IMPLEMENTATION OF RENOVATION PROGRAMME OF BUILDINGS BY INCREASING ENERGY EFFICIENCY IN LITHUANIA

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75% of EU’s housing stock is currently not energy efficient.

Vice-President of Energy Union
Maroš Šefčovič
TWO KEY QUESTIONS

1. Why building renovation is so important in every country?

2. What is the main reason for success?
Lithuania key statistics:
- Population – approx. 3 mln.
- 66% of population lives in multi family buildings built before 1993
  (> 38,000 multi family buildings and > 800,000 apartments)
- 97% privately owned, only 3% municipal rental stock
- 65% of buildings supplied by district heating system

Problems:
- poor Soviet construction standards and little maintenance
  - inefficient heating systems and engineering equipment
  - bad quality windows, roofs, seals between panels
  - huge energy losses
  \[\rightarrow\] most buildings in poor condition, lack of proper management

> most of Lithuanian households are not satisfied with their homes
Main goals are:

Expand housing possibilities for all social groups

Ensure effective use of existing housing, maintenance, upgrading and modernization, including the rational use of energy resources

Strengthen the capacity of the housing sector in the housing market

Approved at January 21, 2004 by the Lithuanian Government

English version available on the internet site www.am.lt

- Program for modernization of multifamily buildings (approved in 2004)

- Program for social housing development (approved in 2004)

**The Programme aimed to:**
- increase energy efficiency in multi-apartment buildings;
- ensure that cumulative annual heating costs and return on investment cost after the renovation do not exceed the heating costs which was before renovation.
There are two models for housing modernisation in Lithuania

1. Home owners on their own initiative prepare investment projects, take a loans and implement modernisation

*The main problems of this model:*
- lack of homeowners initiative
- fear to take a loan
- mistrust on the results after the upgrading
PROGRAMME MODELS (2)

2. Investment projects are implemented based on the Energy efficiency programmes approved by the municipalities:
   - investment projects are prepared on the municipality initiative;
   - projects are implemented by the Programme administrator appointed by the Municipality;
   - loan is taken by the Programme administrator;
   - programme administrator organizing procurement, taking all the responsibilities on the implementation and financial management.

New model was introduced at the beginning of 2013
NEW PROGRAMME PARTICIPANTS

**National:**
- Ministry of Environment / Ministry of Energy/ Ministry of Finance / JESSICA Holding Fund, managed by EIB
- Housing Energy Saving Agency (HESA)
- Financial institutions administering JESSICA funds (selected by JESSICA Holding Fund managed by EIB)
- Central Procurement Office (CPO)

**Local:**
- Municipalities (Programme preparation, approval, appointment of Programme Administrator, supervision of implementation)
- Programme administrators (Housing Maintenance company or other responsible company)
- Engineering – consultant companies (Investment Project preparation, supervision of works)
- Contractors, Home-owners
since 2013 approved more than 3,658 multi-apartment buildings
since 2013 completed 611 projects
Energy efficiency of buildings is a triple win!
Experience from energy efficiency upgrading projects in multifamily buildings shows that a combination of measures:

- replacement of windows and external doors,
- insulation of external surfaces: roofs and walls,
- modernization of heating substations and balancing of heat systems

reduce energy consumption by around 50-70 %.
2. GOOD FOR THE COUNTRY'S ECONOMIC GROWTH

- The energy efficiency Programme investment value more than 400 million Euros (JESSICA Holding Fund with private investment of commercial banks, State budget);
- Currently renovation projects are implemented by 260 small or medium construction companies (creates new jobs);
- Investments in the renovation process is about 10% of the total investment in the construction sector in the country.
3. GOOD FOR PLANET: LOWER CARBON EMISSIONS, RESOURCE CONSERVATION

- After modernization possibility to reduce energy consumption up to 50-70%
- By implementing the Programme also are solved environmental protection issues (reduction CO² emission, urban environment, cities regeneration plans, etc.)

The analysis of implemented projects shows that after the building renovation savings are more than 100 MWh/year and reduction CO₂ - 23.4 t
FUNDING CONDITIONS FOR RENOVATION OF MULTI-APARTMENT BUILDINGS

- Majority of home-owners vote for modernisation 50%+1
- Constructed before 1993
- at least Energy Efficiency Class C
- 100% of costs for technical documentation
- 15% of modernisation costs if at least 20% of energy savings achieved
- additional 20% if energy savings 40% achieved (Climate Change Programme support – till Dec. 2014)
- 100% of all costs for low income households
Distribution of costs to consumers under the new Programme

Fig. 1

Before Upgrading

Heating

100%

After Upgrading

SAVING

0 - 10%

50 - 40%

about 50%

Upgrading Repayment

Heating

No additional payments to owners of apartments after the upgrading
JESSICA (Joint European Support for Sustainable Investment in City Areas) is an initiative of the European Commission in cooperation with the European Investment Bank (EIB) and the Council of Europe Development Bank (CEB) in order to promote sustainable investment and growth of jobs in Europe’s urban areas.

Lithuania - one of the first countries in the European Union which uses the initiative of JESSICA for the improvement of energy efficiency in multifamily buildings.
Standards of energy efficiency after upgrading

- **Maturity** – 20 years
- **Interest rate** – fixed for the entire loan period at 3% p.a.
- **Insurance** – no loan insurance requirements
- **Guarantees** – no third party guarantee requirement
- **Self-financing** – bank may require a down payment (not more than 5%)
- **Maximum monthly instalment** – determined for each multi-apartment buildings

Financial Intermediaries

FUND (EIB)

400 mln. Eur

Technical support, administration

Procurement
Lithuania is establishing integrated concepts that encompass various sectors to further improve urban energy efficiency. We attempt to achieve the highest possible savings in targeted urban areas by linking measures such as adjustment or renewal of heat generation and supply systems, sustainable mobility concepts, redesign of the living environment and the use of renewable energy sources.
In order to the Energy efficiency improvement programs to include not only the renovation of separate apartment houses or public buildings, but also upgrade the entire neighborhoods and their environment, as well as infrastructure, in the near future it is expected to:

- to implement Quarter energy efficiency improvement programs in 3 pilot projects
- Disseminate knowledge and experience gained to other municipalities
PERSPECTIVES- INOVATION AND HIGHER ENERGY EFFICIENCY CLASS
PROJECT WITH NATIONAL PASSIVE HOUSE ASSOCIATION IN LITHUANIA

A. Mickevičiaus street 9th, Vilnius,
The first Lithuanian apartment building from D class, to class A.
<table>
<thead>
<tr>
<th>Before renovation</th>
<th>EUR</th>
<th>After renovation</th>
<th>EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>By January 2015 monthly paid</td>
<td><strong>105,21</strong></td>
<td>Since January 2016 monthly will pay</td>
<td><strong>7,65</strong></td>
</tr>
<tr>
<td>Fixed fee after renovation</td>
<td><strong>0,00</strong></td>
<td>Fixed fee after renovation</td>
<td><strong>57,25</strong></td>
</tr>
<tr>
<td>Total:</td>
<td><strong>105,21</strong></td>
<td>Total:</td>
<td><strong>64,90</strong></td>
</tr>
</tbody>
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After the renovation process, A. Mickevičiaus street 9th house will save more than 94% heating and cooling energy.
Discussion
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Deep renovation’ means: a high level of energy efficiency improvement at a rate of 2.3% of the building stock, with a high focus on the efficiency of the building envelope and high use of renewable energy. This track leads to a 75% reduction in final energy use by 2050 (compared to 2010). The present study estimates that the energy demand will be reduced by at least 66%.

An effective way to decrease Europe’s energy import dependency
“Energy efficiency in buildings is an investment that will save the public purse almost 40 billion Euros, it is will improve living conditions and reduce building-related GHG emissions."

„For those that say renovations are too expensive, my message is that climate change mitigation is not a brake on the economy. It is pro-investment and pro-growth…“

Miguel Arias Cañete
Commissioner
Climate Action and Energy
COOPERATION IS THE MAIN CONDITION FOR SUCCESS!

Vice-Minister of Environment
Daiva Matonienė

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