

**Revitalization of the Kreditanstalt
für Wiederaufbau KfW**
Palmengartenstraße 5-9
60325 Frankfurt am Main

Data

Year of construction: 1968
Realization period: 2002-2005
Floor Area (Brutto): 26,000 m²
Budget, mechanical: circa 21 Mio EU
Total budget: circa 83 Mio EU

Client

Kreditanstalt für Wiederaufbau
Frankfurt am Main
www.kfw.de

Design

RKW Rhode Kellermann Wawrowsky
Architektur + Städtebau
Frankfurt am Main
www.rkw-as.de

Planning Capacity

Technical-ecological concept,
technical controlling

Publications

www.kfw-monitoring.de
www.ensan.de

The Kreditanstalt für Wiederaufbau is revitalizing their home offices located directly adjacent to Frankfurt's botanical gardens. With the completion of the project the building will meet the highest of both energy-saving and aesthetic standards. The projected primary energy use will lie significantly under that of conventionally planned modern buildings.

Planning ip5

- Consultants for the development of the facade and cooperation in the development of the shading and ventilation elements
- development of ranking methods for the multi-criteria assessment of various ventilation concepts, of facade concepts, water concepts, as well as concepts for heating and cooling
- Calculation of the economic feasibility of various heating and cooling concepts
- Calculation of the surplus costs and savings in comparison with a conventional planning
- Thermodynamic simulations and calculations coupled with airflow models using the simulation software TRNSYS 15
- Daylighting simulations using the simulation software RADIANCE
- Creation of regulation schemes for individual room regulation
- technical-economic controlling
- Set up and permanent verification of goals for primary energy use for all relevant energy flows in the building (heating, warm water, cooling, ventilation, artificial light)

Energy and Water Concept

- Innovative facade concept with pioneering sunprotection and aerodynamically optimized ventilation elements
- Greatly improved insulation
- Night cooling and ventilation over an energy efficient exhaust unit with optimized regulation concept
- Optimized use of daylight
- Energy efficient artificial lighting concept
- Monitoring and regulating algorithms optimized in regard to user comfort and energy use
- Cooling with trigeneration
- Water-saving sanitary concept with vacuum technology, grey water and rain water use

