

The use of passive house components at the energetic renovation of buildings

Dr. Burkhard Schulze Darup
 Augraben 96, 90475 Nürnberg
 Tel. 0911 8325262,
 e-mail: schulze-darup@t-online.de

Abridged Version

The energetic renovation of buildings will become a central task for the construction industry. By using passive house technology energy in buildings can be saved at a very good cost-value ratio. You can save a lot of energy and in some cases a reduction of 10 percent of the original factor can be achieved.

The technology for energy efficient renovation is available and sufficiently tested. From the constructing point of view it is very important to insulate the building fabric very well. Instead of using conventional insulation thicknesses of 6 to 12 centimetres, insulation thicknesses of 20 to 30 centimetres should be achieved. In addition to that, highly efficient windows with triple glazing heat protection and insulated frames. Regarding quality control one has to pay special attention to minimize thermal bridges and a high air and wind tightness. Ventilation systems for the extract and exhaust air and heat recovery systems provide not only a high energy efficiency, but they also create high comfort and the best indoor air quality. Last but not least the concept provides a rational and regenerative residual heat.

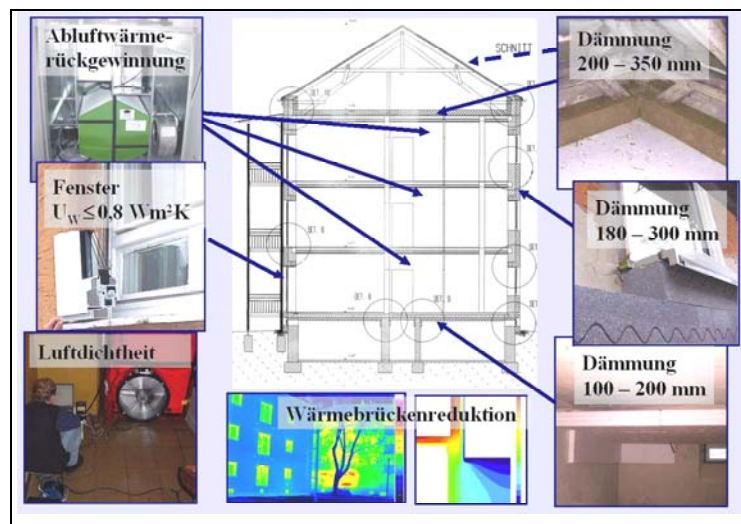


Abb. Bauliche Komponenten für Sanierung mit Faktor 10

Figure construction components for renovation with factor 10

The renovation of buildings offers excellent chances for jobs, environmental and urban planning policies for the next decades. The following advantages under economical, ecological and socio – cultural aspects can be achieved by a high dissemination of highly efficient renovation technologies.

- The construction industry will be helped to overcome the standstill regarding renovations
- The industry will be given a wide field for the application of innovative products
- The regional construction industry will be able to overcome the slumps of the last years
- Subsidies that will be invested can reach a level of factor 10
- More jobs and fiscal effects will make the subsidies flow back at 100 percent
- Dwellings built in the 50s and the 60s will be revalued from an urban point of view
- High comfort and cosiness instead of condensed water and problems with mould
- Co2 reduction with a very good cost – value ratio
- Considerable reduction of fossil fuels which is a basis for a sustainable national economy and a global balance of interests as the first step towards a peaceful life on our planet