



Low energy houses and rational use of energy in the building sector in Europe

Best practice experiences in Germany

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Fraunhofer-Institut für Bauphysik
75 Jahre
1929-2004
Innovation@Bauphysik

Fraunhofer Institut Bauphysik



High performance buildings

**The long german way towards better buildings
(A success story)**

The Solarhaus approach...
(1975 – 1988)

Gain maximized
(Schneider-Wessling)

Loss minimized
(Seegy)



Resume: Solar architecture means climate dependent buildings

.... was followed by the Niedrigenergiehaus
(1987 – 1995)

Single-family house
(Schreck)

Multi-family house
(Glück)

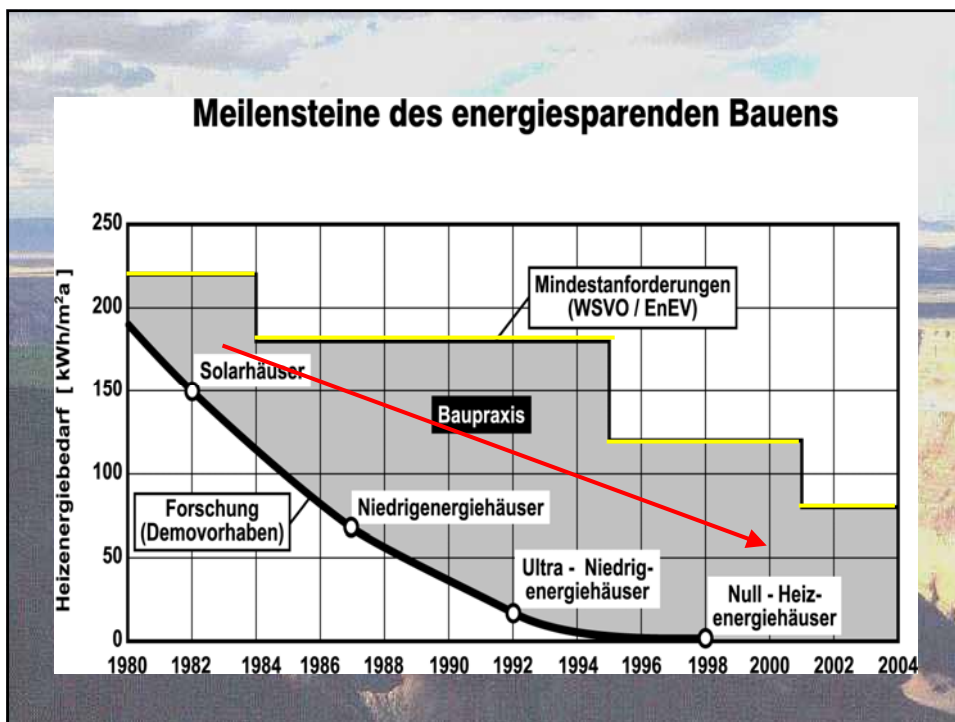
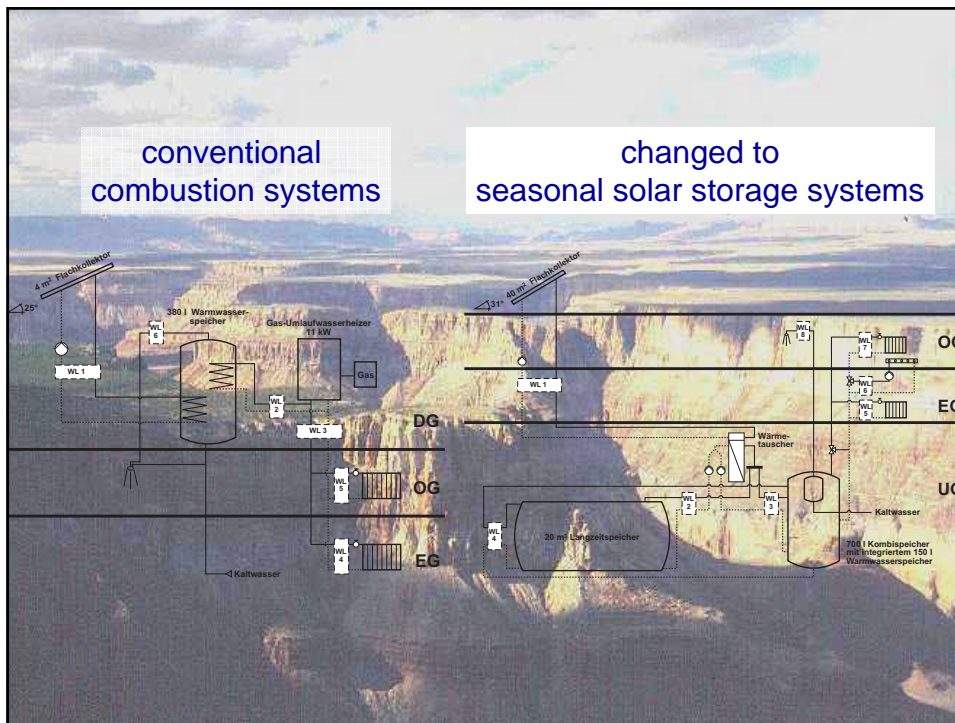


Key technology
Thermal insulation

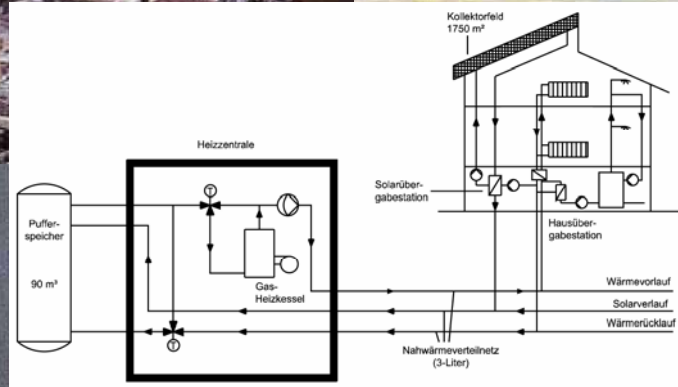


**A new window generation reduced the frame losses strong
(U_w - values changed from 1,5 up to 0,8 W/m²K)**

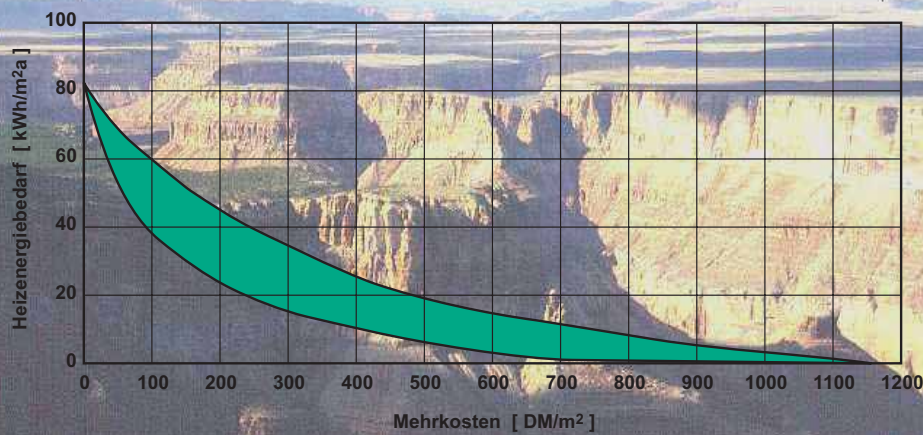




Settlement approaches













Quality costs money





Demonstration Buildings

Denmark: Copenhagen  Cultural Centre Propevallen		Norway: Hol  Church Hol Commune
Great Britain: Plymouth  Plymouth College of Further Education		Norway: Asker  Borgen Community Centre
Germany: Stuttgart  Nursery Home Fäzertof		Lithuania: Vilnius  Main Building Vilnius Gediminas University
Italy: Milano  Student Hostel Daniefa		Czech Republic: Brno  Students Social and Cultural Centre "Brewery"
		Greece: Athens  Evrymos Ecological Library

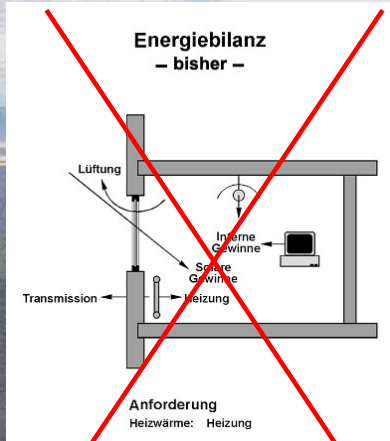
■ Central
 ■ North
 ■ South
 ■ East

Energieeffizienz

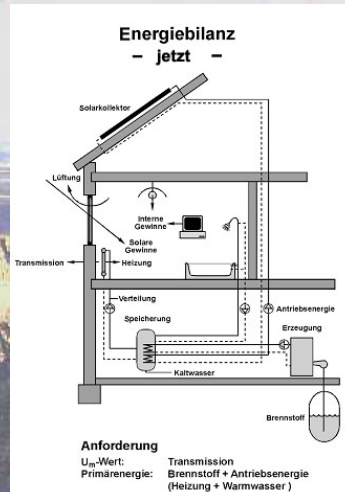
Energieeffizienz

Wissens-transfer: Plattform „Life Science Centre EnEff Schule“

Energy efficiency needs integral planning instruments

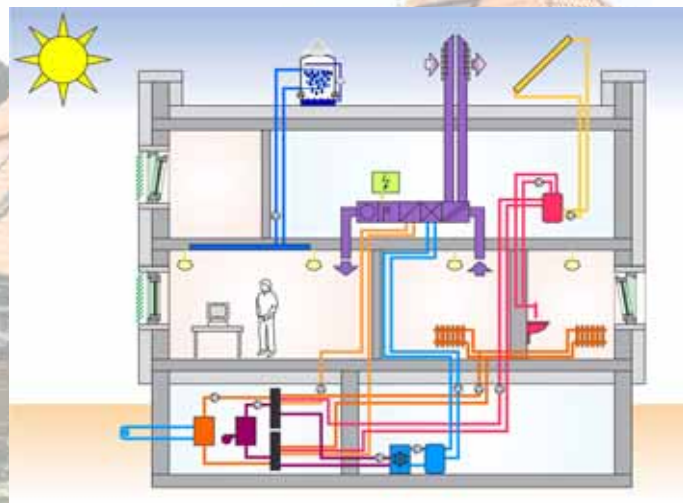


z.B.: EN 832

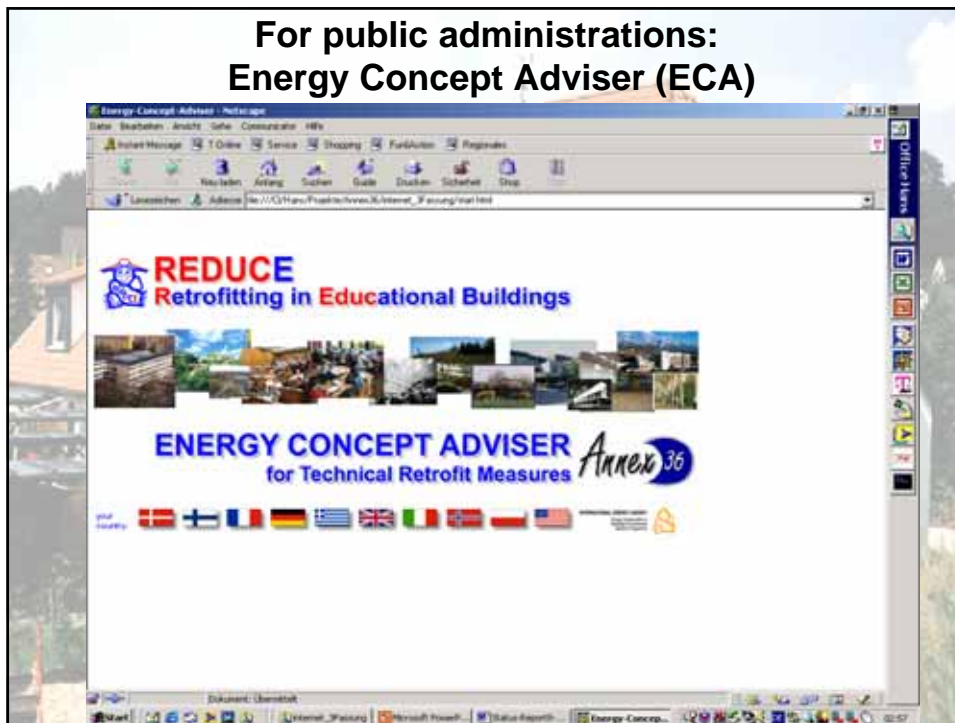


z.B.: EN ISO 13790 (EN 832) + EN 14335

The holistic approach (non-residential buildings)



For public administrations: Energy Concept Adviser (ECA)



Promote energy certificates



Project proposals

Energycertificates for public building

Energy concept advisor tool for SA climate

Schools as shining examples (case studies)

75 Jahre IBP

20 Jahre Wärmetechnik

Global challenges:

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for innovative und energie-
effizient Buildingsconcepts**

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