



Energy-efficient renovation: Are you still undecided?

We take your concerns seriously!

Buildings are responsible for a large part of our CO₂ emissions. Renovating buildings comprehensively to improve their energy efficiency not only reduces these significantly but also saves you money.

Although this is scientifically accepted and proven in practice with thousands of examples, there are still doubts about the effectiveness of energy-efficient renovation. We would like to dispel some of them here.

“My house is not an old building.”

There is no definition of an “old building”. In terms of energy efficiency, however, all buildings built before 1995 are in need of renovation. This was when the government at the time introduced the third ‘Thermal Insulation Ordinance’, which set minimum standards for energy efficiency and has been continuously developed ever since.

“The energy consumption of my house is okay.”

The actual energy consumption of a building depends on many factors, not least on our own conduct. As a rule of thumb, if your annual heating costs for 100 square meters amount to over €800 (without hot water generation), you should think about energy-efficient renovation.

“Energy-efficient renovation doesn’t pay off.”

Effective improvements to your home will reduce your energy costs significantly. If you are considering making renovations in the near future anyway, the additional costs should be manageable. As a landlord, you can add renovation costs to the rent proportionally. By renovating your building, you are not only increasing its value, but also making it more comfortable to live in. Moreover, making your home fit for future generations is not only a good pension plan; it is subsidized and not taxed by the state, and it is good for the climate.



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“I have nothing to gain from energy-efficient renovation.”

Are you wondering whether it is worth making your building more energy efficient? The payback time for the cost of renovation depends to a large extent on the energy costs. But even if it takes years, the investment is not worthless. From the first day, you will benefit from increased comfort in your renovated building. Warm walls, floors and windows make your home feel cozier. That means it is not only good for the environment, but also your health. Either way, making your building more energy-efficient improves both its value and living comfort – as well as benefiting future generations.



“I can't afford energy-efficient refurbishment.”

Admittedly, making your building more energy efficient costs money. However, the federal state and local authorities provide financial support and low-interest loans. If the investment for a complete renovation is too high, you can renovate step-by-step. An independent energy consultant will tell you which improvements will bring the highest savings potential and suit your budget best. They can also provide you with information about suitable support programs.

“I don't want my home to become a building site.”

Energy-efficient renovation creates dirt and noise. However, this is true for any building work, and sooner or later every building must be renovated. Take the opportunity to prepare your house for the future. A high standard of energy efficiency will last you a decade or more. An independent energy consultant will help you with the planning. If it is done properly, it will also cause less dirt.



“Insulation materials harm the environment.”

All building materials use raw materials and energy. Insulation materials are either produced artificially (e.g. from mineral fibers, polystyrene) or use renewable raw materials (e.g. cellulose, wood fibers, hemp). Additives improve the properties of insulating materials and protect them against fire, pests or instability. Even though these additives can make recycling difficult, there is a professional disposal method for all approved insulation materials.

Most importantly, in the course of their useful life, all insulation materials generally prevent many more environmentally harmful emissions than their production and disposal create. For example, the energy expended in the production of organic insulation materials is partially recovered when they are incinerated during disposal. In terms of life cycle assessment, insulation materials are considerably more environmentally friendly than many other building materials.

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“Renewable energy and heat pumps eliminate the need for insulation.”

It always makes more sense to save energy than to consume it, whether it is renewable or not. Make sure that you have adequate thermal insulation first, and then switch to renewable energy. Use renewable energy as efficiently as possible. In practice, modern building concepts are increasingly completely supplied with renewable energy, through a highly efficient shell and advanced technology. In addition, proper insulation ensures a comfortable room temperature in summer and winter.

“Ten centimeters of insulation is enough.”

It's true that the first centimeters of insulation generate the biggest savings. In this respect, ten centimeters of insulation on the outside wall are better than no insulation at all. However, it is also true that most buildings with normal heating only achieve a sustainable level of insulation from a thickness of 16 to 20 centimeters. For passive house standards, you need 30 centimeters. If you are planning to invest and renovate anyway, but scrimp on the insulation, you will be creating a trap for yourself in the long term: Adding insulation later on will not pay off and you will waste energy in the long term. This is known as the “lock-in effect”.



“Ventilation systems consume a lot of electricity and are unhygienic.”

Ventilation systems ensure a continuous supply of fresh air in your rooms. This is important for your health as well as for your building, because it helps to prevent mold. Compared with classic window ventilation, demand-based ventilation systems have minimal heat losses, especially if they are equipped with heat recovery. A ventilation system for an apartment uses between 100 and 300 kilowatt hours of electricity per year (€30 to 100). These costs are offset by much higher savings on heating. In summer, you can normally switch the ventilation system off.

Unlike windows, ventilation systems are equipped with a filter and improve the air quality significantly for people suffering from allergies or asthma. A ventilation system can also avoid noise and exhaust emissions if the air is supplied from a side of the building where there is less pollution.



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“But gas is environmentally friendly.”

Even if gas has lower emissions than oil, it is still a fossil fuel that produces CO₂ when combusted, which contributes significantly to global warming. If you are renovating, you should first reduce the energy consumption with the right insulation, and then switch to an environmentally friendly technology, such as a heat pump powered with energy from its own photovoltaic system or using renewable resources such as pellets. Then you can look confidently to the future.



“The potential savings are much lower than calculated.”

Renovating a building can reduce energy consumption by up to 80 percent. But this is not always what happens. On the one hand, full savings can only be achieved with a complete renovation that takes the building shell and technology into consideration. On the other, it naturally depends on how energy efficient the building was in the first place. What's more, people who live in non-renovated buildings often heat less – especially in some rooms – because they know that the building is not energy efficient. After renovation, they then turn up the heating higher than before with a "clear conscience". Both cases are not part of the equation.

“I don't need experts.”

Are you an energy consultant with up-to-date knowledge about building insulation, building technologies and renewable energies? If not, then an independent expert who has combined knowledge on all of these subjects can help. After all, energy-efficient renovation is a complex matter. Many factors play a role and influence each other. You can of course handle some tasks by yourself. However, you should definitely involve an expert in the planning.



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