

Factsheet

Building renovation

What are the benefits of insulation?

Insulating the building envelope significantly reduces energy requirements. Just a few centimeters of insulation material have a great effect. The various components of the building envelope can be insulated with different materials. In addition to conventional insulating materials such as mineral wool or polystyrene (Styrofoam), natural insulating materials in particular have major advantages. This factsheet is intended to help provide an overview of the various options.

How can I renovate a historic building to make it more energy efficient?

Historic buildings are of particular importance, especially in the villages of Transylvania. A complete insulation of the thermal building envelope is expensive and changes the appearance of the building. In addition, valuable nesting sites on the walls (e.g. swallow nests) would be lost. Simple but effective measures are as follows:

- **Attic floor insulation:** Much heat is lost through the roof. If the attic is not used as living area, such insulation is a good way to avoid expensive roof insulation and to preserve nesting sites in the roof.
- **Basement ceiling insulation:** Basement ceilings are easily accessible and can be insulated by owners.
- **Box windows:** Windows on historic buildings are small and often single glazed. A second, energy-efficient window on the interior can preserve the appearance while reducing heat loss.
- **Interior insulation:** Interior insulation preserves the exterior appearance and is also less costly. The most suitable materials are 6 cm of wood fiber or, in moisture-prone rooms, calcium silicate boards, as both materials are good at absorbing and releasing moisture and prevent mold due to their pH value. Care should be taken to use only capillary-active plasters and paints.



Photo: IfaS



Photo: IfaS

Photo: IfaS

What do natural insulating materials offer?

Natural insulation materials are made from renewable raw materials such as hemp, flax, sheep wool or wood. In contrast to conventional insulating materials such as mineral wool or polystyrene, natural insulating materials contain fewer harmful substances. In addition, natural insulating materials store CO₂ and thus make a double contribution to climate protection. Their porous structure traps air, which increases the insulating effect. This reduces the heat loss of the house. At the same time, natural insulating materials also provide sound insulation and improve the indoor climate.

How can I save energy without spending a lot of money?

- **Prevent untargeted ventilation - stop chimney effect:**
Sealing windows, doors and attics can prevent heat losses due to air leakages. Often it is enough to replace the seals.
- **LED lighting:**
Replacing old bulbs with LEDs is often worthwhile after only 5 years.
- **Replace heating pumps:**
Old heating pumps operate very inefficiently. A lot of electricity can be saved quickly here! Replacement can pay back after just 2 - 5 years!
- **Insulate pipes and heating pumps:**
The losses of 1 m of uninsulated heating pipe amount to approx. 10 – 15 l of heating oil per year. This measure can be carried out by yourself with little effort.
- **Insulate radiator niches:**
Radiator niches can be easily insulated using panels available in DIY stores.

Energy saving potentials

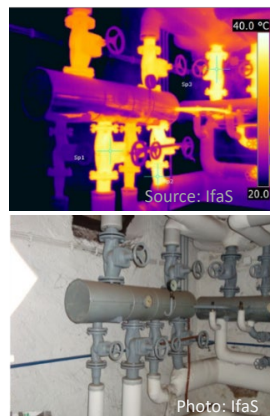
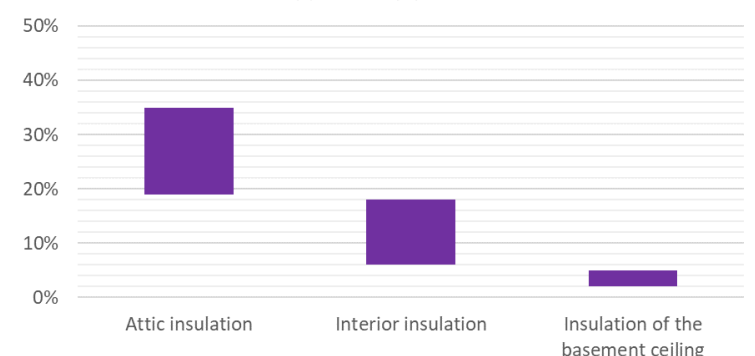


Photo: IfaS

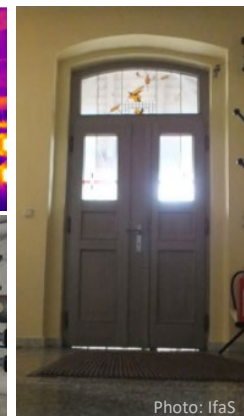


Photo: IfaS



Photo: IfaS



Photo: IfaS