



Foto: Edurac Research/Florian Berger

RESEARCH TOPIC

Energy Efficiency Improvement of Historic Buildings

We study how to improve the energy performance of buildings,
while preserving their aesthetic value

Energy Efficiency Improvement of Historic Buildings

We deal with:

- Energy performance of buildings and historic centres
- Energy efficiency improvement solutions compatible with preservation
- Thermo-hygrometric performance of buildings and construction nodes
- Conservation aspects in regeneration and in energy planning

Detailed Description

Our experts in energy efficiency improvement of historical buildings study the most appropriate solutions to reduce energy consumption in buildings subject to preservation constraints or with valuable historical and artistic characteristics. As standardised solutions do not exist with respect to the implementation of energy improvement measures in historic buildings, every project requires analysis and an ad hoc improvement plan that considers the characteristics of the building, the dictates of historical and artistic heritage regulatory bodies, and the intentions of the owner.

Thanks to the work of our researchers, private companies and public institutions have a range of services and skills at their disposal, such as support for conservative restoration projects and energy efficiency improvement; support for the development of energy plans for historical centres; and coordination of the integrated design process that involves the client, the designer, suppliers and maintenance technicians.

Finally, the laboratory tests and simulations carried out by our researchers make the analysis of energy performance and thermo-hygrometric compatibility possible.

Some of our latest achievements:

Our researchers are coordinating a program at the International Energy Agency that aims to identify the potential use of solar energy to heat and cool historic buildings and develop rehabilitation solutions that respect the cultural characteristics of these buildings. They have also created an atlas of historic buildings in South Tyrol - categorising them by type of construction, renovation and energy balance – and have supported the energy efficiency retrofit of historic buildings such as the Casa della Pesa in Bolzano-Bozen and Villa Castelli on Lake Como.

The services we offer:

- Consulting for the needs of owners and the bodies that manage historical and artistic heritage infrastructure
- Support for building superintendents and public administrators to define guidelines and urban planning tools
- Support for the work of architects in the planning of operations
- Support for producers in the development of products and systems for energy efficiency improvement, including design, installation, test phases and performance checks
- In 2019 a laboratory for the hygrometric analysis of materials and components will become available to support dynamic simulations and the planning of rehabilitation work on historic buildings

