



SHARE

Social Housing Action to
Reduce Energy Consumption



Case Study 15



Insulation of apartment buildings in Estonia

Estonia is located in the northern part of Europe. There are more than 4200-degree days per year and the design temperature for buildings is -24°C in some areas.



In “Soviet” time the building norms and quality were far from energy efficient, because energy prices were very low or sometimes users did not pay for energy at all.

The normal U value for external walls of buildings was about $1.0 \text{ W/m}^2\text{K}$. Today the recommended figure is below 0.3.

In many cases additional insulation of buildings is the only way to achieve a comfortable climate inside the

apartment, and there is no other way to reduce thermal bridging of the construction effectively.

Additional insulation with a thickness of 100mm will save about 50 kWh/m^2 of insulated area per year and may give significant savings if thermostatic valves control the heating system.

A real example from Tallinn, Sütiste str 45 shows that after the installation of insulation and thermostatic valves the specific heat consumption of the heated area is close to 100 kWh/m^2 . This brings an older building close to the A class of the energy certificate.

SHARE is an Intelligent Energy Europe Project working in eight European areas to develop energy efficiency and low carbon technologies in social housing. For more information about the SHARE project and for other case studies see the project website:

www.socialhousingaction.com



In 2005 local oil-shale oil prices rose by more than 100%. Fuel price increases of this scale cause hardship in the short term, but they also increase the economic value and reduce the payback time for additional insulation investments.

Wall insulation tends also to increase the value of the building, because the external appearance is newer, brighter and more cheerful.

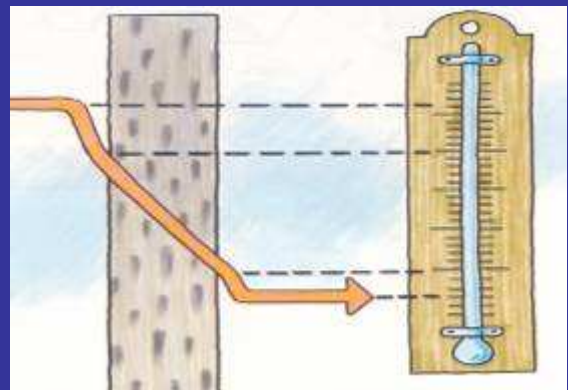


The energy efficiency of the housing stock is a primary target in most EU member states.



Before additional insulation energy auditing is recommended, to identify where the building is losing most energy and what kind of measures for energy savings are the most efficient.

In very complicated buildings thermal photography can help the auditor to advise on measures for energy efficiency in buildings, and for planning building renovation targeted at energy saving.



Thermo vision will show as a picture the temperature of the surface.



Contact Details

Name: Aare Vabamägi
Organisation: Regional Energy Centres,
Estonia,
Telephone: +372 52 10 530
E-mail: aareva@estpak.ee

Intelligent Energy  Europe

The sole responsibility for the content of this document lies with the authors. It does not represent the opinion of the European Communities. The European Commission is not responsible for any use that may be made of the information contained therein