

KURZBERICHT ENGLISCH

It is well documented: buildings are responsible for a large portion of energy consumption around the world, often 40 % or even more. Operation of buildings which include heating, cooling, ventilation, lighting, and other electricity consumption results in a high environmental impact. Compensation for these environmental costs that result in damage are common in other industries or areas of life, but buildings have been so far largely exempt.

The next years will be a challenge for architects and planners to design energy-efficient and sustainable buildings. A good building looks not only at real estate economics or energy efficiency, but a truly sustainable building is well integrated with its users in an urban society. Only then is a building truly permanent and sustainable. When users passionately identify with their built environment, then the increase of energy-efficiency and the use of durable materials pay off for communities and individuals. Buildings that are integrated in areas with good urban planning can show a high degree of user acceptance and become a fixture in the area. Riederwald is an example of this phenomenon. Restrictions are therefore imposed to take into account and estimate these qualities in buildings.

The shown perspectives and solutions demonstrate that the renovation of existing buildings from the 1950's have a high potential for making a successful contribution to the energy transition. Challenges will need to be addressed in close cooperation with all stakeholders including architects, engineers, the real estate industry, public authorities, government agencies, banks, and building users.

The building type, from an energetic point of view, is excellently suited for implementing the goals of climate neutrality, and by extension the goals of the federal government. Compactness, floor space, and roof pitch provide good opportunities for the integration of renewable energy. Issues such as thermal bridges can be resolved in a straightforward manner. The challenge is in redesigning the building for a flexible use of space and good building acoustics. Slim construction and superstructures do not provide the same quality of sound insulation that are seen today in new construction. The sound insulation requirements laid out in regulations can be met with modest effort, but cannot achieve the levels found in new construction. On the other hand, these buildings can achieve the energy related goals found in new construction.