in 2010 was driven by exports rather than domestic demand. That surge in exports was encouraged by the devaluation that took place in 2008-9, which improved competitiveness somewhat. By contrast, real private consumption fell by 4% in 2010, illustrating the austerity squeeze on the private sector and the deleveraging it is undergoing. The austerity measures also helped to push unemployment up to 11% in 2010 and unemployment is likely to remain high for some time to come, even as the government cut employer social-security contributions, hoping to bolster the country's employment. Moreover, only 61% of the potential workforce participates in the labor market at all. This represents further underemployment and a significant loss of productive potential.

Table 28: Hungary Key Economic Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhabitants per 1000</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth</td>
<td>4.1%</td>
<td>1.2%</td>
<td>0.6%</td>
<td>-0.9%</td>
<td>1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>CPI</td>
<td>3.5%</td>
<td>3%</td>
<td>6.1%</td>
<td>4.3%</td>
<td>3.7%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>7.2%</td>
<td>7.4%</td>
<td>7.3%</td>
<td>7.8%</td>
<td>10.0%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

Source: The Economist, Hungarian Central Bank, Hungarian Central Statistical Office

1.6.3. Housing Market Update

In 2005, the number of inhabited apartments was 3.937 million. The number of new apartments per year increased from 19,000 to 44,000 between 1999 and 2005, thus reaching the ratio of 423 apartments per 1000 inhabitants (see table 29). This increase can be attributed partly to the interest rate subsidies from 2002, mainly to private sector building activities (40%) which mostly consist of condominium houses and are located in big cities and their agglomeration. However, in 2005 and 2006 there was a decrease in construction. Overall, 45% of the households live in MPBs (more than 3 units in a building).

The Hungarian apartment stock is characterized as having a very low turnover due to low level of people mobility, as compared to other EU member states. An average person in Hungary changes his/her living place 2.7 times in his/her life as compared to 6 or 7 times in Western Europe. That is why partial or full renovation of the residential sector in Hungary should be one of the priorities. According to Ball (2005), one fifth of all apartments need full restoration, two fifths should be partially restored and only a quarter of residential buildings are in satisfactory condition.

One of the main features of the Hungarian housing market is the low rate of rental units (around 6%). On the one hand the share of social housing (public ownership) is low (4%), and on the other hand the private rental sector is even smaller (2%) and hardly affordable for many people. Prefabricated housing (panels) represents about 30% of the rental housing stock.

There is a shortage of social housing in Hungary. According to estimates, potential demand for rental housing is...
around 750,000 units of which approximately 500,000 units need social support\textsuperscript{100}. 24,400 applicants were registered on waiting lists in 2003. Since not every municipality has a registration system, it is difficult to estimate the real need. Social house building virtually ceased after 1990, although there has been a slight revival following the introduction of investment subsidies\textsuperscript{100}.

### Table 29: Housing Market Trends

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Data</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of dwellings per 1000 inhabitants</td>
<td>42%</td>
<td>2005</td>
</tr>
<tr>
<td>Number of persons per room in MFB</td>
<td>1.07</td>
<td>2006</td>
</tr>
<tr>
<td>Housing consumption as share of total household consumption (HED excl. housing)</td>
<td>39.6%</td>
<td>2004</td>
</tr>
<tr>
<td>Evolution of the share of households’ housing expenditure on total expenditure</td>
<td>1.6%</td>
<td>1995-2004</td>
</tr>
<tr>
<td>Share of households in MFB in access</td>
<td>34%</td>
<td>2006</td>
</tr>
<tr>
<td>Share of households in MFB that cannot afford heating</td>
<td>10%</td>
<td>2006</td>
</tr>
<tr>
<td>Evolution of cost of construction</td>
<td>45%</td>
<td>2000-2006</td>
</tr>
<tr>
<td>Tenure status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private rental</td>
<td>10%</td>
<td>2010</td>
</tr>
<tr>
<td>Public/social rental</td>
<td>8%</td>
<td>2010</td>
</tr>
<tr>
<td>% of MFB without WC and bath/showers</td>
<td>30%</td>
<td>2006</td>
</tr>
</tbody>
</table>

Source: SILC Hungary, 2006; CECODHAS- Housing Europe 2007

**State of Multi-Family Housing Stock**

Multi-residential traditional buildings: One third of the urban MFBs were constructed before 1960, and 21% date from before World War I\textsuperscript{102}. Due to the historic and aesthetic value of their exterior, general reconstruction and modernization is difficult. In particular, appearance of the façade may not change; therefore, modernization efforts are focused on improving characteristics of windows and roofs as well as on insulation of upper and ground floors (cellar ceilings or basements) rather than thermal insulation of walls\textsuperscript{103}.

MFBs constructed using industrialized technology: Residential buildings built with industrialized technology (also known as ‘panel buildings’) are buildings built with the use of pre-fabricated panels, blocks, locally prepared concrete structures, cast wall, reinforced concrete frame or other pre-fabricated technology. Panel buildings, which account for approximately 1.5 million apartments, were mass produced during the Socialist-era, between 1960 and 1980\textsuperscript{104}.

One particular problem with panel buildings is the low energy performance, which has led to an average space heating demand that is 70% above that of the EU-15 average, and where considerable potential exists to reduce space heating by 75% cost-effectively. In addition, for a large number of the panel building stock, windows, building finishes and building service systems have reached the end of their physical lifetime, which is around 30 years.

Due to the mass production in a relatively short time span, a large number of the panel building stock requires mass modernization. However, due to the homogeneity in technology, such buildings can all undergo a very similar renovation. In contrast to traditional buildings, renovation of the industrialized buildings can undergo comprehensive refurbishment, including retrofitting walls\textsuperscript{105}.

**MFBs constructed after 1993**: Buildings constructed since 1993-2007 meet stricter building regulations and standards\textsuperscript{106}.

\textsuperscript{100} ibid
\textsuperscript{101} CECODHAS- Housing Europe 2007
\textsuperscript{102} UNFCCC
\textsuperscript{103} Novikova 2008
\textsuperscript{104} UNFCCC
\textsuperscript{105} Novikova 2008
\textsuperscript{106} ibid
Types of heating systems

About 650,000 households in Hungary (17% of total) are connected to district heating systems. A further 26% of households receive heat via single building or single apartment central heating systems, while 57% rely on individual room heaters and water heaters. The district heat and hot water industry comprises over 300 individual systems, supplying an annual 77 PJ of heat. Natural gas provides around 45% of the heat, coal about 30% and oil 21%. The remaining 4% is derived from miscellaneous sources including geothermal. Heat losses are such that many households find they cannot rely on the district heating system to provide all of their space heating and hot water requirements. Cross-subsidies in gas pricing have caused district heat costs to increase to 30% more than heat from individual gas boilers. Many households have therefore switched to natural gas for their heat and hot water requirements107.

Historical Capital Repair and Modernization Efforts

In Hungary the estimated size of the panel house reconstruction market is EUR 10.5 -10.8 billion (calculated with the total number of 1.5 million panel apartments with an average investment size of EUR 7,000-7,200/apartment). The EUR 7,000-7,200/apartment is an optimal investment size that would be sufficient to cover the cost of full reconstruction of panel buildings, with an average of 80% of the investment amount related to the energy efficiency component. To date, approximately 190,000 apartments have been renovated to some degree, generating on average investments of EUR 2,600.

We can see from Table 30 that the affordable average common cost payment increase for the purpose of investments has been slowly increasing but today it has still only reached EUR 12/month/apartment (in 2006 the average investment size per apartment was EUR 2,143, from which 33%, or EUR 714, was financed by commercial banks. The average loan term was 60 months, so the common cost had to be increased by EUR 12/month to serve the loan payment obligation).

Table 30: Investment in Reconstructed Panel Houses in Hungary

<table>
<thead>
<tr>
<th>Year</th>
<th>Investment in EUR</th>
<th>Number of Flats</th>
<th>Inv.size/Flat in EUR</th>
<th>1/3 commercially financed/flat</th>
<th>Increase in common cost for 60 month loan term</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1 500 000</td>
<td>2 500</td>
<td>600</td>
<td>200</td>
<td>3</td>
</tr>
<tr>
<td>2003</td>
<td>1 500 000</td>
<td>14 400</td>
<td>1 047</td>
<td>547</td>
<td>6</td>
</tr>
<tr>
<td>2004</td>
<td>2 200 000</td>
<td>14 300</td>
<td>1 469</td>
<td>489</td>
<td>8</td>
</tr>
<tr>
<td>2005</td>
<td>53 000 000</td>
<td>18 000</td>
<td>1 013</td>
<td>611</td>
<td>10</td>
</tr>
<tr>
<td>2006</td>
<td>1 500 000</td>
<td>20 000</td>
<td>2 145</td>
<td>216</td>
<td>12</td>
</tr>
<tr>
<td>2007</td>
<td>2 500 000</td>
<td>1 159 200</td>
<td>1 850</td>
<td>617</td>
<td>10</td>
</tr>
</tbody>
</table>

However, even with this heavily subsidized system, the most low income of the high rise panel buildings are not able to be served since the increase in monthly common cost payments is beyond their means.

With regards to municipal apartments, very few could be renovated or modernized. Municipalities barely have the resources to do small-scale maintenance work; such work was done in 50,000 municipal rental apartments in 2007. The following table shows the relevant data, including information concerning building.

Table 31: Work done on municipal apartments and corresponding expenditure, 2007

<table>
<thead>
<tr>
<th>Number of apartments</th>
<th>Expenditure, EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modernization and renovation of rental apartment</td>
<td>798</td>
</tr>
<tr>
<td>Modernization without renovation of rental apartment</td>
<td>168</td>
</tr>
<tr>
<td>Maintenance work</td>
<td>50299</td>
</tr>
<tr>
<td>Building renovation</td>
<td>1109</td>
</tr>
<tr>
<td>Building renovation without modernization</td>
<td>1479</td>
</tr>
</tbody>
</table>

Source: KSH

107 ibid
1.6.4. Regulatory Framework

Privatization

The privatization of the previously state-owned housing stock was the measure that has exerted the most profound influence on both the development of the housing sector and urban development in general. There were several financial reasons for privatization, such as the backlog in maintenance and urgent need for comprehensive rehabilitation of housing stock, and the continuous operational losses, as the rents only covered 30-45% of the actual maintenance cost.

With the introduction of the Housing Act in 1993, the Right-to-Buy policy was enacted under which it became compulsory for local governments to sell the units to sitting tenants who wanted to own their homes. This privatization was of a ‘give away’ type, where tenants paid only a fraction of the market price of the apartments. However, while the state made ownership available through low prices and low rate loans, the burden of the operational and maintenance cost was placed on the new owners, who were not prepared for it either from the financial, or the management point of view. Therefore, one of the main problems that arose out of the mass privatization, is that a significant number of poor families have become owners of their housing units, who cannot afford financing maintenance costs from their own resources.

A big advantage in Hungary compared to many other post-socialist countries (e.g. Slovakia, Romania, Bulgaria, Albania), was that the Law on Condominiums successfully regulated the transfer of property and the establishment of the new institutional structure (the assembly, the election of condominium manager, the decision-making procedures, the condominium fee). Where such a law did not exist and the relations between the new owners of the privatised multi-family buildings remained unclarified, maintenance of common parts of buildings was virtually non-existent. Nevertheless, the Law on Condominiums introduced in 1988 was extremely weak in refurbishment and renewal issues, as major decisions on that required practically unanimous voting and behaviour of all owners. As the condominium associations did not have the status of a ‘legal person’, the banks only issued loans to the individual owners, based on individual contracts. This barrier was removed in 2004 when modification to the Law on Condominiums took effect in order to make the decision-making process in condominiums more effective.

HOA Legal Framework

In Hungary, Housing Associations (HOAs) and Block House Condominiums (BHCs) are legal entities, can borrow from banks, and enter into loan and other agreements. Privatized buildings have to be turned into condominiums, on a building-by-building basis.

Formation and Governance

The scope of the foundation deed, the document that establishes the condominium, encompasses only the most fundamental principles of management, operation, and issues of ownership. It also establishes proportionate or pro rata payment of common expenses. There is no compulsory prescription existing for the level of the condominium fee. The law requires unanimous approval to amend the foundation deed.

The organizational and operational procedures (everyday operations) of the association are to be carried out under rules and procedures established in bylaws. Bylaws can be adopted and amended with 2/3 approval, and for new condominiums, the bylaws are adopted at the first or foundation general assembly.

The common representative, or the chairman of the executive committee, has the authority to represent the owners’ association in court or before other authorities. An audit committee may be elected in any condominium, but it is mandatory in condominiums comprised of more than 50 units. This provision is intended to eliminate problems of

---

108 Szemző and Tosics 2005
109 Between 15% to 40% of the market value had to be paid (depending on their condition), with a further reduction of 40% if the whole sum was paid at once. A loan option for thirty years was also available with a down payment of 10% of the sum and an interest rate of 3% on the remainder.
110 Tosics 2005
111 Teller and Hegedüs 2005
112 Tosics 2005
a single-person taking control over larger, more complex buildings. The audit committee may inspect the activities of the common representative or the executive committee at any time, opine on the budget, and generally review invoices, payments, and all the financial activities of the condominium.

In all condominiums with over 6 units, the HOA is to be managed by either a common representative, an executive committee, private company or by the public management company owned by the municipality. It isn’t mandatory in Hungary to hire professional, certified manager. This market segment is widely distracted from individuals via small companies offering basic services like day to day repairs up to larger management companies still owned by municipalities and highly professional branches of international property management companies. As in Poland and Slovakia in larger cities the market is dominated by privately owned management companies while in smaller cities municipality owned companies keep dominant position.

Procedures for taking decisions binding on residents

With regard to management of the common property, the only exception to the rule of simple majority vote is for decisions on «expenditures which exceed the range of ordinary management expenditure,» which require a unanimous vote (such expenditure typically involves the extension of the building or the construction of a new building). Otherwise, 50+1% approval of the assembly of tenants is required to make decisions on renovation of the common areas of the building, enter into loan agreements and increase common costs to service interest and principal payments to the bank. Decisions are made during assembly meetings, and share of owners is measured in square meters of their units. The public sector has no direct possibilities for intervention into the refurbishment of the multi-family housing stock.

The described procedure for taking decisions has been enforced since 2004, which has made the functioning of BHCs and HOAs more efficient (visible in Table 31 with the drastic increase in reconstruction activity), since a majority of decisions might be easier to enforce against non-cooperative owners.

Recourse of HOA to residents for non-payment

The association can encumber with a lien the property of an owner who is delinquent in payment of fees for more than 6 months with approval by the tenant assembly. Non-payers have no voting right in this subject at the assembly meeting. The lien assures that the owner will pay the debt when the unit is sold, or to foreclose after obtaining a court order. Theoretically, it would be possible for a condominium to foreclose without a court proceeding if the foundation deed so states and it is a notarized document. However, the law does not require that the foundation deed be notarized.)

Organization and Regulation of Services

The district heating companies have, according to District Heating Law, a contract with housing associations or cooperatives but they have to bill the tenants individually so they do not have the benefit of dealing with the housing associations only. The potential non-payment appears directly on the district heating companies’ balance sheet. The scheme works as follows: each owner of the apartment signs a contract with a Housing Management Company. The owner pays directly to the companies that provide services like telephone, electricity and gas supply. The Housing Management Company is responsible for collecting the money from each resident for consumed heat, water, waste and other services and to pay the bills to the utilities according to the signed contract between the Housing Management Company and the utility itself. The Housing Management Company can be either a municipal company or a private company.

Since it is the local level that is responsible for the delivery of public services, and some services cannot be sufficiently financed from the centrally defined normative and targeted grants, one of the most important steps of the reform has been that the local self-governments may impose local taxes and use the revenues e.g. from local business tax for their own purposes. Parallel to this, choosing the method of service provision was left to local governments: they can contract out service delivery and thus provide for economic efficiency (in addition to budgetary institutions, private companies, companies with mixed ownership, municipally owned companies, NGOs can also deliver public services, and some concessions have been awarded to different companies as well).
State and Municipal Oversight

Local governments autonomously make decisions on the requirements of the population, allocation of the financial means available, specific tasks to be addressed and their means of implementation. Responsibility covers the area of housing services (planning, enforcement of building regulations, local public rental sector, utility companies, price setting etc.). The energy sector (electricity and gas services) is under the central government’s control, while other public services such as water and sewage, garbage collection, district heating, rents, etc., thus, most of the housing service provision, is the responsibility of the local governments. For this reason, municipality contribution to state funding mechanisms and refurbishment activity differs regionally. While some municipalities make it a priority to obtain funding and offer mortgages, other local governments may not have the financial means or political will.

Payment and Arrears statistics

13% of households (around 500,000) were in arrears with housing costs (estimate based on a 2003 survey conducted by the Social Ministry on arrears exceeding 3 months for electricity, gas and district heating bills, as well as outstanding debts on loans taken out from the OTP Bank before 1993). It is estimated that around 10% of households are not able to pay their housing costs, and a further 10% cannot enter the housing market.

The accumulation of housing-related debts since the beginning of the 90s has posed a serious problem for a significant part of the households. Debts concern utility costs and mortgages (particularly loans from before 1989 and from between 1989-1993). Due to unpaid utility costs, 500,000 households (13%) have over 3 months worth of debt, and 300,000 households owe 1-2 months utility costs. The second group is called the “utility poor.” They do not accumulate bigger debts, but they constantly encounter continued difficulties in paying and lag 1-2 months behind with their payments.

Policy

New Szechenyi Plan (NSZP): Launched in 2011, two of the plan's seven priority areas- green economy and home guiding program include funding for energy efficiency. In order to reduce energy consumption, several measures will be implemented to enhance energy efficiency of buildings in different sectors, including – in the short term - a survey of the energy efficiency of buildings owned by state and local authorities and the energy efficient renovation of blocks of apartments built by industrial technologies and in the long term renovation of public buildings held by the state or municipalities115.

Energy Saving and Energy Efficiency Improvement Action Program: Included in the program's 15 actions is the “20,000 roofs with solar collectors” program, which announces that by 2010, 20,000 buildings (institutions and apartments) should have solar collectors installed on their roofs.

The National Energy Efficiency Action Plan (NEEAP): As part of the Hungarian National Energy Policy, the action plan set targets on efficient energy use and detailed national targets regarding reduction of final energy consumption for the period 2008-2016. Major areas of intervention include: building requirements for new buildings, buildings in the residential sector and in the public sector116.

Bill settlement based on metering in district heating: According to the 1998 Law the district heating suppliers must cease the apartment rate system of bill settlement (without metering), and must establishing metering in each heat receiving station. Consumers that refuse reading the meter placed in their apartments or prevent the district heating supplier from disconnecting the service due to arrears, the notary of the settlement may ordain incursion into the property117.

115 Government of the Republic of Hungary
116 Austrian Energy Agency
117 MURE II Database
1.6.5. Energy Efficiency for MFBs

Potential Environmental Impact (Carbon Savings) of EE for MFBs

The table below details the potential CO2 savings which result from implementation of individual options and the associated costs of conserved CO2. The options related to space heating (including insulation) are grouped according to the building types, while options related to water heating and electric efficiency (excluding water heating) are grouped in separate categories. The options are ranked according to their cost-effectiveness within their groups.

Table 32: Potential available through application of individual options, 2025

<table>
<thead>
<tr>
<th>Technological options</th>
<th>CO2 Avoided (1000 tCO2/yr.)</th>
<th>Cost of mitigated CO2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avoided</td>
<td>EUR/tCO2</td>
</tr>
<tr>
<td><strong>Thermal retrofit of industrialized buildings: space heating and insulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation of thermostatic radiator valves (TRVs)</td>
<td>74</td>
<td>-225</td>
</tr>
<tr>
<td>Wall insulation in houses</td>
<td>332</td>
<td>-115</td>
</tr>
<tr>
<td>Installation of condensing central building gas boilers</td>
<td>5</td>
<td>-108</td>
</tr>
<tr>
<td>Basement insulation</td>
<td>37</td>
<td>-96</td>
</tr>
<tr>
<td>Roof insulation</td>
<td>38</td>
<td>4</td>
</tr>
<tr>
<td>Window exchange</td>
<td>128</td>
<td>158</td>
</tr>
<tr>
<td>Individual metering of district and central heat</td>
<td>148</td>
<td>307</td>
</tr>
<tr>
<td>Door exchange</td>
<td>21</td>
<td>1684</td>
</tr>
<tr>
<td><strong>Thermal retrofit of traditional buildings: space heating and insulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation of thermostatic radiator valves (TRVs)</td>
<td>19</td>
<td>-223</td>
</tr>
<tr>
<td>Basement insulation</td>
<td>116</td>
<td>-169</td>
</tr>
<tr>
<td>Installation of programmable thermostats</td>
<td>52</td>
<td>-154</td>
</tr>
<tr>
<td>Installation of condensing central building gas boilers for space heating</td>
<td>26</td>
<td>-104</td>
</tr>
<tr>
<td>Roof insulation</td>
<td>103</td>
<td>-89</td>
</tr>
<tr>
<td>Individual metering of consumed district and central heat</td>
<td>39</td>
<td>91</td>
</tr>
<tr>
<td>Window exchange</td>
<td>337</td>
<td>125</td>
</tr>
<tr>
<td>Installation of condensing central gas apartment boilers for space heating</td>
<td>79</td>
<td>204</td>
</tr>
<tr>
<td>Door exchange</td>
<td>23</td>
<td>1462</td>
</tr>
<tr>
<td><strong>Options related to electric efficiency (excluding water heating): appliances and lights</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange of incandescent bulbs with compact fluorescent lights</td>
<td>305</td>
<td>-1066</td>
</tr>
</tbody>
</table>
The Table does not cover improvement of the thermal envelope and heating systems of buildings constructed during 1993-2008. This is because the thermal envelope of these buildings is more efficient than that of buildings built before the 1991 Building Code was introduced and heating systems in these buildings are up to the present market technologies (even though not up the best available technologies).

Implementation of the mitigation options at negative cost of CO2 would result in energy saving of 28.1 TWh/yr., which is about 54% of the total final energy consumption of modeled energy end uses of the residential sector in 2025. Realization of this potential requires total investments over the period 2008-2025 of about EUR 11.8 billion but saves EUR 18.8 billion in energy costs. The total maximum potential achieved due to implementation of all investigated measures is estimated as high as app. 73% and 67% of baseline CO2 emissions and energy consumption projected for modeled end-uses in 2025. In absolute terms, these savings represent about 8.2 million tons of CO2 and 34.8 TWh/yr. The total investments over 2008-2025 needed to realize the maximum potential are about EUR 38.6 billion.\(^\text{118}\)

### 1.6.6. Financing Mechanisms

#### State Programs for Financing Housing Construction and Mortgages

The mortgage interest subsidy program\(^\text{119}\); Introduced in 2000, the program provided two different types of interest rate subsidies: (a) an interest rate subsidy to mortgage bonds and (b) an interest rate subsidy for loans connected to new construction. As a result of the program, interest rates on housing loans fell significantly. In 2002, the market rate was 12-13%, while the subsidized interest rate was 3-4%. The third element in the subsidy program was the Personal Income Tax (PIT) mortgage payment allowance. In 2001, the amount which could be deducted from tax payment was 40% of the mortgage payment (interest and capital), maximum 240,000 HUF/year (around EUR 1,000/year) in case of new construction. The net value of the mortgage subsidy for two years was 50-70 % of the loan (taking into calculation the two interest rate subsidies and the PIT allowance).

With the growing budgetary crisis, the government changed the conditions of the mortgage program in 2004. The margins of the banks were cut in case of the subsidized loans, and the combination of different kind of subsidized loans was prohibited. In addition, the upper limit of a subsidized loan was reduced from 30 million HUF (EUR 117,000) to fifteen million HUF (EUR 58,500). Furthermore, the upper limit of the subsidized loans in the case of

---

\(^{118}\) Novikova 2008

\(^{119}\) Hegedus, Eszenyi and Teller 2009, Metropolitan Research Institute 2010, Kornfield 2007, Szemzo and Tosics 2005
existing housing stock was cut to 5 million HUF (EUR 19,500). At the same time the subsidized interest rate went up from the 3 and 4% mentioned above to 6% and 8%.

Tax exemptions in PIT for mortgage repayment have been cut severely as well. The allowance was restricted by income level, maximum tax deduction was decreased to 120,000 HUF (EUR 450) from 240,000 HUF (EUR 900), and in the case of used apartments, a lower ratio of repayment installments was set. Furthermore, a ceiling was set for the possible loan amount, and the allowance was limited to the first five years of repayment. In the case of buying existing units, the maximum deduction was equal to 30% of the mortgage payment, while in the case of new units it remained 40%. In 2007, the PIT allowance was abolished entirely.

**Economic impact**

Mortgage interest subsidies clearly achieved results in the housing sector. By 2004, housing construction had surpassed 40,000 units, and outstanding mortgages grew from 200 billion HUF (EUR 750 million) to over 2000 billion HUF (EUR 7.5 billion) between 2000 and 2005, surpassing 10% of GDP. The personal income tax allowance connected to mortgages was one of the most important tax allowances connected to housing. It significantly increased the total subsidy of mortgages.

With regards to efficiency, the subsidy program was intended to help those who could not afford high interest rates, especially the lower class and young families trying to buy their first home. However, only a subset of the group that qualified actually needed the subsidy to purchase their homes. The subsidy disproportionately benefitted the wealthier: the greater the loan the greater the subsidy. The PIT allowance also provided very little benefit to the lower class, since most in this class rent and pay little income tax. It is estimated that the upper 20 % of households in income distribution received 60 % of the total subsidy, and the upper 40 % received 80 % of it.

**Nesting Program (Homeowner program)**: Introduced in 2005, the purpose of the program is to promote access to homeownership for young, lower-middle income groups. By giving state guarantees, the government intended to increase the proportion of loans to housing value. The program offered a low down-payment ratio on loans (10%), and the government offered guarantees of up to 40% of the loan. The program is effective for those with a stable income, who do not find themselves overextended in repaying their mortgages (or other loan practices; this is particularly relevant in the context of the credit crisis).

The program was built on both already existing and new subsidies: raised housing construction allowance (cash grant helped families with children to buy new homes), introduced “half construction allowance” (which enabled families with children to enlarge their homes), a housing purchase allowance (a cash grant amounting to 50% of the housing construction allowance), which enabled young families with children to buy a used apartment. For low-income families with children a rent allowance scheme was introduced, which could not work because of the strict eligibility criteria. The aim was to help low-income families to pay their rent in the private rental sector.

**Economic impact**

By the end of 2005, 7,658 families had taken advantage of state guaranteed loans through the Nesting program, which spent 38.1 billion HUF (EUR 142.3 million), or 8% of yearly housing loans. The number of participants grew to 14,813 families in 2006, who took out loans worth 82.0 billion HUF (EUR 306 million), accounting for 14% of yearly housing loans. By the end of 2007, state guarantees had helped 24,062 families taking out loans worth 130.4 billion HUF (EUR 487 million). Increasing the weight of the state guarantee for certain target groups greatly helped develop a more effective mortgage loan system.

Nevertheless, the effects of the raised housing construction allowance and the allowance for young people contributed to the bad housing market situation of the poorest (often Roma households with many children) to congeal, and segregation to grow. From this point of view, even though the allowance is quasi-targeted (relatively more goes to low-income families with many children), its effect is contradictory.

**Housing construction allowance**: Introduced in 1971, the program's function has changed several times. It is

---

120 Hegedus, Eszenyi, Teller 2009
121 Hegedus, Eszenyi and Teller 2009, Metropolitan Research Institute 2010
a cash grant which helps with the down payment of homebuyers. The size of the subsidy depends on the number of children in the households; it is not a mean-tested grant, and only buyers of newly built home or "self-builders" households who themselves build or organize the building, are eligible. A further criterion is that applicants at the moment of applying for the grant do not own apartment of their own and the standard of the new home is below the centrally decided standard size and cost limit. In 1995 the amount of the grant was increased in the case of families with two and three children, which made it possible for low-income households to build new "low-cost" housing without substantial savings or loans.

Economic impact

Without the intention of policy makers, this subsidy scheme was used by large poor families (for example, Roma families) with the help of intermediaries (builders, lawyers, contractors, and Roma NGOs). It was particularly significant in less developed regions, where the grant covered almost the total cost of the construction. The sum spent by the government on construction allowance reached 43 billion HUF (EUR 160 million) by 2006, when 24,600 households took advantage of it. However, the program had several negative effects. Many of the homes built in this manner were of bad quality. Furthermore, much of the construction took place in less developed regions with higher unemployment.

Duty fee allowance for homebuyers\textsuperscript{122}: The rate of the transfer tax on housing sales depends on the purchase price; it is 2% up to 4 million HUF (EUR 15,000) and 6% for the part of the price above 4 million HUF. The transfer tax for other real estate was 8% and increased to 10%. New units have been free from tax from 2001. Young homebuyers (under 35 year) have a 50% allowance, maximum 40,000 HUF (EUR 150) buying units with a value of maximum 8 million HUF (EUR 30,000).

Economic impact

The lack of changes in the framework of the duty allowance meant that the duty bracket initially aimed at more expensive housing now applies to most homes on the housing market (except for underdeveloped regions). Thus state income grows as real estate prices rise. The housing affordability indicators of people who are acquiring housing for the first time show that the duty allowance does not counterbalance the difficulty of acquiring a first home efficiently. In particular, since homes worth a maximum of 8 million HUF are eligible, the needs of a young couple on the urban housing market can be satisfied only in a limited fashion. Furthermore, the disproportionately large subsidy for new homes is not justified, since it remains true that higher income individuals are better able to purchase a new home, and this type of subsidy thus has a socially regressive effect.

State Programs for Financing Housing Renovation

Energy efficient renovation of MFBs built with industrialized technology\textsuperscript{123}: The program was introduced in 2000 and is operated by the Energy Centre Hungary and the Ministry of Local Government. The objective of the grant is the renewal of residential buildings built with industrialized technology. A subsidy can be claimed for the works performed during the renovation of buildings for the following: 1) subsequent heat insulation; 2) renovation of building engineering systems (resulting in energy savings); 3) modernization and renovation of building surroundings; 4) development of individual adjustment of heating energy consumption together with the conditions of metering district heating use of each apartment (replacement of radiators and connecting valves for individual meters or cost sharing and all required modifications of the heating network). HOAs and BHCs may apply individually for a subsidy to cover this point.

State and Local Municipalities: In case the HOA or BHC meets criteria of the government’s “Panel Program”, the State and the Local Municipality each grants 1/3-1/3 of the total investment cost to the HOA or BHC up to a total investment cost of a maximum of EUR 4,300/apartment. Above the limit 100% of costs are covered by the HOA or BHC. In order for the HOA or BHC to participate, the assembly of tenants has to approve the investment by 50+1%, except for window-change where 90% approval is required. Also, the HOA or BHC has to prove that they can finance the 1/3 of the investment cost. They can prove it with the latest bank account report of the HOA/BHC or with a letter

\textsuperscript{122} ibid

\textsuperscript{123} Hegedus, Eszenyi and Teller 2009, Metropolitan Research Institute 2010, Kornfield 2007, Szemzo and Tosics 2005, IEA, UNFCCC, Austrian Energy Agency
of intent from a commercial bank saying that the bank is ready to finance the renovation.

Commercial Banks: In case a HOA or BHC has collected funds for renovation in the last 4 years (see Building Society fund description below), it becomes eligible for interest subsidy provided by the State and can take a loan from commercial banks to renovate the common areas of the building. HUF based interest rate is around 4% in the first 5 years and 10% in the second 5 years. Banks can provide the interest subsidized loans without any equity contribution from the HOAs or BHCs and with or without the 1/3-1/3 state/municipality grants. Securities of the loan include: (i) tenant assembly approves increasing the common cost by the level that covers the yearly interest and principal payment of the loan, (ii) principal is paid through the Building Society Fund, and the BSF account is assigned to the bank, (iii) a.) IFC guarantee plus cash deposit in the amount of the first month principal payment or alternatively b.) IFC guarantee plus bringing the bank account of the HOA to the financing bank or alternatively c.) cash deposit equal to 5-20% of the loan.

Building Society Fund: based on the German Bausparkasse model, two financial institutions provide BSF services in Hungary. Tenants and the HOA and BHC as a legal entity can open a BSF account and collect savings for renovation purposes. Based on the total savings on the BSF account the State provides a 30% grant to the tenant and to the HOA or BHC. The maximum level of State grants/account is limited by law. The savings on the BSF accounts can be assigned to commercial banks. Commercial banks can provide the above mentioned interest subsidized loans to BHCs and HAs based on the future savings on the BSF account.

Economic impact

To date, this is the only important attempt to do something about the failing physical condition of panel buildings. The currently available system and financing product has demonstrated that the system is able to generate a yearly deal flow of 70,000 apartments and EUR 150 million investment with an average investment size/apartment of EUR 2,600 (700 thousand HUF). In addition, approximately 190,000 apartments of this stock has been renovated to some degree.

According to analysts the system is reaching its limits because (i) the government has decreased the level of subsidies in the program, and no sufficient EU subsidies are in place to replace the government subsidy (ii) municipalities have insufficient own resources to continue to provide the 1/3 grant and their borrowing capacity is also very limited, (iii) the current system can hardly serve the large size high-rise panel constructed buildings with over 150-200 apartments (app. 40% of the market), where because of the limited yearly borrowing capacity of tenants in these buildings, multiple smaller size investments are needed to fully renovate the house.

New financial mechanisms should be developed to address issues of the panel housing market in Hungary, namely:

1) In the current financing product where the banks require 10-20% cash deposit from the buildings, it may be difficult for the buildings to provide this.
2) Only 30% of the BHCs from the EUR 18 million portfolio is able to fully renovate its house and 70% of these will receive only partial renovations because of the limited borrowing capacity of tenants.

Financial assistance for domestic energy savings124: Introduced in 2001, the fund is operated by Energy Centre Hungary. The objective of the subsidy is the energy modernization of apartments, the reduction of domestic energy consumption and the reduction of energy costs for the population. Only apartments built with traditional technology can be subsidized (buildings built with industrialized technology will not qualify for this subsidy anymore, however in the years 2002-2004 they were eligible). The subsidy may be granted for the following renovations: 1) Subsequent heat insulation of residential buildings; 2) modernization of heating and hot water supply equipment or their replacement with energy saving equipment.

The investment must be implemented within two years after the contract of subsidy comes into force. In the case of an application for the energy modernization of a apartment, the subsidy may be maximum 1/3 of the investment cost which may not exceed HUF 300,000 (EUR 1,100) in case of a single renovation objective and HUF 400 000 (EUR 1,500) in case of several renovation objectives. With regards to HOA or BHC the subsidy may be maximum 1/3 of the investment cost which may not exceed the number of apartments affected by the investment x HUF 200,000 (EUR 750) in case of a single renovation objective and the number of apartments affected by the investment x HUF 400,000 in case of several renovation objectives.

124 Metropolitan Research Institute 2010, Energy Centre Hungary, IEA, MURE II Database
Interest rate subsidy to renovate common spaces for condominiums and housing cooperatives\textsuperscript{125}: This state program offers an interest rate subsidy for any BHC or HOA to finance the renovation of the parts of an apartment building held in mutual ownership. There are two basic requirements for eligibility: the condominium has collected funds for renovation for at least four years (see Building Society fund description above), and it has to take out a bank loan. The support is 70\% in the first 5 years, and 35\% in the second 5 years. Condominiums cannot receive this subsidy if they take out a particularly favourable loan on their real estate savings. Municipal governments can also take out loans with interest rate subsidies to renovate and modernise their apartments. The interest rate subsidy is 70\%, but the proportion of credit to investment cannot surpass 50\%. Banks can provide the interest subsidized loans without any equity contribution from the homeowner associations or condominiums and with or without the 1/3-1/3 state/municipality grants. Securities of the loan are the same as under the program ‘energy efficient renovation of residential buildings built with industrialized technology’.

Economic impact

Housing communities have only taken limited advantage of this opportunity, and the size of the interest rate subsidies connected to the renovation of municipal apartments is also small. Interest rate subsidy is a solution for those buildings where the owners are themselves somewhat more prosperous. Loans with interest rate subsidies were significant in the development of water utilities. All this suggests that a new form of subsidy is necessary for the renovation of residential buildings.

Residential energy saving program for 2008 (NEP-2008)\textsuperscript{126}: Operated by Energy Centre Hungary, the program provides state non-repayable investment grants for apartments built with traditional technology, aiming at the enhancement of energy efficiency and promotion of renewable energy sources. The applicants must provide own contribution. The amount of own contribution depends on the given tender for which the state subsidy is provided. The Residential Energy Saving Loan Program “For Successful Hungary” operated by the Hungarian Development Bank gives the opportunity for applicants to provide own contribution required for the applications from a loan with discounted interest supported by the state.

Five different types of energy efficiency improvements are subsidized as part of the program, each with a different subsidy intensity (percentage of overall investment that is subsidized by the state). If the investment costs are greater than the maximum investment cost to be taken into account (depending on the usable credit limit), costs must be supplemented from own resources.

<table>
<thead>
<tr>
<th>Subsidy</th>
<th>Subsidy rate</th>
<th>Maximum amount of subsidy</th>
<th>Maximum amount of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement of doors and windows and their subsequent insulation</td>
<td>20%</td>
<td>1 310 EUR</td>
<td>6 552 EUR</td>
</tr>
<tr>
<td>Heating renovation</td>
<td>25%</td>
<td>1 861 EUR</td>
<td>7 446 EUR</td>
</tr>
<tr>
<td>Subsequent heat insulation</td>
<td>25%</td>
<td>1 861 EUR</td>
<td>7 446 EUR</td>
</tr>
<tr>
<td>Multipurpose energy efficient investment</td>
<td>30%</td>
<td>4 467 EUR</td>
<td>14 893 EUR</td>
</tr>
<tr>
<td>Use of renewable energy sources</td>
<td>30%</td>
<td>4 467 EUR</td>
<td>14 893 EUR</td>
</tr>
</tbody>
</table>

Economic impact

\textsuperscript{125} Hegedus, Eszenyi and Teller 2009, Metropolitan Research Institute 2010
\textsuperscript{126} IEA, MURE II Database
The application system of NEP has been operating since 2000; the year 2008 was the most successful so far: beside 9,026 received applications 6,865 applications were supported by an amount of HUF 3.1 billion (EUR 11.5 million) subsidy. The subsidies affected 10,956 apartments and induced an investment of HUF 11.8 billion (EUR 43.9 million) in total.

**Soft Loan– Residential Energy Saving Credit program**127: Since 2007 the “For A Successful Hungary” Residential Energy Saving Credit Program has been offering preferential loans to implement residential projects aimed at improving energy efficiency and the use of renewable energy sources. The preferential loan can be used together with a subsidy from the Energy Saving Program (NEP) or independently and can provide up to 100% of the project costs to eligible applicants.

**Housing allowances**: The 3,200 local governments spent less than 20 billion HUF (EUR 74.5 million) yearly on housing allowances in the year 2006-2009. This sum was 17.5 billion (EUR 65.3 million) in 2009. The main part of the total, 80%, was spent on normative housing allowances financed in 90% from the central budget in 2009. Housing allowances financed through the municipalities own resources made up 20% of the whole subsidy, 3.5 billion HUF (EUR 13 million). Municipalities spent 3.6 billion HUF (EUR 13.4 million) in 2008 as part of arrears management service, which made up 21% of housing allowances. Around 8% of households received support in 2005 as compared to 4% in 2003.128

**District heating support** (Robin Hood law), 2008129: Introduced in 2008, the law aims to increase the general competitiveness of district heating with respect to other, less environmentally friendly heating methods, and to help the financial situation of tenants living in housing units with district heating. There is no information concerning the effects.

**Water utility support system**130: Introduced in 1992, the system includes investment grants to promote the expansion of the water utility and price subsidies. It is necessary to support the expansion of the water and sewage utility, because its cost cannot be covered simply by water charges or contributions from future consumers.

Other Financing initiatives

**GIS**131: The program is operated by Energy Centre Hungary, the trustee of which is the Ministry of National Development. The program is funded by the sale of Hungary’s surplus CO2 emissions allowances to higher-emissions countries. In 2009 two sub-programs were initiated under the Green Investment Scheme (GIS) to facilitate energy rationalisation of residential buildings: i) the Climate-friendly Home Panel Sub-program and ii) the Energy Efficiency Sub-program.

The objective of these sub-programs is to provide investment grants for work that contributes to the reduction of residential energy consumption, moderating the overhead burdens for households and also reducing greenhouse gas emissions. Activities eligible for grants include energy-efficiency improvements in buildings (heat insulation, replacement of doors and windows, building engineering solutions) the modernization of equipment and utilization of renewable energy sources.

The key objective of the sub-programs is the renovation of houses built by pre-fabricated technology to achieve energy savings through retrofitting. The prerequisite for receiving a subsidy in the GIS Panel Sub-Plan is that the buildings should have lower CO2 emissions and be more energy efficient once the project is completed. The better results are achieved the higher the subsidy is (Climate bonus subsidy). The system rewards the bidder depending on the complexity and efficiency of the project.

The bidders for the “Climate Friendly Home Panel Sub-Program” under GIS were similar to those for the tender “Subsidy for the Energy Efficient Modernization of Pre-fabricated Buildings”.

**Structural Funds for Environment Protection and Infrastructure Operative Program (EIOP) Subsidies** (Effective

127 Austrian Energy Agency
128 Hegedus, Eszenyi and Teller 2009, Metropolitan Research Institute 2010
129 Hegedus, Eszenyi and Teller 2009, Metropolitan Research Institute 2010
130 ibid
131 IEA
In 2006, the EPIO provided 280 million HUF (EUR 1.04 million) in subsidies to three types of energy efficiency projects: the modernization of buildings and institutions, the development of district heating systems, and the promotion of cogeneration.

Since inception, the program focused on:
- installation of systems producing wood chips and pellets, baling equipment, and vegetable oil presses
- promotion of investments in renewable energy (biomass, geothermal energy, solar collector, PV, wind power, hydro power
- district heating systems using biomass or geothermal energy or waste deposit gases
- modernization of buildings, district heating systems, application of cogeneration.

Hungarian Energy Efficiency and Co-financing Program (HEECP): The objective of the program is to facilitate energy efficiency investments in Hungary, and it is financed mainly by IFC (International Financial Corporation) and GEF (Global Environmental Fund). The volume of the program has increased from February 2001, and the following resources are currently available: UD 16 million for bank guarantee; USD 550,000 for technical aid; and USD 500,000 for the operation of the program. The direct objective of HEECP is to promote financing of energy efficiency in the Hungarian banking sector. Besides providing guarantee, HEECP helps the participating financial institutions in the marketing of energy efficiency and also the technical and financial preliminary preparations of the projects.

UNDP/GEF Project – Financial Support to Energy Audit and Feasibility Study to Municipalities: The UNDP (United Nations Development Program) and the Hungarian Government have signed an agreement for a 5-year project with the objective to improve the energy economy of the Hungarian municipalities. The project is financed from UNDP resources.

1.6.7. Conclusions and lessons learned

- The procedures for taking binding decisions on residents in MFB’s has made the process efficient, and had a significant impact on renovation activity. On the downside, there should be a compulsory prescription for the level of condominium fee.
- District heating suppliers are obliged to install heat metering in individual apartments. As a result, residents can benefit from modernization and subsequent energy savings.
- Approximately 60% of the Hungarian housing stock requires full or partial renovation. In principle, the building law should prescribe the basic standards for the housing structures. In the case of the MFB’s that do not meet the requirements, a fine should be imposed or a compulsory reconstruction process should be initiated.
- As was shown in Table 34, there are a number of refurbishment options available to HOAs at negative cost (subsequent savings in energy costs are greater then cost of the refurbishment option). It appears therefore that there is a need for mass information dissemination to HOAs on the benefits of refurbishment and increasing residents environmental awareness.
- Experience suggests that the Hungarian government has been very active in making available funds to support renovation investments. Municipalities should actively inform HOAs of available financing schemes and benefits of refurbishment. Also, consultants should be readily available to advise HOAs on application procedures.
- Mechanisms have to be devised whereby households with very limited resources can finance energy efficiency improvements.

1.6.8. Bibliography


CECODHAS- Housing Europe 2007. Available at: www.housingeurope.eu/

CECODHAS-USH-Dexia Survey 2007. Available at: www.iut.nu

DHCAN, District Heating System Institutional Guide. 2005. Available at: projects.bre.co.uk

132 ibid
133 Austrian Energy Agency
134 ibid


Hungarian Government website: magyarorszag.hu/


Kornfield, A. ‘Housing Finance in Hungary: Subsidies and the Szechenyi Plan. 2007 Available at: www.lehigh.edu


SILC (Survey on Income and living conditions) 2007. Available at: www.cso.ie


UNFCCC. Hungary’s Fifth National Communication. 2009. Available at: unfcc.int/resource/docs/nate/hun_ne5.pdf

1.7. Summary of Key Findings

Introduction of Key Findings

Multi-family housing buildings located mostly in urban areas across Eastern Europe and the former Soviet states are a large portion of the total housing stock. They were constructed between the 1960s and 1980s using panel technologies that are by today's standards outdated and in need of renovation. Inefficient energy use in an environment of escalating energy prices places a huge burden on the population in these buildings. Older, rarely renovated buildings are facing additional problems with construction security and general level of outdated standards.

After the mass privatization process during the 1990s, home ownership is widespread in the region; most of these buildings are owned by the people who live in them. Apartments are owned by tenants, and common areas of the buildings, such as the staircase, elevators, front portal, gardens, energy systems, etc., are commonly owned by the community of tenants.

The governments, municipalities and financial institutions like IBRD and IFC have spent a considerable amount of time and effort during the last 20 years developing a viable business model to address the needs of these block houses, and the most important lesson learned is that the block house causes several problems when it comes to managing, renovating and financing the renovation process. No single country analyzed by GreenMax has managed to create the Most effective system solving all of the outstanding issues; however it is to be noted that Hungary, Slovakia and Poland are more advanced than all three Baltic states. Analyzing existing systems, GreenMax experts' view of a "close to Most effective" scheme is presented below:

Aggregator with a legal format: Tenants of the building must form some kind of legal entity that gets its mandate from them and acts on their behalf. This aggregator needs to have a legal format, and its operations need to be subject to enforceable regulations so that banks can lend to them. Without the aggregator, banks can only lend to the individual tenants, but that is not block house lending. In Hungary, Slovakia and Poland, owners of multi-apartment buildings are required by law to form legal entities called "housing associations" for the management of the commonly owned assets of the building. This regulation is quite common in many other countries as well. Housing associations are similar to private companies in the sense that they can enter into all sorts of agreements and can be taken to court if they do not meet their obligations.

The aggregator concept also works in markets where regulation similar to the Hungarian or Polish model does not exist. The aggregator can simply be established by the voluntary action of the tenants, or it could be a utility or any other company that has a billing relationship with the tenants. In any event, the favorable legal framework has to be created.

Periodic contributions from tenants to the aggregator: There must be a financial link between the tenants and the aggregator to ensure that tenants are funding the operations of the aggregator. The aggregator must also have leverage to enforce payment of such contributions. Apartment owners are obliged by law to contribute financially on a monthly basis ("common cost payments") just by the fact that they own property in the building.

However, major repairs and implementation of significant energy efficiency measures cannot be financed through "common costs contribution" only. It has to be possible to establish by HOA a "Renovation Fund" where additional cash is accumulated for the purpose of major repairs or additional cash flow for loan repayment. If the budgetary situation of the state allows, the renovation fund contribution may be tax deductible. Such system successfully worked in Poland, but unfortunately was abandoned in 2002 due to budgetary constraints.

Moreover, housing associations should have the right to originate a mortgage on the property of non-payers or expel non-payer from the association. Loans to housing associations are non-recourse to tenants. Therefore, it is the association that is accountable to the bank. The bank does not have the right to go after the tenants if there is a default. As a result, it is the association's responsibility to collect from tenants, and its right to exercise a mortgage ensures a strong common cost payment discipline.
Availability of technical solutions locally: A wide range of relatively cheap and simple technology should be available locally, from building envelope insulation upgrades (including window replacement) to internal renovation of the heat distribution network (heat exchangers, pipes, radiators, etc.) and installation of heat regulation and metering devices to allow tenants to manage their consumption. Existence of well-supplied and qualified local contractors is also a must for low-cost, high-quality services.

Cash-flow based lending: A lending scheme was implemented that required the association to put in place a valid decision of the assembly of tenants to increase their monthly common cost payment obligation to a level where on aggregate they cover the monthly instalments of the loan and current costs. This is then assigned and channelled through the bank on a monthly basis for debt service.

Guarantees for collateral: To address the lack of collateral, a scheme of guarantees should be added especially in the markets with less developed banking systems. An example of such successful program is the Hungarian IFC’s product, designed along the principle of making sure that the bank’s and IFC’s interests were aligned and each party was comfortable with the risks taken. Apart from the IFC guarantee, the only collateral the bank has is a drawing right on the account(s) of the block house.

Application of available grant programs: Being a key social issue, the housing sector will always attract government attention. This usually translates into various types of support programs. Incorporating these into the financing scheme opens the door to a larger number of clients.

The CEE market has many such programs which were integrated into the MFB program. While some features of state grants that complemented the investment structure of the program played a significant role in the expansion of the portfolio, their availability is not a precondition to requiring similar facilities. As long as they are available, clients will always want to use them, but the structure is still viable without them. The CEEF program has done many projects with grants incorporated but also many without any, thus illustrating that the financing scheme can be applied without subsidies.

Streamlining procedures: When lending involves a large number of tiny yet similar transactions, the natural choice is to standardize and streamline your operations as much as you can. The banks should develop low transaction cost procedures based on simple checklists and predetermined boundary conditions. All transactions that meet the eligibility criteria make it into the portfolio automatically.

Monitoring energy savings: When it comes to energy efficient products, there must be a system in place to determine if the loan is financing energy efficiency or not. Such information could have considerable marketing value. However, many banks carrying energy efficiency products face challenges when it comes to monitoring energy saving due to lack of internal capacity to do so. Subcontracting is time consuming and cost-intensive and contradicts the concept of standardization. In response, the bank requires that the block houses attach an energy audit to their credit application.

This solution is not Most effective, as there will always be a trade-off between the quality of the audits and streamlining. This is quite typical for the retail type of energy efficiency programs. The better the audits, the more they slow down projects or even exclude block houses unable to bear the costs. The goal is always to find the right balance of making sure that what we call energy efficiency really is energy efficiency, without overburdening the deal with additional transaction costs.

Another key issue is metering of heat water and other media delivered by utilities. Installing meters as minimum at building level has to be a precondition for any major or energy efficiency investment and the regulator has to establish fair system for metered tariffs.

Education:
The role of widespread education cannot be ignored and should be offered to all players: apartment owners, HOA managers, building managers and building management companies, local banks and utilities and should cover legal aspects, contracting of outsourced services, optimization of chosen technical solutions and showing potential benefits.

More detailed findings addressing each of the topics across all the countries being analyzed are provided below.
1.7.1. HOA Formation

1.7.1.1. Lessons Learned

- Increasing HOA adoption could be accomplished by implementing a requirement for HOAs in MFBs, as well as by maintaining or increasing financial incentives for HOAs relative to non-HOA buildings.
- The offer of technical assistance to new HOAs would be a useful tool, as lack of experience with legal, technical and financial matters can often be an impediment to organization. Also, mass information campaigns to HOAs, as well as individual homeowners, will be an integral part of bringing energy efficiency to scale.
- Privatization of municipal maintenance companies would help to facilitate formation of HOAs by removing artificial pricing of maintenance services and opening the door to competition in the sector and offering homeowners choices in maintenance services.
- HOAs usually are often not able to ensure appropriate maintenance of common ownership in MFBs and instead must contract maintenance companies operating on the market. However, there has been a shortage of companies providing quality maintenance services to HOAs.
- In Slovakia, the Transformation Act began the process of privatization; the success of this and other regulations spurred on private ownership and in turn HOA formation. HOAs represent 70% of all dwelling units and are run democratically and elect their own bodies. They must be registered as an association at the Ministry of Interior.

1.7.1.2. Pitfalls

- Latvian HOAs are not legal entities; potential lenders may feel more comfortable lending to HOAs if HOAs become legal entities.
- The framework for and adoption of HOAs in Lithuania remain underdeveloped; by 2004, only 17% of apartment buildings were managed and maintained by the housing owners through HOAs. Reasons that membership of HOAs remains unpopular include a lack of understanding of the benefits that HOAs provide to residents, and the practical difficulties in establishing and administering an association.
- In Latvia, HOAs are being adopted slowly, due to demographic differences among residents as well as disinterest in taking responsibility for the state of the building.

1.7.1.3. Best Practices

- Following the housing reform in Estonia that began in 1993 (based on Privatization Law), the overwhelming majority of apartments are now in private ownership. During privatization, forming housing cooperatives or associations was compulsory; as a result, 60% of the population lives in housing cooperatives or associations today.
- A big advantage in Hungary compared to many other post-socialist countries was that the Law on Condominiums successfully regulated the transfer of property and the establishment of the new institutional structure (the assembly, the election of condominium manager, the decision-making procedures, the condominium fee).
- Slovak HOAs constitute over 70% of the MFB stock due to widespread affordable privatization of the housing stock beginning in the 1990’s. Co-ops are declining in prevalence; new buildings are all managed by HOAs.
- In Poland, the formation of an HOA has been obligatory and automatic in each building with more than one owner since 1994. Poland’s regulatory framework for housing was extensively supported from 1995-1997 with measures that governed housing ownership, as well as HOAs and taking debt. This policy supported the formation of HOAs.

1.7.2. HOA Decision Making

1.7.2.1. Lessons Learned

- In order to make it possible for an HOA to levy charges on building residents to finance an investment, there must be a binding decision-making process that obligates all residents and which cannot be legally challenged after a certain limited time period.
- With regard to management of common property, 51% approval is usually required to make decisions. In some cases, the exception to the rule of simple majority vote includes decisions on “expenditures which exceed the range of ordinary management expenditure,” which can require as much as an unanimous vote.
• Decisions should be made during assembly meetings, with voting percentages usually calculated by allocating one vote to each household, though in some cases, voting percentages can be calculated based on the square footage of each apartment, thus giving additional voting power to larger apartments.
• In order to facilitate investment decisions, there should not be an unreasonable threshold to achieve a deciding majority vote. A simple majority is best way to facilitate these decisions.
• Foundation deeds govern an HOAs management, operation, and issues of ownership and establishes proportionate or pro rata payment of common expenses; in some cases, amendments to these deeds require unanimous approval, which slows decision making.

1.7.2.2. Pitfalls

• In Slovakia, all HOA members must be notified by letter in advance of an Assembly meeting. All votes can be passed by simple majority, unless they concern building security or taking loans. In these cases 2/3 of votes of all owners are needed. The dissenting owners have a 15-day period to appeal. The requirement of 2/3 majority is often an obstacle to making decisions, and the appeal period delays decisions.
• In Poland, the organizational and operational procedures (everyday operations) of HOAs are carried out under rules and procedures established in bylaws. Bylaws can be adopted and amended only with 2/3 approval, which can often hinder the decision-making process.

1.7.2.3. Best Practices

• In Poland and Slovakia, most decisions can be made by a simple majority.
• Slovakian HOAs are governed by collective bodies made up of owners, which make decisions about all aspects of the HOAs activities. Unless a contract with an external manager is signed, the HOA itself is the legal body responsible for provision of services connected to operation and maintenance of the building.
• In Lithuania, residents in an HOA-operated building who aren't HOA members are obligated by law to either submit to HOA decisions. New owners are obligated to join the HOA formally as soon as possible.
• Slovakian HOAs have adopted a method for collection in the case of non-payment known as a “voluntary auction”. Contrary to involuntary auction, which requires a long court proceeding, voluntary auction can be agreed as an obligation for HOA members. It may be agreed that in case of enduring non-payment of some minimum amount after an agreed period of time, the non-payer's apartment or commercial premises can be sold at an auction ordered unilaterally by the HOA Assembly. The procedure is much shorter than in case of involuntary auction. Providing a replacement residence is not obligatory in voluntary auction.

1.7.3. Heat Supply and Tariffs

1.7.3.1. Lessons Learned

• In most cases, district heating companies have little or no incentive to aid modernization, because their revenues are based on consumption. Reduced consumption due to increased use of energy efficiency would reduce their income and there are no mechanisms to recuperate the lost income.
• Allowing end use energy efficiency investments to be recouped in the heat tariff can be a viable solution to incent either District Heating Companies or third party agents such as ESCOs or Housing Maintenance Companies to become the agents to implement and finance energy efficiency improvements.
• Governments have removed many heating subsidies as the energy industry is moving towards privatization. This drives up the price of heat energy, which in many countries already constitutes a large portion of the household budget. On the positive side this is absolutely a prerequisite to MFB residents finding it in their interest to make investments in EE. On the negative side, reductions in heating subsidies are leading to increases in utility payment arrears and create poor credit perspectives for many MFBs.
• Once all buildings have been equipped with meters, there are very few incentives for DHCs and maintenance companies to become actively involved in promoting energy efficiency, as they would lose sales. There is a strong need to devise new tariff schemes that may help induce heating and maintenance providers to participate in energy efficiency programs by allowing them to earn margins on and amortize investments which they may make in end user efficiency.
1.7.3.2. Pitfalls

- In Latvia, the housing sector still operates like a ‘command’ system in which ownership and management is vested with the state and municipalities and pricing policies are not sensitive to demand or quality of housing services. Maintenance and management, for the most part, is still a municipal monopoly and public landlords manage most of the privatized housing.
- In Lithuania, municipalities set the heat prices to be charged by heating companies. The maximum tariff for the maintenance of heat and/or hot water systems in apartment buildings is also set by municipalities, which may keep prices artificially low, discouraging energy efficiency.

1.7.3.3. Best Practices

- In Poland, tariffs are comprised of energy production and distribution and are calculated in one of two ways. If a building has individual meters for apartments, which is rarely the case, billing is based on real consumption. If no meters are installed, a so-called two tier heat tariff is applied which includes fixed costs and variable costs and is calculated based on the surface area of a resident's apartment or heat consumption indicators if installed on radiators.
- Countries with privatized district heating companies and in which public entities do not have any influence over rates promote an energy efficiency-friendly investment climate because such investments can reduce costs and price uncertainty.
- Slovakian law obligates building managers or other bodies responsible for building operation and maintenance to report once every three years about the energy efficiency of their building, mostly in the terms of heat and hot water consumption. They must evaluate heat performance, including climatic data.
- According to regulation passed in Hungary in 1998, the district heating suppliers must abandon the flat rate system of bill settlement (without metering), and must establishing metering in each heat receiving station.

1.7.4. Maintenance Provision and Tariffs

1.7.4.1. Lessons Learned

- Decisions regarding how to maintain MFBs and who provides those services should be left in the hands of HOAs and cooperatives. Leaving the control of maintenance in the hands of municipal controlled companies causes undue political influence over the provision and charge for such services.
- Regulation of tariffs for maintenance and how these costs are recouped from MFB residents should also be left up to HOAs and cooperatives, who should however be obligated to properly organize and charge for such services.
- Housing Maintenance Companies should be encouraged to undertake investments in MFBs they manage by allowing them to recoup the cost of such measures in the tariffs they charge.
- HOAs should have statutory responsibility for ensuring continuity of providing services and goods to its members. If a member stops paying, it should be empowered to either use a reserve fund or increase the billing of other residents to cover bills to the supplier or lender or assess the remaining owners to make up the difference.
- Often, residents in arrears on common cost payments can be taken to court only after a lengthy internal procedure is followed to cure non-payment; the court proceedings can take up to several years. Since common cost payments are generally an HOA's main source of cash flow, residents are wary of incurring obligations that may need to be carried by a smaller number of owners in the event some default.
- Establishment of building reserve funds are absolutely necessary to ensure resources for proper maintenance and should be mandated by HOA legislation.

1.7.4.2. Pitfalls

- In Latvia, the structure of maintenance tariffs does not allow housing maintenance companies to recover the cost of energy efficiency modernization. However, individual apartment owners also have no way to recover capital expenditures for energy efficiency since they are generally charged a portion of the building's metered energy charges based on area of apartment.
- District heating companies such as Dalkia have no incentive to improve end user efficiency because their revenue is based on energy consumption. Furthermore, load reduction actually makes the district heating system less efficient, compounding the negative effects of energy efficiency as seen from the point of view of the DHC. Consequently large DHCs may attempt to lobby against energy efficiency legislation.
• In Hungary, heat losses are such that many households find they cannot rely on the district heating system to provide all of their space heating and hot water requirements. Cross-subsidies in gas pricing have caused district heat costs to increase to 30% more than heat from individual gas boilers.

1.7.4.3. Best Practices

• In Hungary, district heating suppliers are obligated to install heat metering in individual apartments. As a result, residents can benefit from modernization and subsequent energy savings.
• In Slovakia, acceptable billing formulas are: by person (per capita) living in a household, by apartment surface area, or by a mixture of apartment surface area and measured consumption of supplied media. The surface area calculation approach is more favorable to multi-person households, whereas the per capita calculation approach is more favorable for owners with larger properties or multiple apartments. The decision of which methodology to deploy is taken by a majority vote of owners.

1.7.5. Loan Security as a Barrier to Private Financing

1.7.5.1. Lessons Learned

• Private financing has yet to reach scale; this is primarily due to the reticence of banks to be exposed to risk. The most impactful financing programs have been those that include public loan guarantees and private capital.
• MFBs generally are unable to post any fixed collateral. When organized as either co-ops or HOAs the underlying land is generally not the property of the building entity. The building itself has no assets other than the cash flows from its residents to pay for ongoing maintenance, undertake investments and to build up reserve funds. Investment loans therefore must be made largely on an unsecured basis relying on these cash flows. Securing those cash flows and taking action against non payers is the essence of lending to MFBs.
• Aside from building cash flows banks may establish first drawing rights on building reserve funds and other bank accounts and a lender may take a first position on building insurance policies.
• HOAs are responsible to ensure that all bills to external service providers are paid, so in case of non-payment by an apartment owner, all remaining members of the HOA must cover the debt to keep providing goods and services like heating, cleaning, water, etc., or to repay a loan.

1.7.5.2. Pitfalls

• In Lithuania, over 92% of HOA members have never applied for a loan or grant for repair work. This reluctance reflects the fact that tenants are wary of using their home as collateral for fear of losing them, and they are not confident in the banking system. Similarly, banks are unwilling to accept multifamily homes as collateral because of ambiguous laws and lack of enforcement.
• In Slovakia, the administrative process associated with establishing loan security is seen as a major deterrent in lending from commercial banks.
• In Poland, the only method used to recover payments is the court system. However, if the non-payer is savvy in legal defense, the whole process may take as long as 2-3 years.

1.7.5.3. Best Practices

• In Hungary, an innovative use of building society savings plans (Bausparkasse model) as partial loan security encouraged commercial banks to lend to HOAs. An early intervention by IFC provided both an additional third party guarantee and a technical assistance to help initial lenders develop sound credit underwriting.
• In Poland the state intervention by providing the thermo-modernization fund allowed lenders to promote loans with an attractive principal reduction feature. The state’s large scale commitment not only provided some subsidy (25%) but even without provision of guarantees gave lenders a sense that the sector was “safe” to lend to.
• In Estonia, since 2000, banks have generally been comfortable lending against an HOA’s cash flows, and there is a functioning recourse mechanism (first, attempt to cure the default with social support for families in need, second, court mechanism to sell the apartment).
• In Latvia’s World Bank Housing Project, the World Bank acted as guarantor on EE investment loans, guaranteeing the first 70% of losses and leaving a local bank exposed to 30% of losses. The loan guarantee was only for principal and did not include lost interest; in the case of default, the World Bank guarantee was paid out before foreclosure, and the local mortgage lender had the authority to carry out foreclosure on behalf of guarantor.
• In Lithuania, the HOA is the counterparty to a bank financing and receives the funds. Non-performance is resolved between the HOAs and the residents under the Civil Code. HOA or not, a 51% majority is required to incur debt. So far under the JESSICA program, no households have been reported to be delinquent.

• In Poland, bigger HOAs and housing co-ops face fewer difficulties as banks assume real cash flow while assessing risk. Most HOAs and co-ops usually establish a so-called “Renovation Fund” paid monthly in the range of EUR 0.25-1 per square meter, which constitutes the basis for loan repayment and usually is the only loan collateral.

1.7.6. Other Notes on Private Financing

1.7.6.1. Lessons Learned

• Considering that lending to MFBs is largely unsecured credit risks should be mitigated by carefully constructed underwriting procedures. With the right legal framework in place, such guidelines can be constructed to ensure that if a commercial bank grants a loan to an MFB there will be low risk of insufficient funds in order to pay the installments.

• Two major obstacles to the use of commercial loans from the loan applicants’ point of view are the length of administrative process and a lack of technical or financial knowledge regarding modernization and debt. This can be addressed by streamlining the administrative process and providing technical advisory to HOAs or individual homeowners.

• In Slovakia and Hungary, HOAs use the Bausparkasse model that was adopted from Austria and Germany. Using this type of financing, a building funds a savings account and when the account reaches a certain amount, the Bauspar provides a low-interest fixed rate loan (often with government supported incentives) for energy efficiency and modernization. This model could be adopted in countries where building reserve funds (which act similarly to the savings fund) are not required.

• The sharing of risk is one of the most important issues to be addressed; ESCO financing, while not widely adopted in Eastern Europe, could be used to shift risk onto one creditworthy entity, which would allow commercial banks to increase lending levels for modernization.

1.7.6.2. Pitfalls

• ESCO financing has been explored in Poland since as early as 1991. However, this form of solving energy efficiency issues within the housing sector has not been successful for several reasons, including lack of awareness of the concept, lack of experience, and lack of legislation or existing models for performance contracting in Poland. The only real experience has been in lighting, for which ESCOs did some street lighting retrofits for municipalities. This experience is similar in most other Eastern European countries.

1.7.6.3. Best Practices

• In 2001, a company called JSC Newheat was set up by Private Energy Market Fund (PEMF) and JSC Šilumos Ūkio Servisas (“District Heating Service Company”, “SUS”) with the purpose of launching the ESCO concept in Lithuania, focusing on energy efficiency investments for the municipal energy utilities based on leasing financing. One fifth of Lithuanian municipalities have signed long-term district heat leasing contracts with Litekso, the ESCO subsidiary of Dalkia.

• While ESCOs have faced difficulty obtaining debt financing over the past decade, Renesco, an ESCO operating in Latvia, has indicated that it is closing a project loan from a syndicate of two banks, including Nordea Bank AB.

• Due to Poland’s widely distributed Thermomodernization and Renovation loans described above, indirect financing for HOAs by ESCOs is not of high value. However, some of the energy efficiency measures (such as gas boilers) may be financed indirectly through a vendor financing formula. Some of these vendor originated credit lines contain subsidy components granted by Voivodship Environmental Protection Funds.

• In Slovakia, part of the monthly payment is reserved as an emergency fund to keep goods and services running in case of a non-paying member. The HOA is required to maintain a building reserve fund which is paid into by the members along with other payments monthly.
1.7.7. Investment Incentives

1.7.7.1. Lessons Learned

- Incentives in the form of either direct grants, loan guarantees or subsidies tied to loans have been critical in all country markets at least at the launch of MFB modernization and energy efficiency initiatives.
- Direct grants have generally been needed to spur initial pilot projects that demonstrate energy efficiency effectiveness. As more ambitious efforts are undertaken concessional loan programs either with direct credits granted by public bodies or working in partnership with private lenders should become prevalent.
- Determining the right form and level of subsidy intervention is not an easy task. Generally where legal frameworks allow for energy savings to be passed on to MFB residents then subsidy levels should be geared to some calculation of “affordability” net of energy savings – what the average household can afford to pay in additional monthly common costs to amortize an investment, after accounting for energy saving benefits. In early market entry stages, the energy savings portion of the calculation should be discounted as MFB residents will not yet have confidence enough in energy efficiency monetary benefits.
- Because the primary barrier to private financing is loan security, government programs are most effective when they address risk. This is primarily done using partial or full loan guarantees.
- Subsidies however, need to be carefully geared to actual affordability so as not to over-subsidize and should be reduced over time in order to reflect changes in income levels and energy prices. The danger of subsidies is that they come to define the market – only the level of EE investment supported by subsidy occurs annually even when economics change to allow most investments to proceed otherwise on a market basis.
- The Slovak market provides multiple ways and products to finance building renovation. The main and most experienced institutions are the German style Bausparkassen (Building Savings Societies). Thanks to a wide range of government subsidies or loan guarantees, HOAs can choose among many repayable and non-repayable financial mechanisms. Government loan guarantees encourage the private sector to lend money for HOAs.

1.7.7.2. Pitfalls

- In Hungary, the most important programs require municipality co-financing, which is limited if the local government is poor. The result of the programs is that approximately 25% of flats have been renovated to some degree. However, the majority of beneficiaries have been middle to upper income MFB's, while the poorest municipalities and residents, which tend to have buildings in the most urgent need of renovation, are unable to provide an equity contribution.
- Programs in several countries provided grants or interest rate subsidies but did not provide technical advisory or any form of guarantee; these programs often fail to attract inexperienced borrowers and also fail to spur private lending.

1.7.7.3. Best Practices

- The most important issue for public financing programs to address is risk sharing. Those programs that guaranteed all or a portion of loan principal for energy efficiency loans leveraged funds at a much higher ratio than programs offering grants, direct loans, or interest rate subsidies:
  - World Bank Housing Project, $2 million for loan guarantees related to modernization of MFBs (Latvia)
  - Guarantees for Renovation of Apartment Buildings, guarantee covering up to 75% of principal for heating, modernization and energy efficiency work (Estonia)
  - Nesting Program, provided loan guarantees for mortgages and reduced equity requirement for homeowners (Hungary)
  - Guarantee and Development Bank, provides guarantees of up to 100% of principal for loans for municipal housing and HOAs (Slovakia)
- In many cases, HOAs or apartment owners are interested in taking a loan for modernization but do not have any experience with energy efficiency or with debt; those programs that included technical advisory increased their impact:
  - Energy Efficiency Housing Project, 30% grant for HOAs investing in energy efficiency as well as technical advisory (Lithuania)
  - World Bank Co-Financing Fund, set up Housing Credit Fund to provide technical and financing assistance (Lithuania)
• Co-financing, funded by various sources, incentivizes borrowers to use private debt:
  - **Green Investment Scheme**, use of proceeds from Assigned Amount Units under the Kyoto Protocol to subsidize 50% of project costs (Latvia)
  - **Renovation Grants**, 15-35% cofinancing to be taken in conjunction with a private loan for modernization or energy efficiency (Estonia)
• Bausparkassen address the need for loan security by requiring a prospective borrower to fund a savings account prior to taking a loan. This creates a type of reserve account to be used by the bank as collateral.

1.7.8. Public Awareness

1.7.8.1. Lessons Learned

• Even with an appropriate regulatory framework and attractive financing mechanisms in place, energy efficiency investments still do not just happen by themselves. There is need for demonstration projects, media awareness campaigns and most of all, development of educational efforts from trusted sources such as trade associations of MFBs.
• Because internet and television are where most people get their information, these may be the best media to spread information. Information could also be distributed through housing advisory centers or through social services departments.
• One suggested mechanism is to allocate more funds to raising awareness by hiring specially educated professionals. These professionals can explain the value and various mechanisms for MFB renovations directly at HOA meetings (sometimes more than one meeting may be needed to address concerns and alleviate fears).
• One of the key drivers of the market is tenant demand. The increasing cost of energy is drawing attention to energy efficiency, and energy benefits are maximized if tenants act as a community and address the whole building envelope.

1.7.8.2. Pitfalls

• A survey was done in Latvia regarding citizens’ viewpoint of energy efficiency. Less than half the residents of Cesis, a large city, feel adequately informed about energy efficiency. 13.6% claim not to be informed at all; in the capital Riga, 8% are not informed at all.
• In Estonia, numerous public advertising initiatives haven’t seemed to increase the use of energy efficiency.

1.7.8.3. Best Practices

• In Poland, publicly funded housing renovations such as the 48-apartment building in Bukietowa, help to raise awareness among HOAs and co-ops regarding energy savings potential. Funded by the Polish Thermo-modernization fund, the project touted energy savings of 40% and acts as an example to other buildings wishing to organize for investments in modernization.
• In Slovakia, rising prices of energy and inefficiency of district heat suppliers raised energy efficiency awareness of residents, prompting many buildings to disconnect from the heating loop in favor of local heating sources. Even buildings that haven't yet taken action are monitoring the problem: 88% of MFBs are measuring heat input, and 55% have heat regulators inside each apartment.
• In Latvia, an NGO project was initiated by the Public Policy Institute to raise awareness about energy efficiency in Latvia and was developed in conjunction with International Energy Brigades, a network of NGOs that works across Central and Eastern Europe. Volunteers in Latvian cities were trained in window and door weatherization, which can save up to 10-20% of a home's energy usage for up to 10 years. Volunteer programs such as this raise awareness about energy efficiency and are able to provide labor for free through volunteers, along with a product (in this case weatherization strips) that costs very little while saving residents as much as 10-12 Euro per month over the course of 10 years.
Chapter II. Best Practice Analysis: Important Conclusions for Russia

2.1. Resume

Experience the countries of Central and Eastern Europe have in financing energy efficient capital repairs shows that no efficient model has been designed yet, which could be proposed to other countries. The best practice analysis helps conclude that the largest scale of capital repairs can be observed in countries with the toughest legislative definition of responsibility of owners for founding a legal entity (HOA), making running payments, and credits for capital repairs. Furthermore, the State's support and incentives play a stimulating role in performance of large scale energy-efficient repairs. The more State's support is in various forms, the large scales of repairs are. Moreover, the crucial role is played by the State's support to the lowest income households, representing more than a half of population in these countries. The best practice analysis permits to make conclusions about the key factors (components, mechanisms), which should be involved to form the “Most effective” model of financing energy-efficient repairs. These factors include:

- The idea of the long-term political objective to reduce dependency on imported fuel for solving the problem of complex reconstruction of multi-family buildings was quite constructive for the Central and Eastern European countries; this idea was supported by implemented legislative, socio-economic, and financial mechanisms of improving energy efficiency, developing renewable sources of energy, and curbing CO2 emission.
- Key factors determining success and sustainability of the model of financing complex energy-efficient repairs have been identified, including:
  - interest of MFB owners in energy-efficient repairs,
  - association of owners with a definition of a legal entity representing an MFB, including in respect to capital repairs,
  - existence of mechanisms limiting the time for making decisions on repair organization and financing,
  - possibility to finance the initial costs of repair,
  - existence of a mechanism guaranteeing payment of the running costs and repair costs, including mechanisms of debt collection, a developed housing market, and a well functioning justice system,
  - existence of an efficient repair financing system,
  - existence of the State-provided incentives for energy efficiency and capital repairs,
  - existence of additional support provided by the State to disadvantaged social groups.
- Less important, although considerable, factors have been identified, influencing success and sustainability of the model of financing complex energy efficient repairs, including:
  - awareness and literacy of citizens,
  - existence of qualified engineering support,
  - availability of a counting system (resource consumption record keeping system),
  - availability of an efficient method of assessing the real effect of capital repairs and energy efficiency.
- Alternative methods of implementing each of the factors have been identified, the most efficient of which permitting to form an “Most effective” model of financing complex energy-efficient repairs.
2.2. Key Factors of a Successful System of Financing Complex Energy-Efficient Capital Repairs of MFBs

An analysis of the best practice in the countries of Central and Eastern Europe points out to existence of a number of key factors having a considerable impact on the successful organizing and financing of complex energy-efficient capital repairs of MFBs. The key factors are as follows:

2.2.1. Interest in Energy-Efficient Capital Repairs

2.2.1.1. Political goals and objectives

The long-term political objective pursued in Europe since the 1973 power crisis consists in reducing dependency on imported fuel. Legislative, socio-economic, and financial mechanisms of improving energy efficiency, developing renewable sources of power, and curbing CO2 emission have been prepared and implemented for several decades to achieve this objective.

The idea of using this political will and mechanisms formed during many years proved to be constructive and efficient when the objective of complex reconstruction of multi-family buildings was set in the countries of Central and Eastern Europe.

Adoption of Directive 2002/91/EC concerning energy efficiency of buildings and improvement of the laws of the said countries to implement this Directive resulted in high requirements for energy efficiency of reconstructed MFBs. The functioning mechanisms of trading in CO2 quotas permitting to "collect" the effects even at a multi-family building level led to additional incentives to implement energy-efficient measures and enhanced their relevance.

The second considerable political goal that played an important role in these countries consisted in creating a housing market and permitting households to choose the place of residence. As a result, households can choose their homes according to their possibilities, which decreases social tension to a large extent at a time of the growing costs of maintaining and repairing houses and provides grounds for creating a system of payments for performing repairs.

2.2.1.2. Economic Interest

Savings on bills for resources and an increase in the property prices are the main interest in performing energy-efficient capital repairs.

The cost of power resources in the countries of Central and Eastern Europe upon democratic transformations have considerably increased totaling approximately EUR 0.060-0.067/kWh of heating, EUR 0.04-0.045/kWh of gas, and EUR 0.10-0.110/kWh of electric energy.

The average bill for an apartment of 50-60 m² in an old pre-engineered building (the share of such buildings amounts to about 40% of the entire housing stock of these countries) totals EUR 100-150 per month with the average household income of EUR 700-900/person per month.

As a result, the arrears in most of these countries total 10-23% and 20-40% of bills for housing and utilities among the poorest households.

This attests that the cost of utility resources and maintenance of non-reconstructed housing is unaffordable for the average households, let alone the poorest ones.

This creates quite strong incentives to take measures to save, in particular to save heating.

Upon performing complex energy-efficient repair works, the cost of residential buildings grows, according to the Best Practice Analysis, up to 10%, while the utility resources bills decline by 15-50%.

Additional costs associated with repayment of borrowings used to implement energy efficiency measures and perform repairs, depending on the loan and interest maturity time and taking into account the 30% savings on the cost of resources, range from 3% to 25% in respect to payments for repair performance.

2.2.2. Association of Owners with a Definition of a Legal Entity Representing an MFB

It is extremely difficult for any organizations providing funds (loans, grants, etc) to work with individual owners of apartments. They are more interested in a large contractor as the costs to make a deal do not practically depend on the deal scale.
For this reason, irrespective of the methods of association of apartment owners, the most efficient MFB management form is a legal entity with legally established rights and obligations, including in terms of organizing and financing capital repairs and energy efficiency.

In order to create an efficient mechanism for performing repairs, this entity should be entitled to maintain an account, sign agreements, collect cash from apartment owners from time to time, be empowered to collect debts from apartment owners, and be held liable in court.

In most of the analyzed countries, this is the HOA, and creation of an HOA is obligatory in countries with the most successful organization of financing energy-efficient repairs; a HOA is a legal entity.

Wider implementation of HOAs may be achieved by introducing obligatory HOA foundation in MFBs and by maintaining or expanding financial incentives for HOAs as compared with buildings with no HOAs.

The following management forms are implemented as well: an administrator appointed by the municipality, a municipal company, or a cooperative.

2.2.3. Existence of Mechanisms Limiting the Time for Making Decisions on Capital Repair Organization and Financing and Energy Efficiency

In order to enable HOAs to collect cash from apartment owners to finance investments, it is necessary to establish a decision making process, which would be binding upon all the apartment owners and which could not be legally disputed upon expiration of a specified (limited) time period.

With the purpose of making investment decisions, there should be no unreasonable high level of votes to achieve the majority of the same.

The best practice analysis shows that a decision can’t be practically made if the law or a charter provides that 100% of votes should be obtained in voting on capital repair and energy efficiency issues. This also concerns a threshold of 75% of the votes. The chance of decisions being made grow considerably if 2/3 of the votes are to be obtained; and with a threshold of 51% of the votes, the possibility to reach decisions on organizing and methods of financing capital repairs and energy efficiency is quite high.

Therefore, a simple majority (51%) is the best way of accelerating the decision making process.

The chance of reaching a positive decision during voting is even higher in the event where votes are assigned proportionally to the surface area of apartments, and not to each apartment; in this case, 51% of the votes are represented by the largest apartments, which are normally owned by well-off people.

2.2.4. Possibility to Finance the Initial Costs of Repair

No capital repairs can be organized or energy efficiency measures can be taken without examining (performing a energy audit of) MFBs and making at least a small initial contribution. For this reason, availability of implemented fundraising mechanisms is one of the most important factors.

The main method of forming initial costs is accumulation of initial funds by apartment owners in an account with Construction Savings Associations or ordinary banks, including by creating any building development (repair) foundations.

In the event of ordinary commercial borrowings used for repair purposes, at least 10-20% of the total repair costs are to be accumulated, which is quite a considerable sum, in particular for low income households.

As the Best Practice Analysis reveals, the following types of support is to be provided by municipalities, governmental agencies, and international organizations to encourage commencement of repairs:
- grants for energy audit and certification of buildings,
- grants for designing projects of repair measures,
- grants for taking considerable energy efficiency measures (up to 35% depending on the savings rate),
- grants for modernizing subsidized housing by the European Regional Development Fund (up to 60% of the costs under the project, but no more than EUR 50/m²),
- subsidies for crediting housing cooperatives,
- subsidies of up to 50% of the costs under the project of the funds trading in CO2,
- free energy audit and design of projects by a public agency,
- State's support to low income households,
- engineering support.

Apartment owners, in particular low income ones, are very reluctant to accumulate initial funds through deductions from monthly payments (particularly in case of inflation and changing prices of materials and repair works). Grants are the most interesting mechanism for apartment owners, considerably expanding capital repairs and energy efficiency in MFBs.
2.2.5. Existence of a Mechanism of Guaranteed Payment and Debt Collection

The key factor permitting to attract loans or private investments to finance capital repairs and energy efficiency consists in existence of legally determined sources of payment for capital repairs and an efficient mechanism of covering the debt in the event where some apartment owners fail to pay.

Lack of such a mechanism makes capital repair and energy efficiency financing sources other than grants (financing by the State) and financing by owners practically impossible.

The Best Practice Analysis shows that the most efficient mechanisms are those that are implemented consecutively:
- initial measure: the right to improve social support,
- subsequent measure: HOAs’ right to confiscate salaries and social benefits (Latvia),
- subsequent measure: HOAs’ right to pledge the debtor’s property (Hungary: according to the decision of the general meeting),
- subsequent measure: a voluntary auction (Slovakia) as part of HOA obligations,
- next measure: property seizure through court.

As the Best Practice Analysis shows, the more comprehensively and tougher such a mechanism is legally determined, the largest share of private investments and credits are attracted to MFBs. The less determined laws are and the less risks run by apartment owners that their apartment may be seized due to failure to pay are, the less share of investments through crediting and private investments will be.

This mechanism may be supported by the State, primarily through creating a mechanism of additional social support in case of incurring repair costs, and by creating institutions repaying temporarily the loan on behalf of the residential loan funds with the rate being increased by 50% for the benefit of the fund (Estonia).

As an apartment sale is the extreme security measure in any of the analyzed countries, the factors below are very important as well:
- maturity of the residential real estate market in the country,
- speed with which the justice system functions,
- existence of mechanisms for fast enforcement of judicial decisions.

2.2.6. Existence of an Efficient Repair Financing System

The Best Practice Analysis reveals the following mechanisms of financing energy-efficient capital repairs:
- credits extended by private markets,
- long-term preferential credits by Construction Savings Associations (with the obligatory initial accumulation of initial funds in them) by establishing the mortgage starting from a certain credit level,
- long-term credits extended by the World Bank,
- long-term credits at preferential interest rates as a result of loans extended by the European Investment Bank, the EU Structural Funds.

Many banks are ready to provide capital, but are unwilling to undertake risks under projects, so the guarantee system is very important. Based on the Best Practice Analysis results, this may include:
- paid (1.2-1.7%) guarantees (up to 75% of the loan) provided by residential loan funds for measures aimed at improving safety of buildings (Estonia),
- guarantees in case of loans extended by private banks provided by the Government out of the loan granted by the World Bank (Latvia), special state-owned banks and funds on preferential terms for a different share of the loan (up to 100%),
- rights to repair accounts,
- insurance deposit,
- holding HOAs’ funds in the crediting bank’s account and the bank’s right to these accounts in case of payment failure,
- right to property of individuals (mortgage).

Energy Service Companies (ESCO) represent an important mechanism for financing energy-efficient repairs. They assume all risks that banks are unwilling to assume if no state guarantees are provided.

In order to encourage energy-efficient repairs, ESCO support is provided by:
- providing grants and preferential support by the European Regional Development Fund, Target Environmental Investment Fund (Latvia),
- providing credit guarantees from international funds (for example, Fund of Dutch International Residential Guarantees (Latvia)),
- participatory interest in ESCO.
**Leasing**
Leasing is another form of crediting. Availability of developed leasing plans to perform energy-efficient repairs is very important.

### 2.2.7. Existence of State Incentives

Based on the Best Practice Analysis results, it can be concluded that energy-efficient repairs became widely used in countries with various methods of State incentives to invest in repairs.

The following ways of incentives provided by the State and municipalities can be discerned:
- subsidizing the interest rate, including with the available accumulated initial amount,
- long-term preferential loans,
- subsidizing insurance payments,
- subsidies for HOAs that attracted credits with state guarantees,
- preferential credits for MFB common premises reconstruction and repair,
- direct subsidies for energy-efficient repairs of panel buildings (including on the terms of co-financing by owners),
- tax preferences in respect to amounts credited to the repair initial accumulation fund.

Such incentives undoubtedly increase the amount of energy-efficient repairs, but they also have the following consequences:
- when such measures are stopped, financing is reduced significantly, so this requires state support programs in the beginning and its planned decrease during a certain time period,
- any state support measures indirectly result in preferential subsidizing of higher income groups as, due to their large apartments and higher credits, they are granted larger subsidies than low income groups.

### 2.2.8. Existence of Additional Support Provided by the State to Disadvantaged Social Groups

For countries with a low income level, additional expenses incurred by households due to the need to repay credits for energy-efficient repairs grow up to 25% in some cases as compared with the normal payments for housing and public utilities. Even if the cost of utility resources is decreased, these costs are quite burdensome.

The Best Practice Analysis shows that most households (50-70% depending on the country) may finance repairs only partially due to a low paying capacity.

For this reason, various state support methods are extremely important for this large group of households. The Best Practice Analysis presented the following methods of support provided by the State and municipalities to the disadvantaged groups:
- tax preferences (deductions), including for the interest on credits for energy-efficient repairs,
- benefits for young households and households with children,
- house lease tariff reduction,
- reverse mortgage for pensioners to modernize apartments.

Some of support measures proved controversial, because, for example, benefits were often used inappropriately, and tax deductions and preferences resulted in gains for well-off households.
2.3. Important Factors of a Successful System of Financing Energy-Efficient Capital Repairs

The less considerable, although important, factors include as follows:

2.3.1. Awareness and Literacy of Citizens

Low awareness among citizens about MFB management issues, MFB energy efficiency improvement measures and methods, possible financing of capital repairs, general financial illiteracy of households give rise to fears, result in failure to perform complex energy-efficient repairs, lack of trust in credit organizations and their managers. This accounts for failure to reach decisions or a slow decision making process.

2.3.2. Available Qualified Engineering Support

There must be well-off and qualified local contractors to perform a quality energy audit, assess the real effects, and implement projects.

2.3.3. Availability of a Counting System (Resource Consumption Record Keeping System)

Installation of meters at least in the building in general should be a precondition for any investments in the building, because otherwise there is a risk of abuses, which will result in indignation and distrust of apartment owners.

2.3.4. Availability of an Efficient Method of Assessing the Real Effect of Capital Repairs and Energy Efficiency

Availability of an efficient method of assessing of the real effects of capital repairs and energy efficiency is very important, because otherwise there is a risk of abuses, which will result in indignation and distrust of apartment owners.

2.3.5. HOAs’ Obligation to Be Held Accountable for Energy Efficiency

The legally provided obligation of HOAs and managers to regularly report on the results of energy audit and certification of the building according to the existing projects and payments for repair is an incentive factor.
2.4. Recommendations for Most effective Model of Financing Energy-Efficient Capital Repair

- In an environment where both political and economic conditions result in the apartment owners’ interest in performing a complex energy-efficient repair, an Most effective model of financing capital repair includes as follows:
  - legally determined obligation of owners to found an HOA acting as a legal entity and entitled to maintain accounts, sign agreements, regularly collect funds and debts from apartment owners;
  - legally determined procedure for deciding on performance of repair and methods of its financing by the HOA by a simple majority of votes, in which case decisions are to be binding upon all owners having no right to dispute them upon expiration of a certain (limited) time period;
  - legally determined mechanism of making an initial contribution for performing an engineering audit, developing and approving the capital repair project, and financing of capital repairs,
  - legally determined mechanism for covering the debt in case of payment failure by some apartment owners, stipulating consecutive application of the following methods:
    - initial measure: HOAs’ right to seize salaries and social benefits,
    - subsequent measure: HOAs’ right to pledge the debtor’s property according to the decision of the general meeting reached a simple majority (mortgage),
    - subsequent measure: a voluntary auction as part of HOA obligations,
    - next measure: property seizure through court.
  - legally determined method of crediting based on cash flows with accepting the following as guarantees:
    - right to repair invoices,
    - insurance deposit,
    - HOAs’ funds in bank accounts,
    - right to the property of individuals (mortgage).
  - creating a state system of securing guarantees for private banks (for a certain time period) by:
    - providing guarantees for a specific list of measures (aimed at improving safety and energy efficiency) and for specific groups of buildings,
    - creating special structures providing paid guarantees for a considerable part of the credit.
  - State-provided incentives for large scale energy-efficient repairs to be performed by owners with high and average income (for whom repayment of a commercial loan for repair purposes is affordable) introduced for a limited time period by:
    - co-financing energy audit and developing repair projects in the 50/50 ratio and reducing the subsidy share to 0 within 5 years;
    - providing long-term preferential loans for certain types of repairs (ensuring safety of structures and the highest heating efficiency effect for the building, but with a long return period);
    - creating institutions repaying temporarily the loan with the rate being increased for the benefit of such institutions;
    - introducing temporarily co-financing of initial contributions for repair purposes;
    - introducing temporarily tax preferences in respect to amounts credited to the repair initial accumulation fund.
  - State support in financing complex energy-efficient capital repairs by owners with low income (for whom repayment of a commercial loan for repair purposes is unaffordable) through:
    - additional social support in case of incurring repair costs,
    - tax preferences (deductions), including for the initial contributions for repair purposes and interest on a loan for energy-efficient repairs,
    - grants to pay for energy audit and repair project development and benefits (subsidies) for energy-efficient repair provided to young households, households with many children and pensioners,
    - reverse mortgage for pensioners to pay for repair.
  - State support in groups of buildings with the highest energy efficiency potential, but long return periods (normally owned by people with low income) through:
    - grants for energy audit and certification of buildings and development of repair projects effective during a limited time period (for example, 5 years),
    - grants for performing specific measures giving the highest effect for the building in general and aimed at providing safety and energy efficiency with agreed financing.
• legal determination of HOAs’ obligation to regularly report to owners and authorities on energy efficiency, available projects, and repair payment status;
• legal obligation of resource suppliers to install common meters in the building with obligatory payment by such meter owners;
• state support to energy service companies, including through subsidizing interest rates on credits and participatory interest;
• state educational and PR program for buildings owners and managers of repairs and energy efficiency.
Chapter III. Russia, Central and Eastern Europe – Comparative Analysis

3.1. Summary

A comparative analysis of each factor specified in Chapter II has been carried out in Russia and in six countries of Central and Eastern Europe.

On the basis of the comparative analysis it was concluded that at present there is no effective mechanism of capital repair financing providing both large scale solution of housing stock depreciation and energy efficiency in Russia. The Support Fund for the Reform of the Housing and Utilities Sector has basically accomplished a task as a form of transition from state financing to the development of capital repairs financing by apartment building owners but repair scales are quite small and results are not impressive.

3.2. Russia Specifics

Russia has some different specifics comparing to the countries of Central and Eastern Europe and they shall be considered in the development of financial mechanism of energy-efficient capital repair.

3.2.1. Insufficient Motivation of Apartment Building Owners to Provide Energy-Efficient Repair

Russia is one of the largest energy suppliers, which results in significantly lower cost of energy resources in comparison with European countries (the price of gas for households in Central and Eastern European countries reaches approximately 700 EUR/1000m3, in Russia it is 90 EUR/1000m3; electric power – 0.1-0.12 EUR/kWh and 0.06-0.08 EUR/kWh respectively; heat cost - 30-65 EUR/Gcal and 40 EUR/Gcal respectively). Herewith, the average income per capita in Russia is approximately similar to the average income in Central and Eastern European countries (see Table below).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>19020</td>
<td>18981</td>
<td>19752</td>
<td>6.4</td>
<td>42.2</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>19500</td>
<td>18527</td>
<td>20024</td>
<td></td>
<td></td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>16360</td>
<td>14504</td>
<td>16312</td>
<td></td>
<td></td>
<td>38</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>17880</td>
<td>17235</td>
<td>18193</td>
<td>6.6</td>
<td>44.4</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>19280</td>
<td>18841</td>
<td>20135</td>
<td>8.4</td>
<td>39.9</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>23140</td>
<td>22195</td>
<td>23912</td>
<td></td>
<td></td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>19190</td>
<td>15612</td>
<td>19840</td>
<td>6</td>
<td>48.9</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*) Gini coefficient is a number between 0 – 100, where 0 is the absolute income equality and 100 is absolute income inequality (income of one person).

It explains lack of substantial motivation of the general public to provide large-scale energy savings. When internal energy resources price is brought to conformity with world price, understanding of energy resources expensiveness and substantial motivation of energy savings rises.

In 2009-2011 the focused policy of the President and the Government of the Russian Federation was aimed at the development of a regulatory and legislative structure of energy-savings and promoted understanding of need and possibility of energy savings by apartment building owners. At the same time, some provisions of the housing
legislation including counter installation complicate this process (see below) significantly. Participation in CO2 quota trade could be a substantial motivation of energy savings but flawed mechanisms of Russian participation in it as well as a total absence of participation of individual apartment buildings do not allow implementing the motivation in the sphere of apartment buildings. Establishment of the Fund of housing and public utilities assistance has created a substantial motivation to provide capital repair. Significant co-financing (up to 95% of capital repair costs) stimulated apartment building owners to create Condominium Partnerships and to provide capital repairs. At the same time, selection of contractors and acceptance of repaired houses by the house owners were almost eliminated and it is resulted in low energy efficiency of many repairs.

Acceptance of the Resolution of the Government of the Russian Federation No. 18 “On approval of rules of energy effectiveness requirements for buildings, houses, and facilities as well as requirements to definition rules of energy effectiveness class of apartment buildings”, dated January 25, 2011, should be effective. Specific consumption of annual energy resources in new, repaired and capital repaired and modernized heated residential buildings and public buildings shall be decreased at least once per 5 years in comparison with the basic level:

- from January 2011 (within 2011–2015) – not less than 15% in relation to the basic level;
- from January 1, 2016 (within 2016–2019) - not less than 30% in relation to the basic level;
- from January 1, 2020 – not less than 40% in relation to the basic level.

However, the changes are applicable only to new, reconstructed and modernised buildings and will influence the situation only in some years (as a result of small scales of construction).

### 3.2.2. Substantial Differentiation

Substantial differentiation of various aspects related to energy efficiency and capital repair is a peculiarity of the Russian Federation.

#### 3.2.2.1. Differentiation of Climate Conditions

Russia is characterized by significant differentiation of climate conditions. Thus, average annual temperature in North areas is -10 -17°C, in South areas is +10 +14°C; minimum temperature is -55 -60°C and -9°C respectively; annual temperature of the warmest month is +11 +13°C and +31°C respectively. Such significant temperature variation results in various heat consumption to provide building heating (about 8-10 times within the territory of Russia – see Figure). Average criterion in Russia is – 0.035 Gkal/m2.

![Figure 3. Heating supply criteria, Gcal/m2](image-url)
3.2.2.2. Differentiation of Housing and Public Utility Services Costs Depending on a Region

The costs and expenses of public resources in apartment buildings vary significantly depending on a region of the Russian Federation. Figures show that differentiation of costs of housing and public utilities services varies by more than 11 times per one citizen, costs of public services – by more than 16 times depending on a region. Such significant differentiation results in significant differences of efficiency and recoupment of capital repair and energy-saving measures and depends on differentiation of personal income within a region in many ways. All these factors shall be considered when developing the mechanism of capital repair financing and energy-efficient capital repair in particular.

Figure 4. Differentiation of housing services, one citizen/month (Russia = 1)

Figure 5. Differentiation of public services, one citizen/month (Russia = 1)
3.2.2.3. Differentiation of the Personal Income Depending on a Region

Differentiation of the personal income depending on a region in Russia is considerably high. Figure shows that minimum differentiation of personal income varies by 5 times.

Figure 6. Differentiation of income through the territories of Russia

Rate of families receiving subsidies to pay housing and public utility services in the total amount of families is an indirect criterion providing proper demonstration of the personal income differentiation within the territory of the Russian Federation. The Figure shows that the rate varies by more than 21 times within the territory of the Russian Federation.

Figure 7. Amount of families receiving subsidies to pay housing and public utility services within the accounting period in the total amount of families, %
Families with low income are not able to provide initial contribution to attract loan funds and to pay any capital repair margins. It shall be considered when developing the mechanism of capital repair financing.

3.2.2.4. Differentiation of Housing Conditions Depending on a Region

The condition of apartment buildings varies a lot within the country. A number of northern cities have mass hut buildings beyond capital repair. Figures show significant differentiation of apartment building fund depending on a region. The fact shall be considered when developing the mechanism of capital repair financing.
3.2.3. High Inflation Rate

High inflation rate is one of the important features of Russia. Within the context of capital repair, this feature results in the following:
- the funds accumulated to provide co-financing of capital repair lose their value within several years;
- the funds returned within several years lose their value when financing energy-saving measures at the expense of an ECC or investors.

It requires special measures preventing quick monetary depreciation when developing financing mechanisms of energy-efficient capital repair.

3.2.4. Features of Regulatory and Legal Base

3.2.4.1. Legal Procedures of Apartment Building Management by a Legal Entity

According to the Housing Code of the Russian Federation, apartment buildings premises owners shall choose one of the following apartment building management procedures:
1) direct management by premises owners;
2) management by a condominium or a housing cooperative or other specialised consumer cooperative;
3) management by a specific managing organization.

An apartment building management procedure shall be chosen on the general meeting of premises owners (by simple majority of votes). It may be chosen or changed at any time on the basis of the decision of the general meeting, though it is very difficult to provide in practice.

If a way of apartment building management is not chosen by premises owners or if a decision on apartment building management is not implemented within one year after the meeting, a local government administration shall announce open bid for management organizations. Open bid shall also be announced if a way of apartment building management is not chosen or if a decision on apartment building management is not implemented until termination of an apartment building management agreement.

The Housing Code of the Russian Federation also provides obligatory formation of a Apartment building council if no condominium is organized or no housing cooperative or other specialised consumer cooperative manage the apartment building and if the apartment building includes more than four flats.

Condominium is not a widespread form of house management in Russia even though condominium existence is a mandatory requirement to receive federal monetary support for capital repair and other programs according to the requirements of the Ministry of Regional Development, and the Fund of Housing and Public Utilities Assistance. 49.48% of apartment buildings were managed by private management companies, 13.42% of houses were managed by condominium in the first quarter of 2010.

It may be partially explained by the fact that unlike many countries of Eastern Europe, it is impossible to form condominium with obligatory membership of premises owners in Russia. It is caused by provisions of part two, Article 30 of the Constitution of the Russian Federation establishing that "nobody can be forced to entry an organization or to participate in it". Application of the Article regulating inadmissibility of compulsory membership in condominium is also confirmed by the Constitutional Court of the Russian Federation in its Decree N 10-II, dated 03.04.1998. "On Verification of Necessary Validity of cl. 1, 3 and 4 of Article 49 of the Federal Law “On Condominiums” in pursuance of request of Sovyet District Court of Omsk, dated June 15, 1996.

Thus, current legislation of the Russian Federation does not provide availability of legal entity executing service and repair of apartment buildings as a key element of capital repair financing.

Despite of the fact that management companies and condominium manage the majority of apartment buildings, the majority of apartment buildings in some small and mid-size cities are still managed by inhabitants themselves. First of all, it results in mode of interaction with resource suppliers chosen by some owners, and, secondly, from the fact that many condominiums and management companies suffer from abuse and deceitful practices. Thus, for example, late 2009 Vladimir Efimov, the head of administration of the Federal Antimonopoly Service of the Russian Federation in Moscow, has reported falsification of about 95 percent of general meetings of dwellers (one or two premises owners had signed a management agreement – http://reality.lenta.ru/news/2009/11/19/fas/). Many condominiums were also created only to provide application of funds of housing and public utilities.

135 http://www.reformagkh.ru/state#indom/1/1/99/0/1/10
3.2.4.2. Legal Rights and Obligations of Apartment Building Management Entities

According to the legislation of the Russian Federation entities executing maintenance and repair of common property in an apartment building and providing utility services when executing management of an apartment building shall be responsible for fulfillment of their obligations according to concluded agreements to premises owners. The condominium accommodation or housing cooperative or any other specialised consumer cooperative providing management of apartment building shall be responsible for availability of the general property in the apartment building and for providing public services depending on the level of improvements of such building. The condominium or the cooperative may render services and (or) provide maintenance and repair of the general property of the apartment building by their own efforts or engage other entities providing appropriate services according to concluded agreements.

When concluding agreements on apartment building management with a management organization, the condominium or the cooperative shall control execution of all obligations established by the agreements by this management organization including control of service rendering and (or) works execution providing appropriate maintenance of the general property in the apartment building and rendering public services depending on the level of the improvement of such building.

When a management organization executes management of an apartment building, it shall be responsible for service rendering and (or) works execution providing appropriate maintenance of the general property in the house and rendering public services depending on the level of improvement of such building to premises owners of the building.

Apartment building council shall:

1) provide implementation of decisions of the general council of apartment buildings premises owners;
2) submit the following questions for consideration by the general meeting of the premises holders: propositions on procedure for use of the common property in the apartment building including ground area of the house, procedure for planning and organization of service and repair of the common property in the apartment building, priorities of discussion regarding draft agreements concluded by premises owners in relation to the common property in the building and rendering public services as well as propositions on questions in competence of the apartment building council, chosen by a committee and other propositions on any issues that do not violate the Housing Code of the Russian Federation;
3) present propositions on planning and management of an apartment building, organization of such management, maintenance and repair of the common property in the house to the premises holders;
4) present its conclusion on draft agreement terms subject to consideration by the general meeting to premises owners in the apartment building prior to the consideration of the terms by the general meeting. If the general meeting of the apartment building appoints a committee on evaluation of draft agreements, the conclusion shall be provided by the apartment building council in collaboration with the committee;
5) control services rendering and (or) management of a apartment building, maintenance and repair of the common property in the apartment building, the quality of public services provided to owners of residential and non-residential premises in the apartment building and consumers of such premises including premises composing the common property in the building;
6) submit a progress report for approval by the annual general meeting of premises owners in the apartment building.

Irrespective of the chosen procedure of apartment building management, favourable and safe living conditions of citizens, appropriate maintenance of the common property in the apartment building, issues of the common property use and providing public services to citizens living in the building shall be provided. The Government of the Russian Federation shall establish standards and rules of the apartment building management.

The appropriate maintenance of the premises owners’ common property in an apartment building shall be provided according to the requirements of the legislation of the Russian Federation, including legislation regulating sanitary and epidemiologic safety of the citizens, technical regulation, fire safety, protection of consumers and shall provide:

1) observance of requirements on reliability and safety of an apartment building;
2) life and health safety of citizens, property of physical persons and legal entities, state and municipal property;
3) availability of premises and other property composing the common property of premises owners in the apartment building;
4) observance of rights and legitimate interests of premises owners and other persons in the apartment building;
5) instant readiness of utilities, instruments and other equipment composing the common property of premises owners in the apartment building to supply resources required to provide public services to citizen living in the apartment building according to the rules of granting, suspension and limitation of utilities to owners and consumers of premises in the multifamily and dwelling houses established by the Government of the Russian Federation.
The minimum list of services and works required to provide appropriate maintenance of the common property in an apartment building, procedure of rendering services and execution of works shall be established by the Government of the Russian Federation.

Thus, generally the legislation of the Russian Federation thoroughly regulates the rights and duties of the persons that provide management and maintenance of apartment buildings.

At the same time, obligations of persons to provide capital repair of houses are not practically controlled. Housing legislation does not provide obligations on technical inspection, informing citizens about building condition and does not specify the organisations as participants of capital repair financing system.

Only subordinate legislation establishes, that amount of capital repair payments shall be determined taking into account starting date of the capital repair, required scope of works, costs of materials, procedure of repair financing as well as other offers of a management organisation related to capital repairs submitted when making a decision on payment of capital repair of an apartment building according to cl. 158 of the Housing Code of the Russian Federation by the general meeting of premises owners.

Mutual relations of house managers and premises owners regarding the payment of capital repair costs, forced payment of arrears, etc are not regulated in the proper way. The house managers have practically no tools because the indebtedness may not be a reason of a temporary suspension of public services and it is practically impossible to alienate the premises of the non-payer especially if he/she has no other dwelling. The obligation to provide capital repair is not practically regulated by the legislation. The legislation establishes only the obligation of premises owners to pay costs of the common property repair.

Rules and Regulations of Housing Operation No 17-139 of 26.12.97 approved by the State Committee of Housing and Public Utilities are implemented in practice. The rules and regulations establish procedure of organisation and planning of capital repairs.

Within the capital repair all worn-out elements of a building and equipment shall be repaired, restored or replaced by more durable and cost effective elements, operational characteristics of housing facilities shall be increased, residential building modernisation shall be provided in a technically appropriate and cost effective manner and heat, water, gas, and power counters shall be installed to ensure minimum energy consumption. List of works executed at the cost of funds for capital repair of housing facilities is specified in Appendix No. 6 to the Rules and does not include any requirements on energy efficiency of capital repair procedures.

3.2.4.3. Availability of Mechanisms, Limiting the Term of Making a Decision on Organization and Financing of Capital Repair

Decision on capital repair of the common property shall be made by the general meeting of premises owners of an apartment building (cl. 44 of the Housing Code of the Russian Federation). Special majority (not less than two thirds of all votes participating at the meeting) shall vote for the decision (Part 1, cl. 46 of the Housing Code of the Russian Federation). Amount of votes of each premises owner of the apartment building at the general meeting of premises owners shall be proportional to his/her share interest of common property in the building. The decision of general meeting of premises owners on capital repair shall be obligatory and specified in the minutes.

According to the housing legislation of the Russian Federation, premises owners in an apartment building shall be obliged to hold general meeting annually. Terms and procedure of such annual general meeting of premises owners of an apartment building as well as decision notification procedure shall be established by the general meeting of the premises owners.

Any extra meetings of the apartment building premises owners shall be extraordinary general meetings. An extraordinary general meeting of the apartment building premises owners may be called by any owner. The general meeting of the apartment building premises owners shall be considered eligible (shall has a quorum) if owners of premises in the building or their representatives with more than 50% of votes attended the meeting. If no quorum is present on the annual general meeting of the apartment building premises owners, second annual general meeting of the apartment building premises owners shall be held.

An owner who initiated the general meeting of the apartment building premises owners shall inform owners of premises in the Building about such general meeting not later than within 10 days prior to the date of the general meeting. The notification about the general meeting of the apartment building premises owners shall be sent to each owner of premises in the building by a registered mail unless the general meeting of the apartment building premises owners had provided any other procedure to send written notification to the owners or hand in to each premises owner against receipt or shall be posted in the building at the place specified by the decision and available to all premises owners in the Building.
Thus, the legislation does not establish accurate terms of holding the general meeting of premises owners. The terms of the general meeting shall be specified by the general meeting which may not be held. The procedure does not promote implementation of effective capital repair system.

3.2.4.4. Legal Mechanisms of Initial Costs of Capital Repair Collection

The up-to-date legislation does not contain any special mechanisms of initial costs of capital repair collection. According to the general procedure, the person responsible for the maintenance of the common property in an apartment building submit his/her offers on capital repair financing and the general meeting of owners takes a decision on scope of works and their costs by not less than two thirds majority. General meetings of owners do not take decisions on capital repair, scope and costs of works within the operation of the Support Fund for the Reform of the Housing and Utilities Sector. They just take decisions on participation on the regional capital repair programme and co-financing of the capital repair costs. Neither commercial, nor state banks finance organisations or individual persons to execute energy or technical audit and development of project documentation for capital repair. There are no any state or municipal programs supporting apartment buildings to execute such works. The mechanism does not promote an effective organisation of the capital repair since capital repair cost may not be calculated without examination of a building and availability of a developed project and pre-project documentation.

3.2.4.5. Legal Mechanisms of a Guaranteed Payment and Collection of Debts

Nowadays, obligation on payment of late charges specified in Clause 155 of the Housing Code is the only mechanism providing a guaranteed payment and collection of debts. Persons, who failed to pay public services in due time and (or) in full (debtors) shall pay a fine to the creditor in the amount of one three hundredth of refinancing rate of the Central bank of the Russian Federation applicable at the date of payment of unpaid amounts for each day of the delay after the due day until the day of payment (inclusively). Increase of the fee rate shall not be allowed. Mechanisms of collection of debts shall be established by the civil legislation and shall not differ from other types of obligations. According to the Civil Procedural Code of the Russian Federation (Clause 446), application of recovery of dwelling (or its part) owned by a debtor citizen according to proprietary rights on the basis of executive documents can not be applied if the dwelling is one and only habitual residence of the debtor and his/her family living in the dwelling except for cases when such dwelling is a mortgaged property and according to mortgage legislation such recovery may be applied. Thus, the legislation of the Russian Federation does not contain any effective mechanisms of payment guarantee and collection of payment debts to provide financing of capital repairs of buildings.

3.2.4.6. Legal Financing Mechanisms of Energy-Efficient Capital Repair

According to Part 1 Cl. 158 of the Housing Code of the Russian Federation, premises owners shall be obliged to pay costs of capital repair of the common property in the apartment building (ladders, lifts, attic floors, cellars, roofs, etc.) according to their limited interest in common property by making a payment in the amount providing maintenance of the common property according to requirements of the legislation. Payment for capital repair of the common property in the apartment building irrespective of the management method shall depend only on the size of premises. Capital repair of the common property in the apartment buildings shall be executed by owners of the premises. Owners of the premises in the apartment building shall determine payment capital repair of the common property in the building and payment procedure by themselves. The Housing Code of the Russian Federation (Part 3, Cl. 156 and Part 4, Cl. 158) provides two exceptions to the rule. Thus, local authorities (or public authorities of a constituent entity of the Russian Federation in federal city of Moscow and St. Petersburg) shall establish amount of payment for maintenance and repair of the premises to be made by owners of the premises in an apartment building only if:

Owners of the premises in the apartment building failed to select a method management of the apartment building;

The general meeting of owners of the premises in the apartment building chose management of the apartment building but failed to make decision on the amount of payment for maintenance and repair of the common property in the apartment building.
Owners of the premises in the apartment building may establish any capital repair costs provided that such costs include maintenance of the common property in the apartment building according to the mandatory requirements of the legislation (Cl. 12, Article 16, Part 2 Article 154, Part 1 Cl. 156 of the Housing Code of the Russian Federation). Such payments are specified in the Table below according to constituent entities of the Russian Federation.

Table 36. Capital Repair Expenses Actually Paid by Citizens as part of housing and public utility services payment (2010)

<table>
<thead>
<tr>
<th>Name of the constituent entity</th>
<th>Total amount of municipal areas/urban districts</th>
<th>Amount of districts/municipal areas providing information on repair expenses</th>
<th>Minimum expenses, Roubles/m2/month</th>
<th>Maximum expenses, Roubles/m2/month</th>
<th>Estimation of total expenses, mln. Roubles/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPUBLIC OF TATARSTAN</td>
<td>45</td>
<td>45</td>
<td>5.00</td>
<td>5.00</td>
<td>300.0</td>
</tr>
<tr>
<td>ROSTOV REGION</td>
<td>55</td>
<td>55</td>
<td>4.60</td>
<td>4.60</td>
<td>639.6</td>
</tr>
<tr>
<td>SVERDLOVSK REGION</td>
<td>70</td>
<td>47</td>
<td>0.45</td>
<td>4.25</td>
<td>316.0</td>
</tr>
<tr>
<td>SARATOV REGION</td>
<td>42</td>
<td>42</td>
<td>1.00</td>
<td>5.00</td>
<td>819.5</td>
</tr>
<tr>
<td>REPUBLIC OF BASHKORTOSTAN</td>
<td>63</td>
<td>45</td>
<td>1.34</td>
<td>6.50</td>
<td>600.9</td>
</tr>
<tr>
<td>MOSCOW REGION</td>
<td>72</td>
<td>49</td>
<td>0.11</td>
<td>3.44</td>
<td>381.7</td>
</tr>
<tr>
<td>NILZHI NOVGOROD REGION</td>
<td>52</td>
<td>20</td>
<td>0.50</td>
<td>4.31</td>
<td>797.4</td>
</tr>
<tr>
<td>KRASNOYARSK KRAI</td>
<td>62</td>
<td>19</td>
<td>0.37</td>
<td>4.60</td>
<td>660.7</td>
</tr>
<tr>
<td>TVER REGION</td>
<td>44</td>
<td>16</td>
<td>0.80</td>
<td>4.40</td>
<td>584.9</td>
</tr>
<tr>
<td>ORENBURG REGION</td>
<td>44</td>
<td>5</td>
<td>0.66</td>
<td>4.90</td>
<td>568.2</td>
</tr>
<tr>
<td>LENINGRAD REGION</td>
<td>18</td>
<td>6</td>
<td>1.98</td>
<td>5.57</td>
<td>548.2</td>
</tr>
<tr>
<td>KHERABOVSK KRAI</td>
<td>23</td>
<td>9</td>
<td>2.25</td>
<td>8.68</td>
<td>395.1</td>
</tr>
<tr>
<td>REPUBLIC OF KARELIA</td>
<td>18</td>
<td>15</td>
<td>0.92</td>
<td>3.70</td>
<td>375.3</td>
</tr>
<tr>
<td>KAMCHATKA KRAI</td>
<td>14</td>
<td>7</td>
<td>2.25</td>
<td>6.30</td>
<td>373.4</td>
</tr>
<tr>
<td>ALTAI KRAI</td>
<td>72</td>
<td>72</td>
<td>1.00</td>
<td>1.00</td>
<td>373.0</td>
</tr>
<tr>
<td>SAKHALIN REGION</td>
<td>16</td>
<td>7</td>
<td>2.72</td>
<td>9.35</td>
<td>318.8</td>
</tr>
<tr>
<td>NOVGOROD REGION</td>
<td>22</td>
<td>14</td>
<td>1.25</td>
<td>6.00</td>
<td>305.7</td>
</tr>
<tr>
<td>ZABAIKALYE KRAI</td>
<td>34</td>
<td>12</td>
<td>1.44</td>
<td>5.17</td>
<td>230.3</td>
</tr>
<tr>
<td>KALUGA REGION</td>
<td>25</td>
<td>8</td>
<td>0.85</td>
<td>3.90</td>
<td>221.9</td>
</tr>
<tr>
<td>CHELYABINSK REGION</td>
<td>43</td>
<td>4</td>
<td>1.35</td>
<td>4.30</td>
<td>213.3</td>
</tr>
<tr>
<td>KRASNODAR KRAI</td>
<td>41</td>
<td>11</td>
<td>1.13</td>
<td>5.60</td>
<td>209.1</td>
</tr>
<tr>
<td>UDMURT REPUBLIC</td>
<td>30</td>
<td>5</td>
<td>3.40</td>
<td>4.50</td>
<td>187.7</td>
</tr>
<tr>
<td>TUYMEN REGION</td>
<td>26</td>
<td>5</td>
<td>1.00</td>
<td>3.16</td>
<td>186.4</td>
</tr>
<tr>
<td>LIPETSK REGION</td>
<td>19</td>
<td>19</td>
<td>1.00</td>
<td>1.00</td>
<td>185.6</td>
</tr>
<tr>
<td>Name of the constituent entity</td>
<td>Total amount of municipal areas/urban districts</td>
<td>Amount of districts/municipal areas providing information on repair expenses</td>
<td>Minimum expenses, Roubles/m²/month</td>
<td>Maximum expenses, Roubles/m²/month</td>
<td>Estimation of total expenses, mln. Roubles/year</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>VLADIMIR REGION</td>
<td>16</td>
<td>7</td>
<td>1.47</td>
<td>5.00</td>
<td>144.6</td>
</tr>
<tr>
<td>MAGADAN REGION</td>
<td>9</td>
<td>2</td>
<td>3.40</td>
<td>3.99</td>
<td>116.4</td>
</tr>
<tr>
<td>SAMARA REGION</td>
<td>37</td>
<td>22</td>
<td>1.00</td>
<td>1.00</td>
<td>103.8</td>
</tr>
<tr>
<td>STAVROPOL KRAI</td>
<td>33</td>
<td>7</td>
<td>0.22</td>
<td>4.60</td>
<td>95.0</td>
</tr>
<tr>
<td>IVANOVO REGION</td>
<td>27</td>
<td>21</td>
<td>1.00</td>
<td>1.00</td>
<td>88.4</td>
</tr>
<tr>
<td>MURMANSK REGION</td>
<td>17</td>
<td>1</td>
<td>6.00</td>
<td>6.00</td>
<td>66.4</td>
</tr>
<tr>
<td>AMUR REGION</td>
<td>28</td>
<td>4</td>
<td>1.29</td>
<td>4.90</td>
<td>62.0</td>
</tr>
<tr>
<td>KIROV REGION</td>
<td>42</td>
<td>4</td>
<td>0.81</td>
<td>5.00</td>
<td>57.9</td>
</tr>
<tr>
<td>REPUBLIC OF DAGESTAN</td>
<td>50</td>
<td>5</td>
<td>0.20</td>
<td>3.70</td>
<td>42.5</td>
</tr>
<tr>
<td>JEWISH AUTONOMOUS REGION</td>
<td>5</td>
<td>4</td>
<td>2.05</td>
<td>4.30</td>
<td>37.9</td>
</tr>
<tr>
<td>KHANTY-MANSIJSK AUTONOMOUS DISTRICT</td>
<td>21</td>
<td>1</td>
<td>3.00</td>
<td>3.00</td>
<td>32.9</td>
</tr>
<tr>
<td>SMOLENSK REGION</td>
<td>27</td>
<td>5</td>
<td>0.61</td>
<td>1.19</td>
<td>28.0</td>
</tr>
<tr>
<td>REPUBLIC OF KHAKASSIA</td>
<td>12</td>
<td>4</td>
<td>0.74</td>
<td>2.00</td>
<td>26.6</td>
</tr>
<tr>
<td>KALININGRAD REGION</td>
<td>22</td>
<td>2</td>
<td>2.80</td>
<td>2.95</td>
<td>24.4</td>
</tr>
<tr>
<td>REPUBLIC OF INGUSHETIA</td>
<td>8</td>
<td>5</td>
<td>4.00</td>
<td>4.00</td>
<td>20.9</td>
</tr>
<tr>
<td>REPUBLIC OF TUVA</td>
<td>19</td>
<td>19</td>
<td>1.00</td>
<td>1.00</td>
<td>20.6</td>
</tr>
<tr>
<td>BRYANSK REGION</td>
<td>30</td>
<td>3</td>
<td>0.29</td>
<td>3.76</td>
<td>18.2</td>
</tr>
<tr>
<td>ASTRAKHAN REGION</td>
<td>13</td>
<td>2</td>
<td>2.00</td>
<td>8.22</td>
<td>17.9</td>
</tr>
<tr>
<td>CHECHEN REPUBLIC</td>
<td>17</td>
<td>1</td>
<td>5.10</td>
<td>5.10</td>
<td>13.5</td>
</tr>
<tr>
<td>PENZA REGION</td>
<td>33</td>
<td>1</td>
<td>0.89</td>
<td>0.89</td>
<td>12.8</td>
</tr>
<tr>
<td>ORYOL REGION</td>
<td>27</td>
<td>4</td>
<td>0.80</td>
<td>3.32</td>
<td>11.9</td>
</tr>
<tr>
<td>NOVOSIBIRSK REGION</td>
<td>34</td>
<td>5</td>
<td>0.01</td>
<td>3.00</td>
<td>11.7</td>
</tr>
<tr>
<td>REPUBLIC OF ALTAI</td>
<td>11</td>
<td>1</td>
<td>2.04</td>
<td>2.04</td>
<td>6.9</td>
</tr>
<tr>
<td>VOLOGDA REGION</td>
<td>27</td>
<td>3</td>
<td>0.13</td>
<td>1.55</td>
<td>5.2</td>
</tr>
<tr>
<td>NENETS AUTONOMOUS DISTRICT</td>
<td>2</td>
<td>2</td>
<td>0.01</td>
<td>1.00</td>
<td>5.0</td>
</tr>
<tr>
<td>KARACHAYEVO-CHERKESSIAN REPUBLIC</td>
<td>9</td>
<td>1</td>
<td>4.30</td>
<td>4.30</td>
<td>4.2</td>
</tr>
<tr>
<td>Name of the constituent entity</td>
<td>Total amount of municipal areas / urban districts</td>
<td>Amount of districts / municipal areas providing information on repair expenses</td>
<td>Minimum expenses, Roubles / m²/month</td>
<td>Maximum expenses, Roubles / m²/month</td>
<td>Estimation of total expenses, mln. Roubles/year</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>KEMEROVO REGION</td>
<td>34</td>
<td>1</td>
<td>1.50</td>
<td>1.50</td>
<td>4.0</td>
</tr>
<tr>
<td>REPUBLIC OF ADYGEYA (ADYGEYA)</td>
<td>8</td>
<td>2</td>
<td>1.00</td>
<td>6.80</td>
<td>3.4</td>
</tr>
<tr>
<td>PSKOV REGION</td>
<td>25</td>
<td>1</td>
<td>1.34</td>
<td>1.34</td>
<td>2.0</td>
</tr>
<tr>
<td>VOLGOGRAD REGION</td>
<td>38</td>
<td>2</td>
<td>0.72</td>
<td>4.20</td>
<td>1.4</td>
</tr>
<tr>
<td>OMSK REGION</td>
<td>33</td>
<td>1</td>
<td>0.88</td>
<td>0.88</td>
<td>1.3</td>
</tr>
<tr>
<td>KABARDINO-BALKARIAN REPUBLIC</td>
<td>13</td>
<td>1</td>
<td>0.50</td>
<td>0.50</td>
<td>1.0</td>
</tr>
<tr>
<td>BELGOROD REGION</td>
<td>22</td>
<td>1</td>
<td>0.01</td>
<td>0.01</td>
<td>0.5</td>
</tr>
<tr>
<td>ARKHANGELSK REGION</td>
<td>26</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VORONEZH REGION</td>
<td>34</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MOSCOW</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ST. PETERSBURG</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IRKUTSK REGION</td>
<td>42</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KOSTROMA REGION</td>
<td>30</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KURGAN REGION</td>
<td>26</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KURSK REGION</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PERM KRAI</td>
<td>48</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PRIMORSK KRAI</td>
<td>34</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REPUBLIC OF BURYATIA</td>
<td>23</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REPUBLIC OF KALMYKIA</td>
<td>14</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KOMI REPUBLIC</td>
<td>20</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REPUBLIC OF MARIJ EL</td>
<td>17</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REPUBLIC OF MORDOVA</td>
<td>23</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REPUBLIC OF SAKHA (YAKUTIA)</td>
<td>36</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REPUBLIC OF NORTH OSETIA-ALANIA</td>
<td>9</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RYAZAN REGION</td>
<td>29</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TAMBOV REGION</td>
<td>30</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings and provision of recommendations applicable to the Russian context

<table>
<thead>
<tr>
<th>Name of the constituent entity</th>
<th>Total amount of municipal areas/urban districts</th>
<th>Amount of districts/municipal areas providing information on repair expenses</th>
<th>Minimum expenses, Roubles/m2/month</th>
<th>Maximum expenses, Roubles/m2/month</th>
<th>Estimation of total expenses, mln. Roubles/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOMSK REGION</td>
<td>20</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TULA REGION</td>
<td>26</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ULYANOVSK REGION</td>
<td>24</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CHUVASH REPUBLIC – CHUVASHIA</td>
<td>26</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CHUKOTKA AUTONOMOUS DISTRICT</td>
<td>9</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>YAMALO-NENETS AUTONOMOUS DISTRICT</td>
<td>13</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>YAROSLAV REGION</td>
<td>20</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2281</td>
<td>682</td>
<td>-</td>
<td>-</td>
<td>20,882.1</td>
</tr>
</tbody>
</table>

Until now the most widespread capital repair financing mechanism is the payment by the Support Fund for the Reform of the Housing and Utilities Sector. The detailed mechanism of the Fund work is described in Section 3.2.4.8 since the mechanism is used to provide state support of capital repairs stimulation.

Energy efficiency requirements shall be observed when executing capital repair at the cost of the Fund. Besides, capital repair of apartment buildings shall obligatory include installation of collective (common) resource consuming counters and control units (heat energy, hot and cold water, electric energy, gas) except for cases when the apartment buildings are equipped with such counters and control units.

According to the Federal law No. 261-FZ “On Energy-Savings and Increase of Power Efficiency and Introduction of Changes of Separate Legislative Acts of the Russian Federation”, the requirements on energy efficiency of buildings, constructions, and structures shall include requirements to separate elements, building constructions, and structures and their properties, to devices and technologies used in buildings, constructions, and structures as well as requirements to technologies and materials included into a project documentation and used in the course of construction, reconstruction, capital repair of buildings, constructions, and structures, which allow to exclude the irrational consumption of energy resources both in the course of construction, reconstruction, capital repair of buildings, constructions, and structures and in the course of their operation.

The requirements have not been defined by today.

No other mechanisms of financing of energy-efficient capital repair have been established by the legislation. Thus, it is possible to make a conclusion that legal mechanisms used to implement capital repair of apartment building with energy efficiency elements are provided by the Russian legislation but are not implemented in full.

### 3.2.4.7. Legal Financing Mechanisms of Improvement of Apartment Building Energy Efficiency

Increase of energy efficiency in apartment buildings is controlled according to the Federal law No. 261-FZ «On energy-savings, increase of energy efficiency and introduction of changes of some Acts of the Russian Federation». According to the law, the Government of the Russian Federation establishes requirements on energy efficiency of buildings.

The requirements for energy efficiency of buildings, constructions, and structures shall include the following:

1) index characterising specific value of energy resources consumption in a building, construction, and structure;
2) requirements to architectural, functional and technological, constructive, technical and engineering solutions influencing the energy efficiency of buildings, constructions, and structures;
3) requirements to individual elements, building structures, constructions, structures and their properties used in buildings, constructions, and structures as well as to devices and technologies; requirements to technologies and materials used in the course of construction, reconstruction and capital repair of buildings,
constructions, and structures included into the design documentation providing elimination of irrational energy resources consumption both in the course of construction, reconstruction and capital repair of buildings, constructions, and structures and in the course of their operation.

Requirements for buildings, constructions, and structures which shall be fulfilled upon commissioning and in the course of operation shall be developed and persons providing fulfilment of the requirements (builder, owner of a house, construction, and structure) and its terms shall be specified.

Builders shall be obliged to provide conformity of buildings, constructions and structures to energy efficiency requirements and requirements for availability of energy resources counters by selection of optimal architectural, functional and technological, constructive, technical and engineering solutions and their appropriate implementation in the course of construction, reconstruction and capital repair.

Owners of buildings, structures, constructions, and premises in apartment building shall be obliged to provide conformity of buildings, constructions, structures, and apartment building to the established power efficiency requirements and requirements for availability of energy resources counters within all life term of the counters by providing appropriate operation of the counters and timely troubleshooting.

List of requirements to maintenance of the general property of the premises owners in the apartment building shall include requirements on implementation of procedures providing energy-saving and increase of energy efficiency of the building to increase energy saving level of housing facilities.

According to the principles established by the Government of the Russian Federation, executive authorities of the Russian Federation shall approve list of procedures providing energy-saving and increase of energy efficiency of the general property of the premises owners in an apartment building which shall be implemented at a time and (or) routinely. A person responsible for maintenance of an apartment building or premises owners in the apartment building executing direct management of the building shall implement procedures providing energy saving and increase of energy efficiency included into an approved list of procedures providing energy saving and increase of energy efficiency of the general property of premises owners in the apartment building except for cases when such procedures were implemented earlier and their results were available. Premises owners in the apartment building shall pay procedure expenses.

Premises owners in an apartment building shall have the right to require persons responsible for maintenance of the apartment building to take measures aimed to decrease energy resources used in the apartment building consumption and (or) to conclude an energy service agreement (contract) specifying lower power resources consumption for the apartment building to provide lower expenses.

An organization providing an apartment building with energy resources according to a public agreement shall submit a list of procedures both for the apartment building, group of apartment building and for premises in the apartment building providing saving of energy resources supplied by the organization to the apartment building and increase of their energy efficiency (at least annually). The list shall include the following information:

1) optional nature of the procedures which shall be implemented by persons to whom the list is addressed;
2) possibility to implement individual procedures specified in the list by the organization at the cost of funds considered when determining of controlled prices (tariffs) for its goods, services and at the expense of premises owners in an apartment building on the basis of energy service agreement (contract) indicating predicted cost of the individual procedures.
3) possible executors of the procedures specified in the list and not implemented by the organization defined on the basis of public sources.

An entity responsible for maintenance of an apartment building shall develop offers on procedures providing energy-savings and increase of energy efficiency which may be implemented in an apartment building and inform premises owners in the apartment building about such procedures on a timely basis (at least annually) and specify costs of the procedures, expected decrease of energy resources consumption and payback period of the procedures.

Besides, the legislation provides energy service mechanisms in residence buildings but implementation of the mechanism requires 100% of dwellers consent to pay energy service costs that practically frustrates applicability of the procedure.

Thus, the legislation contains a considerable quantity of obligations to increase energy efficiency of housing but does not provide any practicable and effective financing mechanisms of energy efficiency procedures including capital repair.

Since January 1, 2012 counters shall be installed in all apartment buildings by energy supply organisations within five years. Nowadays, the procedure is effective enough on the basis of the fact that large energy supply organizations and producers are developing programs aimed at implementation of the requirement. However, actual efficiency of the procedure may be estimated only late 2012.
3.2.4.8. Legal Methods of State and Municipal Support and Stimulation of Energy Efficient Capital Repairs

Support and Stimulation of Capital Repairs

The system of financing of individual works of capital repair in apartment buildings via a state corporation - the Fund of Housing and Public Utilities acting according to the Federal Law “On the Support Fund for the Reform of the Housing and Utilities Sector” is still implemented in Russia. The law has established legal and organizational bases of financial support of constituent entities of the Russian Federation and municipal formations required to provide capital repair of apartment buildings and re-accommodation of citizens from repair housing facilities by establishing the state corporation “Support Fund for the Reform of the Housing and Utilities Sector” providing such financial support. The Fund is aimed at creation of safe and favourable living conditions of citizens, stimulation of housing and public utilities reform, development of effective management procedures of housing facilities, implementation of resource-saving technologies by providing financial support at the expense of the Fund.

The Fund provides direct financing of a MC and condominium on conditions that capital repair costs are co-financed from regional and (or) municipal budgets and at the expense of dwellers (at least 5%).

Procedure of money payment by the Fund of housing and public utilities is the following:

- dwellers of the building shall hold meeting of premises owners which shall establish condominium or select a MC and conclude a building management agreement with the condominium or the MC;
- such dwellers shall make two decisions confirming that the dwellers want to participate in the program and will pay 5% of its cost. The decisions shall be submitted to a local municipal administration;
- the municipal administration shall execute and submit the applications to a head of a constituent entity of the Russian Federation. The regional administration shall summarize the applications of the municipal administration in one document and submit it to the Support Fund for the Reform of the Housing and Utilities Sector.

The Fund shall check the application and if it complies with the legislation requirements, the Fund shall transfer money to the account of the regional administration which in its turn shall transfer monetary facilities to the account of the condominium or MC which pay the costs of capital repair works made by a contractor.

A list of the basic conditions for provision of facilities from the Fund of housing and public utilities includes the following:

- activity of commercial organizations providing utility services within the territory of a municipal formation (MF) is not less than 50% in 2009 and 2010 and not less than 80% in 2011 of total amount of such organizations within the territory of a MF;
- activity of commercial organizations providing apartment building management (except for condominium, housing and construction cooperative, housing cooperative) is not less than 50% in 2009 and 80% in 2010 and 2011 of total amount of such organizations. Besides, the organisations shall manage not less than 50% buildings in 2009 and 80% buildings in 2010 and 2011;
- existence of condominiums in a MF shall be not less than 10% of buildings in 2009 and 2010 and not less than in 20% of buildings in 2011;
- participation in a regional program implemented by not less than two MFs with general population not less than 20% of a general population of the subject of a constituent entity of the Russian Federation;
- availability of various schedules, regulations and other documents provided by Article 14 of the Federal Law No. 185-FZ.

There are also some regional programs (e.g. in Tatarstan, in Moscow) implemented irrespective of the Fund of housing and public utilities at the expense of regional funds and (or) premises owners but amount of finance and rate of housing subject to capital repair according to such programs are small.

81 constituent entities of the Russian Federation (98%) participate in programs of the Fund of housing and public utilities as of 20.06.2011. Total amount of facilities used is 331.9 bln Rubbles (266.2 bln Rubbles of the Fund and 65.7 bln Rubbles of co-financing constituent entities of the Russian Federation).

Support and Stimulation of Energy Efficiency of an Apartment Building

Nowadays, the legislation regulating energy saving provides the following:

1) a constituent entity of the Russian Federation, a municipal formation shall have right to support individual consumer categories by allocation of funds to install counters of consumed energy resources used to pay energy resources costs at the expense of the budget of the constituent entity of the Russian Federation or local budget;

2) the Russian Federation shall have the right to provide co-financing payment obligations of constituent entities of the Russian Federation and municipal formation providing energy saving and increase of energy efficiency within funds specified by the Federal Law in the federal budget for the appropriate financial year.
and for scheduling period. Federal budget funds specified in the Federal Law shall be provided to budgets of constituent entities of the Russian Federation in the form of subsidies according to a procedure established by the Government of the Russian Federation.

Regions and municipalities allocate subsidies to install counters but it is not a widespread procedure demonstrating actual influence of the subsidies on increase of energy efficiency in housing facilities.

Order of the Government of the Russian Federation No. 2446-r dated December 27, 2010 approves the Government program of the Russian Federation on «Energy Saving and Increase of Energy Efficiency until 2020» specifying necessity to allocate subsidies and guarantees of projects providing increase of energy efficiency in housing facilities but amount and forms of financing are not defined.

Resolution of the Russian Federation No. 746 dated September 5, 2011 approves Rules of Allocation of Subsidies from the Federal Budget to Budgets of constituent entities of the Russian Federation to provide implementation of regional programs program with regard to energy saving and increase of energy efficiency. Theoretically, such subsidies may be used to finance projects providing energy saving in an apartment building, but the program is not implemented in practice. Thus, nowadays, there is no effective system of state support promoting capital repair and providing better energy efficiency in Russia.

3.2.4.9. Legal Methods of State Financial Support of Socially Non-protected Citizens when Financing Capital Repair

According to the housing legislation of the Russian Federation, subsidies providing payment of dwelling expenses and public services shall be allocated to citizens if dwelling and utilities expenses calculated on the basis of a regional standard for standard dwelling floor area used to calculate subsidies and a regional standard of standard utilities costs exceed the amount equal to maximum allowable share of citizens’ expenses required to pay dwelling and utilities expenses according to an aggregate income of a family.

The values of regional standards for standard dwelling floor area used to calculate subsidies, utilities costs and maximum allowable share of expenses of citizens required to pay dwelling and utilities expenses according to an aggregate income of a family shall be specified by a constituent entity of the Russian Federation. Allowable share of expenses of families with an average aggregate income per capita lower than specified minimum living wage shall be decreased according to the correction index equal to ratio of average aggregate income per capita to a minimum living wage.

In practice this system operates with failures but provides support to the marginal population fall back on state support as a whole. However, since capital repair costs are not often included into dwelling expenses, estimation of the mechanism effectiveness is sufficiently difficult.

3.2.4.10. Conclusion on the Legislative Mechanism

The analysis of the regulatory and legislative base of the Russian Federation shows that:
- the legislation has no basic elements (components) providing successful financing of energy efficient capital repair (see Section 2.4) or weakly defined basic elements;
- the legislation on Support Fund for the Reform of the Housing and Utilities Sector which is a form of state capital repair financing with a small share of premises owners is the only legislatively defined mechanism of capital repair financing.

3.2.5. Information Awareness of Premises Owners

Premises owners and their representatives in condominium or in cooperatives are generally bad informed about capital repair requirements, possibilities of capital repair financing and energy efficiency. Financial competence of citizens is extremely low.

There are scattered examples of educational programs at schools and in separate cities, but it is an exception to the rules.

3.2.6. Availability of Accounting Systems of Energy Resources Consumption

Up-to-date condition of general accounting system of energy resources consumption may be characterised as inadequate. Despite of the legislation on energy saving, premises owners in apartment buildings are not prepared to pay installation of counters.
Individual heat counters providing approximately calculation of heat consumption used to heat flats are installed only in new buildings, electric and gas counters are commonly used. Hot and cold water counters are the most popular since they provide payment decrease. Low amount of counters installed in apartment buildings and flats means lack of a base which may be used to estimate effect of implemented energy efficient procedures and it results in uncertainty of a financial result of counter installation and procedures implementation. It results in lack of real interest of premises owners and energy service companies in implementation of the procedures.

3.2.7. Conclusions on Russia Specifics

Thus, it is possible to conclude that nowadays Russia has no effective mechanism of capital repair financing providing large-scale solution of such problems as depreciation of housing facilities and energy efficiency. The Support Fund for the Reform of the Housing and Utilities Sector being a transition form from state financing to development of capital repair financing by apartment building premises owners had accomplished its task but scale of executed capital repair is not large and results are not impressive. Volume of unexecuted repair of apartment buildings is increased. New effective mechanism of capital repair financing aimed at increase of energy efficiency of apartment buildings and oriented on the best practices of the Central and Eastern countries shall be developed.
Chapter IV. Recommendation for Russian Model

4.1. Summary

In this Section:
- Short analysis of the available offers on the model of capital repair financing in Russia according to key and important factors has been carried out.
- Offers on the “Most effective” model of capital repair financing and energy efficiency in Russia taking into account its features have been developed.
- Directions for further development of the current legislation of the Russian Federation providing derestriction of capital repair financing and procedures to increase energy efficiency have been defined.

4.2. Analysis of the Current Offers on Capital Repair Financing in Russia

The general deterioration of apartment buildings is approximately 45%. The amount of apartment buildings with more than 65% physical deterioration reaches 4.5%; and the amount of apartment buildings with 31% to 65% physical deterioration is 35%.

637 mln m2 or 30% of existing apartment buildings are subject to repair in 2010-2020. Complete capital repair of the buildings with energy and resource saving procedures and installation of counters requires approximately 5 thousand Rubles per each 1 m2 or 3 trillion Rubles.

The experts and stakeholders in Russia offer several models that can substitute current capital repair financing system. Simplified analysis of the models shows the following:

**Model 1.** Establishing of centralized capital repair funds in regions that would receive obligatory fees by citizens and redistribute such fees for capital repair of apartment buildings in turns.

**Model 2.** Exclusion of the state from direct financing system and assign cost burden to citizens on conditions that the state provides guarantees of loan granted by commercial banks for capital repair and obligatory capital repair fees for premises owners;

**Model 3.** Development of the financing system on the basis of trust management of regular obligatory fees paid by citizens with financing through regional bonds.

From the point of view of key factors providing success of financing system, the analysis shows as follows:

**Model 1:**
- fails to provide the interest of apartment building premises owners in energy-efficient repair since all decisions are taken not by the premises owners but by other persons;
- fails to provide the availability of owners’ association into a legal entity representing an apartment building in capital repair issues, since the entities are not required in a model of consolidated fee collection and reassignment of funds;
- fails to provide the availability of mechanisms limiting terms of decision-making on organization and financing of capital repair, since decisions are taken not by premises owners but by persons controlling regional funds;
- provides the possibility of financing of initial repair costs at the expense of reassignment of funds received from the buildings;
- fails to provide the mechanism of guaranteed payment of current and repair expenses including mechanisms of debts collection, developed housing market and good judicial system; the legal status of such regional fees is not determined;
- provision of the successful repair financing system is questionable, since creation of regional funds may be ineffective;
- fails to provide state motivations of energy efficiency and capital repair, since the factors are not taken into consideration in a system of regional funds;
- provides state support of socially non-protected citizens, since capital repair is be executed in their building whether the citizens pay a consolidated fee or not;
- fails to provide information awareness and competence of citizens, since citizens shall not be competent and informed about the model;
- may provide a qualified technical support, since all contract and design works will be executed by a regional fund;
- may provide the accounting system of resources consumption, since it may be one of procedures executed within the repair works;
- fails to provide an efficient estimation procedure for real effects of capital repairs and energy saving estimation, since the model does not require measurement of such effects.

**Model 2:**
- ensures the interest of apartment building premises owners in energy-efficient repair in some time when the owners realize that the state will not finance capital repair of buildings anymore;
- provides association of premises owners into a legal entity representing an apartment building in capital repair issues, since the entities are main loan debtors according to the model;
- provides the mechanisms limiting terms of decision-making on organization and financing of repair, if the legislation would be changed;
- provides the possibility of initial repair costs financing through a mechanism of obligatory regular fees;
- provides the mechanism of the guaranteed payment of current and repair expenses including mechanisms of debts collection, if the legislation would be changed;
- fails to provide a successful repair financing system, since the issues of an initial fee from building which does require capital repair and credit pledges are not resolved;
- state motivation for energy efficiency and capital repair may be provided in further development of the model;
- the state may support socially non-protected citizens in further development of the model;
- fails to provide the availability of information awareness and competence of citizens mechanisms;
- fails to provide the availability of qualified technical support;
- fails to provide the availability of resources consumption accounting system;
- fails to provide an efficient estimation procedure for real effects of capital repairs and energy saving.

**Model 3:**
- ensures the apartment building premises owners interest in energy-efficient repair in some time, since key decisions on capital repair shall be taken by them;
- fails to provide association of premises owners into a legal entity representing an apartment building in capital repair issues, since loans are granted immediately to premises owners by a beneficial owner;
- partially provides the mechanisms limiting terms of decision-making on organization and financing of the repair;
- provides the possibility of financing of initial repair costs by loans in a regional program or through accumulation by premises owners in new buildings;
- provides the availability of the guaranteed payment of current and repair expenses including mechanisms of debts collection, if the legislation would be changed;
- provides a successful repair financing system, in case the models would be developed and successful administration of regional program is ensured;
- state motivation of energy efficiency and capital repair may be provided in further development of the model;
- the state may support socially non-protected citizens in further development of the model (subsidies are provided, but recipients are not specified);
- fails to provide information awareness and competence of citizens;
- provides a qualified technical support through obligatory technical inspections;
- fails to provide an accounting system of resources consumption;
- fails to provide an efficient estimation procedure for real effects of capital repairs and energy saving.

The analysis of the models shows, that none of the models considers all key and important factors defined on the ground of the experience in East and Central Europe.

**Model 3 is the most suitable but the following factors require essential completion:**
- association of premises owners into a legal person representing an apartment building in capital repair issues may be provided with condominium as a beneficial owner and increase condominium status in general;
- mechanisms limiting terms of decision-making on organization and financing of repair building may be provided by further development of capital repair decision-making procedure;
- mechanisms of a guaranteed payment of current and repair expenses by additional regulation of debts collection shall be provided;
- further development of repair financing system as related to mechanisms of the state support;
- creation of state motivation regarding energy efficiency and capital repairs;
- specification of ways of the state support for socially non-protected citizens;
- providing accounting systems for resource consuming;
- creation of an efficient procedure of estimation of capital repair and energy saving effects.
4.3. Recommendations on an “Most effective” Model of Capital Repair Financing and Energy Efficiency in Russia taking into Account Local Specifics

4.3.1. Increased Liability for Non-providing of Capital Repair

An administrative liability of persons responsible for maintenance of the common property in an apartment building for absence of measures to perform capital repair (carrying out an inspection, reporting to citizens on inspection results, offer of scope of works and capital repair costs, holding the general meeting of premises owners) shall be established. Appropriate obligations of the persons responsible for maintenance of the common property of a building shall be also legislatively established.

4.3.2. Restoration of Confidence to Management Companies

Many changes shall be introduced both in legislative development and in other spheres of activity to ensure the availability of potential loan debtor such as effective and conscionable legal entities (management companies or condominium). Such legislative development shall include the following changes first of all:

- creation of mechanisms of management company selection that would exclude dishonest entities from the market;
- creation of mechanisms of management company activity estimation that would help citizens to determine inefficient companies and substitute them;
- granting guarantees for conscionable management companies for executing activity on a long-term basis without substitution if such companies violate no laws;
- limitation of direct building management only to small apartment buildings;
- creation of mechanisms of misuse revealing in condominium, regulation of condominium management bodies liabilities, etc.

The creation of a base for restoration of citizen confidence to “intermediate party” in housing and public utilities and appointment of a qualified loan debtor providing capital repair financing in an apartment building may be considered after introduction of appropriate alterations to the legislation.

4.3.3. Definition of a Legal Entity Representing an Apartment Building to Provide Capital Repair

Condominium elects in an apartment building council as a legal entity with all necessary rights and obligations. A management company in an apartment building (hereafter referred to as MC) may act as a legal entity but its rights and obligations shall be expanded in comparison with the current practice in the following way:

- MC shall be authorised to take loans for capital repairs on behalf of premises owners and to collect regular payments from the owners (to provide reimbursement of such credit and an initial fee) included into housing services payments;
- MC shall conclude a long-term management agreement (not less than for a period of loan reimbursement, otherwise the MC is not able to take the credit);
- MC shall receive all powers on collection of indebtedness from premises owners on current and capital repair payments.

Condominium with direct management shall be established or a management company shall be hired (at least to provide housing services and capital repair) in an apartment building to provide capital repair.

4.3.4. Imposing Restrictions on Term of Making Decisions on Organization and Financing of Capital Repair and Energy Efficiency

The following steps shall be taken to provide all necessary decisions:

- generation of standards (patterns) of information delivery to premises owners required to make decisions on capital repair, scope and terms of works, expenses, capital repair financing mechanisms, available subsidies and privileges, and expected effects of the capital repair;
- legislative specification that a simple majority of votes is required for making decision and financing capital repair. Herewith, interval allowed for claims on capital repair decision shall be reduced to two months.


### 4.3.5. Financing of Initial Repair Costs

Initial costs shall include the following:
- technical audit costs;
- costs of development and approval of capital repair procedures;
- initial fee for loan granting (not less than 15-20% from total capital repair cost).

The payments shall be collected from all premises owners on the basis of 1 m² to provide initial amounts required for capital repair. Such payments shall be transferred to a special account of MC (condominium) for capital repair by order of dwellers. The facilities on the account shall belong to dwellers until the payment of capital repair costs is be made.

Condominium (MC) may use this account only according to the general meeting resolutions.

If premises in an apartment building are privatised earlier according to the Law of the Russian Federation “On Privatisation of Housing Facilities in the Russian Federation” and if a capital repair has not been performed since the privatisation, condominium or MC shall apply for financing to municipality according to obligations of previous lender to provide capital repair according to cl. 16 of the Law. Amounts for capital repair shall be transferred to a special account of MC (condominium).

As soon as the necessary amount is accumulated, technical audit, development and approval of capital repair project shall be executed.

Hereafter, initial repair fee shall be accumulated.

Special state or municipal grants for condominium (MC) that accumulated part of repair fees for which condominium (MC) (see section 4.3.8) may apply to authorised bodies may be an important motivation.

### 4.3.6. Development of an Effective Mechanism for Settlement of Premises Owners Debt upon Default in Capital Repair Payment

The following measures are offered:

If premises owners fail to make payments within 5-6 months:
- cut-off of electricity and gas;
- transmission of subsidies to an account of condominium or MC upon application of the condominium or MC;
- according to the court order the fees may be charged from wages or other incomes of the debtors.

The following measures shall be taken to provide responsibility of premises owners for non-payments:
- condominium shall take a flat in pledge (mortgage) and then sell a property through the auction (sell of a flat without providing any other dwelling with deprivation of right on flat with reservation of rights on dwelling);
- pensioners shall conclude a return mortgage agreement with bank.

Special rules regulating conclusion of such agreements, tender rules according to the civil legislation and conditions of living in flats sold at auctions according to the housing legislation to provide taking a property in pledge (mortgage) and then sell the property at the auction.

The development of municipal dwelling for reasonable lease by owners who consider that maintenance of individual dwelling is heavy for them is an important factor of the mechanism implementation. For this purpose, it is necessary to amend in the Code of Civil Procedure of the Russian Federation specifying the possibility to arrest for recovery the only dwelling of a debtor if any special municipal housing provided to such debtors exists within the appropriate municipal territory.

### 4.3.7. Development of Mechanism of Capital Repair Commercial Crediting

The most important components ensuring commercial crediting of capital repairs include the following:
- creation of bank credit product against future monetary flows of a condominium (MC);
- creation of system of partially paid (commercial) loan guarantees for capital repair (charged upon common premises, right to require payments for housing services),
- creation of a state system of guarantees to private banks for a particularly listed capital repair works and (or) for particular groups of buildings, and (or) to implement long paid off but very energy efficient procedures;
- exemption commercial banks from the obligatory reservation under unsecured credit to provide capital repair financing;
- elimination of 100% voting necessity to provide energy service for a dwelling and to conclude basic conditions of energy service contracts in housing facilities at the specified level.
It requires the following changes of the legislation:
  - energy saving legislation;
  - resolutions of the Government of the Russian Federation regulating the procedures of state guarantees related to implementation of special condition guarantees for loans for capital repair financing;
  - regulation of the Central Bank of the Russian Federation on obligatory reserves of credit organisations.

4.3.8. Creation of a System of State Motivation for Large Scale Capital Repair

Such system shall be used within a limited period of time. It shall effect particular building groups only and shall include the following:
  - grants for condominium and MC which took loans to provide capital repair earlier than other condominium and MC (e.g. in the amount 15-20% of capital repair costs to provide payment of initial expenses of premises owners) and to implement long paid off and energy effective procedures;
  - subsidising of interest rates for capital repair loans;
  - possibility to refinance loans granted by commercial banks to provide capital repair at the expense of state guaranteed bonds issued by a joint-stock company in partnership with the state (by analogy with the system of mortgage crediting);
  - the fees paid by premises owners to provide capital repair should be exempt from taxation.

4.3.9. Creation of State Support System for Poor Citizens at Capital Repair Financing

The maintenance of capital repair expenses as a part of payments subsidised by the state is the most important part of state support. Herewith, the following measures shall be reasonably implemented to provide more large-scale capital repair:
  - subsidising initial fee for capital repair paid by pensioners, young and large families (on demand of condominium (MC));
  - grants to provide pensioners, young and large families with water counters, cost effective water-intake accessories, new windows, heater replacement, and payment of fees on capital repair partially (on demand of condominium (MC)).

4.3.10. Methodical and Information Support of Condominium and Apartment Building Managers

The most effective tools are:
  - development of standards for MC and condominium regulating all aspects of preparation and execution of capital repair, templates and approximate provided and approved draft documents and contracts, approximate costs and calculations of cost efficiency including the documents for bank loans;
  - mass training of managers and representatives of condominiums.

4.3.11. Widespread Awareness of Citizens on Possibilities and Efficiency of Capital Repairs

Short and colourful material examples demonstrating effects of capital repairs, available forms of financing and procedures of financial support of the capital repair including the possibilities for poor citizens shall be provided in all apartment buildings. Educational advertisements shall be broadcasted on the central TV in the most popular viewing time. Special subjects shall be taught at schools aimed at explanation of possibilities and necessity of energy saving, environmental protection and responsibility. Experience of the Central and Eastern European countries may be used to prepare such materials.

4.3.12. Stages of Transition to the Described Model of Capital Repair Financing

The first stage requires considerable state support of capital repair. Amount of state support shall be decreased at the following stage to provide transition to the third stage. At the third stage, state support will be provided only to poor citizens.
4.4. Directions of Further Development of the Legislation to Provide Liberalization of Capital Repair Financing and Energy Efficiency Procedures

The development of above specified regulatory base to provide effective financing system and execution of capital repair in apartment buildings requires considerable changes to the legislation. Main changes shall be introduced into following regulations:

1) Separate section regulating execution of capital repair in an apartment building and specifying the following basic requirements shall be introduced into the Housing Code of the Russian Federation:
   - order of preparation, acceptance and implementation of decisions on financing and execution of capital repairs, procedure and periods for appeal of such decisions;
   - rights, obligations and liability of premises owners and persons responsible for maintenance of the common property, as related to financing and execution of capital repair, including basic conditions of agreements concluded by the persons;
   - order of payments collection for capital repair financing, liabilities for such payments or non-payments and application procedure of liabilities execution;
   - legal status of monetary funds for capital repairs, rights of a MC and condominium for management of the funds;
   - payout procedure of capital repair financing, crediting procedure in case of lack of an accumulative part, right to use funds from the accumulative facilities to pay off the loans;
   - obligation of apartment building property owners to make decision on execution of capital repairs if the building is in critical deterioration state;
   - powers of federal executive authority to approve procedure of critical building deterioration parameters definition;
   - order and conditions of long-term agreements with a MC;
   - obligations of a MC to monitor the building condition and report results of the monitoring to dwellers, providing financial plan of capital repair and organizing general meetings owners on that issue;
   - procedure of granting of target subsidies to citizens to provide capital repair financing;
   - mechanisms of management companies selection excluding violating entities from the market;
   - mechanisms of management company activities evaluation for the purpose of defining and substitution of ineffective companies by dwellers;
   - long-term activity guarantees for conscionable MC that are not substituted in case they follow the legislation;
   - limitation of direct management to small apartment buildings only;
   - mechanisms revealing misuses in condominium, liability condominium management bodies.

2) In the Federal Law “On energy saving, increase of energy efficiency and introduction of changes to particular legislative acts of the Russian Federation”:
   - related to elimination of hundred percents votes necessity to conclude energy services in a dwelling;
   - definition of main requirements for long-term agreements on energy services in a dwelling.

3) In the Code of Administrative Violations of the Russian Federation:
   - related to establishment of liability or persons responsible for maintenance of the common property in an apartment building and consideration of capital repair issues;

4) In the Civil Code of the Russian Federation and the Federal Law “On the mortgage (real estate mortgage)” related to conclusion of mortgage agreement regulating capital repair payments and holding an auction on realisation of a subject of pledge;

5) In the Code of Procedure of the Russian Federation providing possibility to apply for recovery of the only dwelling of a debtor if there is any special municipal housing provided to such debtors according to lease agreement within the territory of the appropriate municipality;

6) In resolutions of the Government of the Russian Federation related to the procedure providing state guarantees for implementation of special conditions of loans for capital repair and regulation of the Central Bank of the Russian Federation on obligatory reserves of credit organizations.

7) It is reasonable to adopt a state program providing support of capital repair of apartment buildings which shall include measures of the state support for capital repair and amounts of budgetary appropriations provided to implement the support measures with stage-by-stage limitation of such measures.
### Appendix 1. Summary of main support programs

#### Hungary

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>HUN10</td>
<td>Hungarian EE co-financing program (HEECP)</td>
<td>Guarantee (15-30%) fund (US$16m) from IFC/GEF to promote EE through financial sector.</td>
<td>1998 -</td>
<td>Medium</td>
</tr>
</tbody>
</table>

**Results**: IFC guarantee as % of loan reduced from 50% in 2000 to 12.2% in 2005. EE investment triggered by IFC guarantees increased from US$2.1m in 2000 to US$23.1m in 2005.

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>HUN11</td>
<td>Financial assistance for domestic energy savings (Panel program)</td>
<td>Subsidy (1/3) for energy modernization of flats. Banks were encouraged to lend to this sector through the HEECP initiative described above.</td>
<td>2001 - 2006</td>
<td>Low</td>
</tr>
</tbody>
</table>

**Results**: Ex-post accepted evaluations from 2001 – 2004 were 3750, 7694, 4643, 4216, and expected energy savings were 137.1, 282.1, 180.7 and 177.4 TJ/year respectively.

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>HUN20</td>
<td>Residential energy saving program for 2008 (NEP 2008)</td>
<td>Subsidy (20-30%) for energy modernization of flats and promotion of use of renewable energy resources.</td>
<td>2008</td>
<td>Low</td>
</tr>
</tbody>
</table>

**Results**: 9026 received applications, 6865 applications supported by HUF 3.1b subsidy. Subsidies affected 10956 flats and induced an investment of HUF 11.8b in total.

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary</td>
<td>HU77</td>
<td>Encouragement of reduction of energy use in the Regional Operating Programs</td>
<td>Grants for municipalities (90%), institutions, civil organisations, plus joint owned panel houses (70%) for lighting and insulation</td>
<td>2007 - 2013</td>
<td>Medium</td>
</tr>
</tbody>
</table>

#### Lithuania

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>LT5</td>
<td>Energy efficiency housing pilot project (EEHPP)</td>
<td>Soft loans (10 yrs, 10% down) and subsidy (30%, no VAT) to support HOA of multi apartment buildings to improve maintenance and EE.</td>
<td>1996 – 2001</td>
<td>Medium</td>
</tr>
</tbody>
</table>

**Results**: 96 monitored projects giving 25% comfort adjusted savings and average simple payback of 10.5 years. Over 60% of 250 surveyed households indicated loan repayment represented negligible burden on family budget. Renovated more than 730 multifamily buildings, with investment over Euro 20m and annual savings of 100 GWh (worth Euro 3m). No defaults as of October 2005. Project success required integration of: tailored legal framework allowing loans with mortgage, affordable financing through grants, comprehensive support via regional advisory centres, enhanced public awareness and improved services of local energy consultants.

Following the completion of the EEHPP, in 2004 the Lithuanian Government approved a housing policy including the Program for refurbishment of multifamily buildings. It commenced at the end of 2005 and uses a state grant of 15, 30 or 50% depending on the extent of measures undertaken. From 2005 until February 2008, 242 projects were implemented (625 projects are approved) at a cost of Euro 23.4m. Insulation of walls and roofs made up 52% of the measures.
Poland

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>PL2</td>
<td>Thermal Modernisation Fund</td>
<td>Grant (&lt;25% of loan) for residential and tertiary building EE, reduction of losses in heat distribution and RE.</td>
<td>1998</td>
<td>High</td>
</tr>
<tr>
<td>Tertiary</td>
<td></td>
<td></td>
<td>Results. Until 2002 when the act was amended it was not successful, as only had 500 proposals in 3 yrs (Euro 15m), due to high interest rates. However, as rates dropped the volume of investment increased from 80m PLN in 2002 to 1369m PLN in 2007. Yearly total savings estimated at 131kt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>PL10</td>
<td>Grant from GEF</td>
<td>Grant (if payback 10+yrs) and guarantees to commercial banks for EE of buildings, district heating and heating networks.</td>
<td>2005-2011</td>
<td>Low</td>
</tr>
<tr>
<td>Cross cutting</td>
<td>PL5</td>
<td>National fund for environmental protection and water management</td>
<td>Subsidies and soft loans, including to EE and RE. The loans are soft loans from 0.2 to 1.0 times the Polish base rate, for up to 50% of total project costs. Loans are available for 20 years, however usually they are granted for 5 years. Every year around 800 projects receive support from the National Fund. Usually 200 projects receive loans and the rest grants. A portion are for the thermal performance of public buildings.</td>
<td>1989</td>
<td>High</td>
</tr>
<tr>
<td>Cross cutting</td>
<td>PL6</td>
<td>EcoFund Foundation</td>
<td>Grants (10-50%) for EE and RE in private and public sector, including financing of heat insulation works.</td>
<td>1989</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Results. In the years 1989-2008 more than 14,000 contracts were concluded (mainly in respect of loans and borrowings granted through Bank Ochrony rodowiska S.A.), and almost PLN 21.4 billion was allocated to funding environmental projects. Expenditure on projects which were co-financed from the resources of the National Fund in this period exceeds PLN 76.5 billion. During that time, the largest amounts of money were allocated to the protection of water and water management and to the protection of air.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Results. The material effects in the EcoFund projects were chiefly achieved through the replacing of traditional coal-fired heat sources with boiler plants where renewable energy sources (straw, wood chips, solar collectors) were used or through the construction of new facilities of this type. However, energy savings were gained thanks to the financing of work related to the improvement of heat insulation of buildings. At the projects completed in 2005, additional heat insulation was applied to 78,000 m² of walls as well as drafty windows and doors of almost 5,000 m² total area were replaced.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Slovakia

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>SK2</td>
<td>Program for reduction of energy consumption in apartment houses and flats</td>
<td>Subsidy for additional thermal insulation and installation of regulation of heating in panel houses.</td>
<td>1991 – 1999</td>
<td>Medium</td>
</tr>
</tbody>
</table>

**Results.** 1992-1997 additional thermal insulation total budget cost 960,300k SKK, state subsidy 540,818k SKK and heat saved 196,866 GJ. 1993-1999 installation of regulation and modernisation of heating systems total cost 895,068k SKK, state subsidy 233,223 and heat saved 1,451TJ.

| Household | SK7 | Subsidies for housing development | Subsidies (<50%) for eliminating system failures in apartment houses, including inadequate thermal insulation | 2007 - | Medium |

| Tertiary | SK13 | Eko Fund | Subsidy for enviro protection, including for improvement of EE in buildings (allocation of 49m SKK) | 2008 - | Medium |

### Estonia

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>EST11</td>
<td>Support for energy efficient renovation of residential buildings (multi-apartment houses)</td>
<td>Since 2003 the State has supported repair work related to the reconstruction and restoration of the main structures (load-bearing and enveloping structures) of pre-1990 apartment buildings. The assistance covers 10% of the cost of these works.</td>
<td>2003-</td>
<td>Medium</td>
</tr>
</tbody>
</table>

**Results.** During the period 2003-2007, KredEx paid out renovation support of EEK 183 million (EUR 11.71 million) to 4,760 HOAs with total of 3,210 MFBs.

| Household | EST12 | Grants for energy audits in residential buildings | Subsidy for mandatory energy audits | 2003 - | Medium |

**Results.** During the period 2003-2010 KredEx supported technical inspection activities, which included energy audit as an element, in 5,592 apartment houses. Total support has been EUR 1.85 million received by 6,043 HOAs.
### Latvia

<table>
<thead>
<tr>
<th>Sector</th>
<th>MURE Code</th>
<th>Title</th>
<th>Focus</th>
<th>Period</th>
<th>MURE Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>LV28</td>
<td>Increasing Energy Efficiency in Apartment Buildings</td>
<td>The investments in energy efficient building renovation for the years up to 2016 are co-financed from the EU Regional Development Fund under the Latvia national operational programme „Infrastructure and services”.</td>
<td>2008-</td>
<td>Medium</td>
</tr>
<tr>
<td>Household</td>
<td>LV30</td>
<td>Energy Audits and Energy Certification of Buildings</td>
<td>The aim of the measure is to inform final energy consumers of the energy efficiency of buildings and to provide recommendations for increasing energy efficiency</td>
<td>2007-</td>
<td>Medium</td>
</tr>
</tbody>
</table>

*Results.* The anticipated energy saving resulting from all information and regulatory measures is estimated 231 GWh (0.832 PJ)
Analysis of international best practice in organizing and financing capital repairs and energy efficiency modernizations of multi-family buildings in Central and Eastern Europe