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Building Energy Services in Europe

BERLINER Energie AGENTUR

European Energy Service Award 2019

Energetic Renovation of the Essen City Hall

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ESSEN

City of Essen & Siemens Building Technologies

Description

Background | Initial Situation

Energy-oriented deep retrofit of the technical systems (ventilation, air-conditioning, water savings and electrical systems) of the Essen City Hall and simultaneous reduction of the high financial, maintenance an operation cost as well as significant abatement of CO_2 pollution caused by the operation of the city hall.

Challenge

The planned measures were pre-installed in a model office to simulate the behaviour of the technical systems by a team of technicians and engineers.The systems as well as all components have been implemented in an operational environment.

Solution | Measures

- Well thought out measuring and verification concept
- Renewal and optimization of main ventilation and air conditioning systems
- Renewal of more than 2,600 induction units
- Renewal of the building automation and control system
- Optimization of heat distribution
- Optimization of cooling supply and distribution
- Ongoing energy monitoring
- Maintenance and service concept according to VDMA 24186
- Green Building Monitor

Essen City Hall

Results

Beside the economic benefits the EPC project "Rathaus Essen" has made a significant contribution to the city of Essens success in achieving the title "Green Capital of Europe 2017".
It was assessed to what extent it contributes to the continuous improvement of the environmental performance of the city, how those responsible of the municipal departments have communicated with the citizens and to what extent they could set an example and promote best practices in other European cities as well as promoting the transfer of know-how and experiences achieved.

Key Results

Operational savings:	986,000 € / year
Reduction of CO_2 emissions:	2,185 tons / year

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