

**Scientific Problems of Engineering Economics of
Construction
and Real Estate Management, Regional and Territorial
Development**

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Conference
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**Economic justification of the energy
efficiency increasing necessity in
the Residential Houses**

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The aim of the study is
to prove the necessity of increasing the energy
efficiency of residential houses and economic benefits
for apartment owners.



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Discussion

The regulatory framework for energy efficiency and in particular for the energy performance of buildings is relatively new.

European Union directives and guidelines serve as a basis for the regulatory enactments of the Republic of Latvia, as well as the standards and certifications developed by the European Union are observed.

Funding opportunities to promote energy efficiency in residential buildings are available in a wide range, only everyone has to find the most suitable and accessible way.

The wide offer can be explained by the topicality of climate problems both at the level of the European Union and Latvia.



Before starting the implementation of the residential house energy efficiency improvement project, apartment owners need to evaluate, calculate the most economically advantageous and make a decision on the implementation of the energy efficiency improvement project.

BIM (Building Information Model) - implementation from the very beginning of the idea of energy efficiency improvement process, where from the very beginning the author of the idea (Manager) together with all involved parties would model the whole construction process before starting the construction works.

Which would undoubtedly save the used building materials, eliminate errors in the construction process, which would ultimately provide investment savings for homeowners in the process of increasing energy efficiency.

Implementation stages of a residential house energy efficiency improvement project

Development and coordination of energy efficiency construction project (confirmation card) in the construction board

Preparation and submission of the project application for receiving the ALTUM opinion

Organization of procurement procedure for construction works. Coordination with ALTUM is required before and after

Coordination of grant project and loan agreement projects

To organize the survey of apartment owners No.2 and informing the apartment owners of the residential house about the actual project costs, loan repayment, etc.

Concluding an agreement with a commercial bank on granting a loan

Conclusion of an agreement with ALTUM on granting ERDF co-financing

Conclusion of a contract with a construction company that wins the procurement procedure for the performance of construction works

Conclusions and Proposals_1

- **At the national level, it would be necessary to decide on the reduction/abolition of the annual real estate tax for residential houses that have undergone energy efficiency measures, which in turn would alleviate the financial burden on homeowners for energy efficiency improvement measures.**
- **In order for homeowners to be able to agree on starting an energy efficiency improvement project, information work beforehand is very important. Of particular importance are economic considerations - explanation of benefits, substantiated figures, calculations and evidence that such projects are necessary.**
- **In order to more actively involve homeowners in decision-making on a home's energy efficiency project, some policy solutions may be needed, such as making homeowners responsible for the environmental damage they cause.**
- **To develop standard energy efficiency improvement projects for standard series-type residential houses at the national level.**

Conclusions and Proposals_2

- **In the project of increasing the energy efficiency of residential houses, it is important to evaluate what will be the most important and necessary measures for increasing the energy efficiency of each residential house. To do this, it is necessary to perform an energy audit and energy certification.**
- **Residential energy efficiency projects provide various benefits:**
 - 1) **social benefits - reduction of energy bills, increase of property value, satisfaction of residents and tenants, well-being and comfort;**
 - 2) **environmental benefits - energy savings, reduction of greenhouse gas emissions and reduction of material use;**
 - 3) **economic benefits - employment, GDP and state budget benefits, innovation, modernization and security of energy supply;**
 - 4) **benefits in the context of the building itself - the life cycle of the residential house is extended, its technical condition, visual appearance and environment improve.**

Thank You for Your attention!
Questions?

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