



# Tiroler Sanierungspreis 2009

DI Bruno Oberhuber



ENERGIE TIROL

# Tiroler Sanierungspreis 2009

- first announcement of the award by the Province Tirol and Energie Tirol in 2010
- appreciation of outstanding and energy-efficient buildings
- support for knowledge transfer
- 69 participating reconstruction projects
- 12 awarded projects all over Tirol

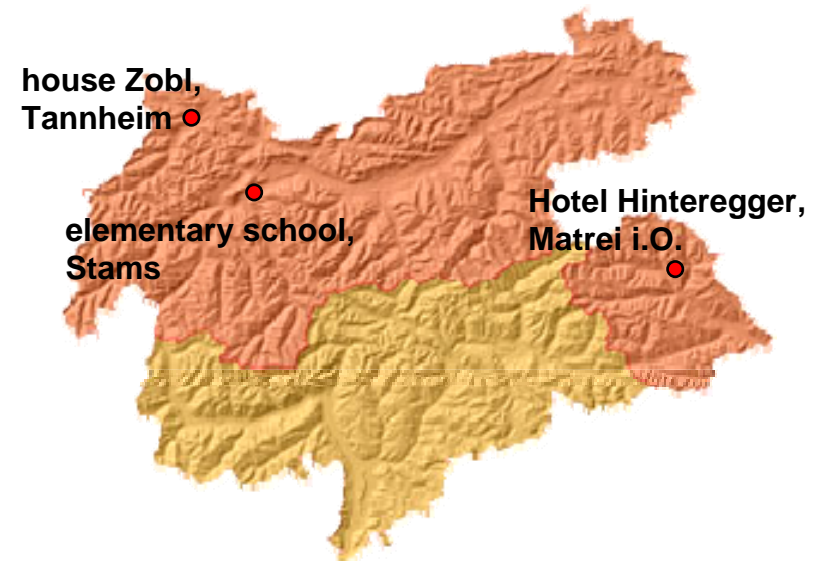
# Tiroler Sanierungspreis 2009

categories:

- residential buildings
- commercial buildings
- public buildings

# winning projects

- dwelling house Zobl, Tannheim
- Hotel Hinteregger, Matrei in Osttirol
- elementary and secondary school Stams



# dwelling house Zobl, Tannheim

Architect: DI Pia Zobl, Tannheim

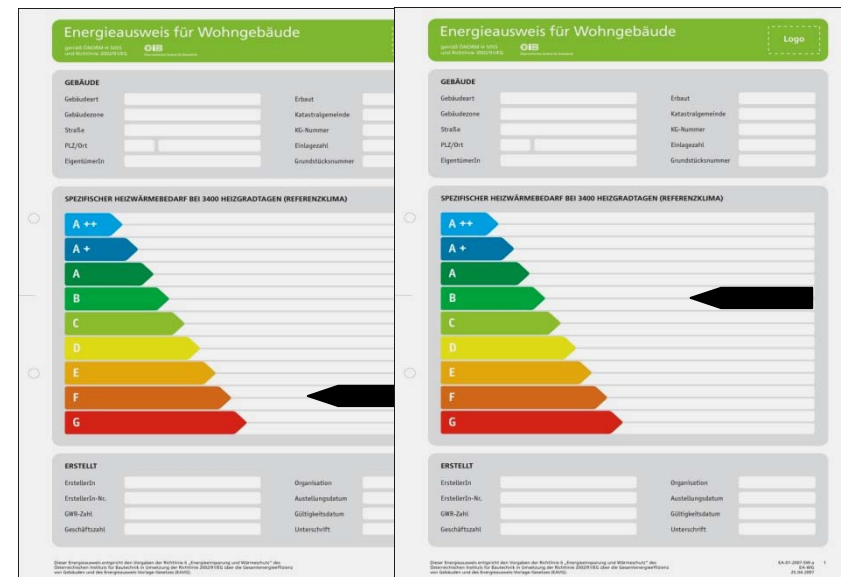


# dwelling house Zobl, Tannheim

- farmhouse
- year of construction: 1650
- building area: 317 m<sup>2</sup>
- new spatial concept – now two units
- reconstruction of an old, historic building to a modern and energy-efficient object
- usage of ecological materials

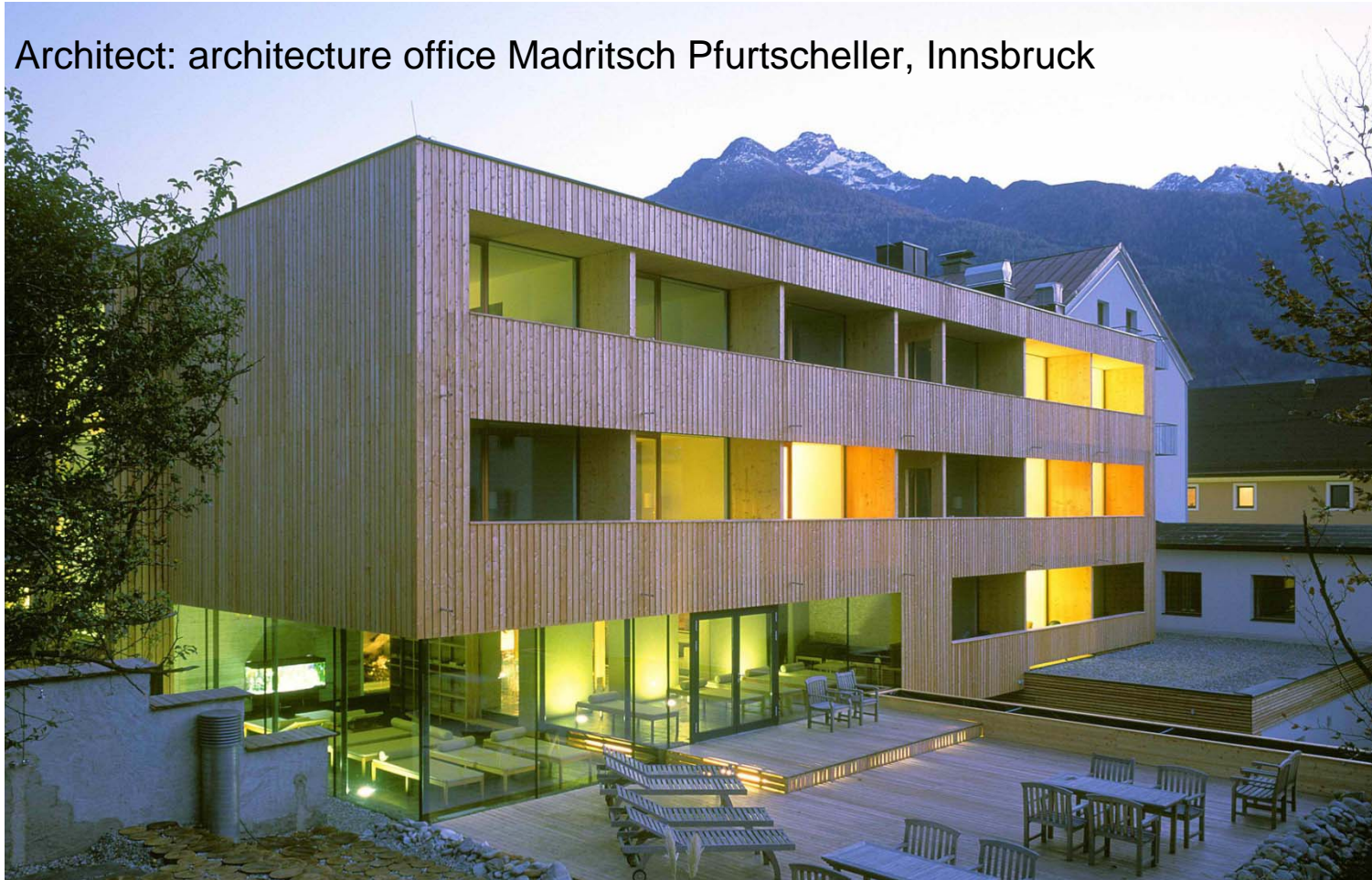
# dwelling house Zobl, Tannheim

- heating demand before reconstruction: 209 kWh/m<sup>2</sup>a (category F)
- heating demand after reconstruction: 36 kWh/m<sup>2</sup>a (category B)
- improvement HD: 83%



# Hotel Hinteregger, Matrei in Osttirol

Architect: architecture office Madritsch Pfurtscheller, Innsbruck



# Hotel Hinteregger, Matrei in Osttirol

- year of construction: 1929
- building area: 760 m<sup>2</sup>
- reconstruction with modification and annexe
- heating demand after reconstruction: 34 kWh/m<sup>2</sup>a (category B)
- usage of ecological materials

The image shows a standard German energy label for residential buildings. The label is titled 'Energieausweis für Wohngebäude' and includes a logo for 'OBB'. It contains the following information:

- GEBÄUDE:** A table with fields for 'Gebäudeart', 'Gebäudezone', 'Straße', 'PLZ/Ort', 'EigentümerIn', 'Erbaut', 'Katastralgemeinde', 'KG-Nummer', 'Einlagezahl', and 'Grundstücknummer'.
- SPEZIFISCHER HEIZWÄRMEBEDARF BEI 3400 HEIZGRADTAGEN (REFERENZKLIMA):** A bar chart showing energy efficiency classes from A++ (dark blue) to G (red). The current rating is B, indicated by a black arrow pointing to the 'B' bar.
- ERSTELLT:** A table with fields for 'ErstellenIn', 'Erstellen-Nr.', 'GWR-Zahl', 'Geschäftszahl', 'Organisation', 'Ausstellungsdatum', 'Gültigkeitsdatum', and 'Unterschrift'.

At the bottom, there is a small disclaimer: 'Dieser Energieausweis entspricht dem Vorgehen des Richtlinien-Energieausweis und Homestead' des Österreichischen Instituts für Bautechnik in Umsetzung der Richtlinie 2002/91/EG über die Gesamtenergieeffizienz von Gebäuden und des Energieausweisgesetzes (EAWG). On the right side, it says 'EN 15603 2014 04 200 26.11.2017'.

# Elementary school Stams



Architect: Arch. DI Raimund Rainer ZT GmbH, Innsbruck

# Elementary school Stams

- reconstruction with modification and annexe
  - annexe contains elementary school, gym
  - modified old building contains secondary school:
    - a couple of years ago facing was insulated and windows renewed  
→ no changes of facade (for economical reasons)
    - new spatial concept

# Elementary school Stams

- building area: 4.275 m<sup>2</sup>
- annexe in passivehouse quality
- improvement of sound protection
- barrier-free
- heating demand after reconstruction: 21 kWh/m<sup>2</sup>a (category A): total building

The image shows a template for an energy label for residential buildings. The title is 'Energieausweis für Wohngebäude'. It includes a logo field in the top right. The 'GEBÄUDE' section contains fields for building name, address, floor area, and owner. The 'SPECIFISCHER HEIZWÄRMEDARF BEI 3400 HEIZGRADTAGEN (REFERENZKLIMA)' section features a bar chart with energy efficiency classes from A++ (dark blue) to G (red). A black arrow points to the A++ class. The 'ERSTELLT' section contains fields for creator, date, and organization. At the bottom, there is a small disclaimer and the date '10.01.2013'.

# Elementary school Stams

building details – U-values:

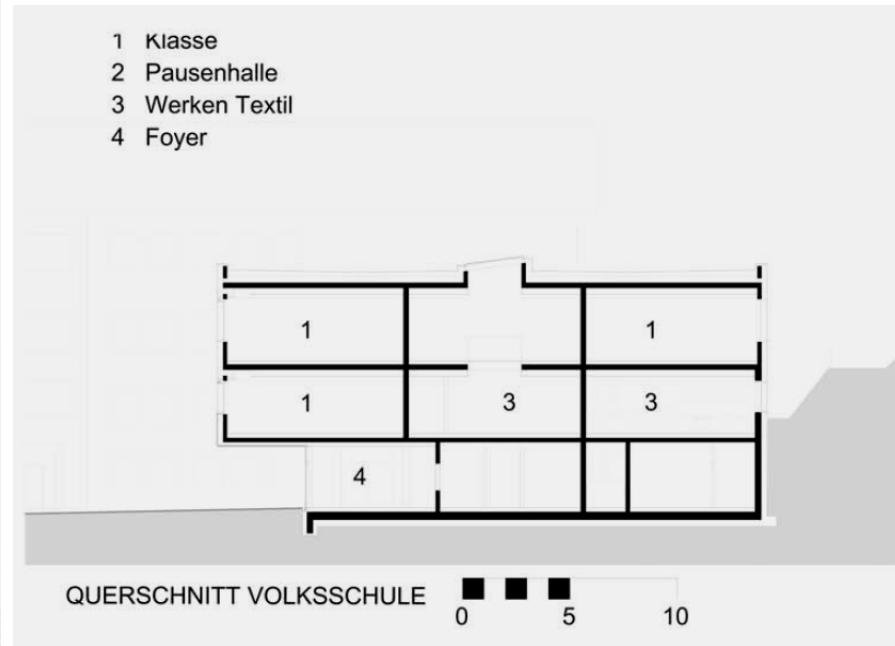
- usage of passivhouse components
- external walls: 0,12 W/m<sup>2</sup>K (annexe)
- roof / top ceiling: 0,09 W/m<sup>2</sup>K (original: 1,0 W/m<sup>2</sup>K)
- basement ceiling: 0,35 W/m<sup>2</sup>K (original: 1,5 W/m<sup>2</sup>K)
- windows U<sub>w</sub>: 0,79 W/m<sup>2</sup>K (original: 1,8 W/m<sup>2</sup>K)
- sonic optimization with acoustical ceilings

# Elementary school Stams

building services:

- installation of an air supply system with heat recovery:
  - heat recovery rate: 85 %
  - result Blower-Door test:  $n_{50} = 0,36$  1/h
  - system in class rooms: peripheral,  
in the gym: central
  
- connection to district heating

# Elementary school Stams



# Elementary school Stams



# Elementary school Stams

