Green success for austrian hotel with help from Siemens

Modernization leads to Green Building Certificate”

The Building Technologies Division of Siemens re-equipped the 4-star Hotel Wende in Austria with energy efficient technologies, which resulted in annual energy savings that will pay for the cost of the equipment within a maximum of ten years.

Taking climate change seriously

Eleven of the twelve years between 1994 and 2005 rank among the twelve warmest since weather observations began and, today, the CO2 concentration in the atmosphere is the highest it has been over the past 350,000 years. Studies show that buildings contribute 40% of energy consumption worldwide (transport 28%, industry 31%) and 21% of total CO2 emissions (13% indirect emissions through power usage) – and hotels are no exception.

Innovation generally is key in combatting climate change and creating sustainable economic growth. Indeed, new building technology combined with intelligent and efficient usage of heating, cooling, ventilation and hot water systems can significantly contribute to reductions in energy consumption.

But, to a large extent, technical solutions already widely available can also help solve the challenge of climate change with the implementation of such systems as on-site energy generation by solar, wind or even geo-thermal power and added efficiencies in building lighting, heating and ventilation.

Energy savings of 28% pay that for themselves

The Hotel Wende is a prime example of the efficiencies that can be gained from such systems. The dramatic rise of greenhouse gas emissions since industrialization has been directly linked to the burning of fossil fuels, which, despite this, are set to remain the primary energy source and grow absolutely. For the Hotel Wende however, this was one of the areas identified where new efficiencies could potentially bring significant savings. Built in 1970, the 4-star hotel located in the natural landscape

in the Neusiedlersee-Seewinkel national park, a UNESCO world cultural heritage site, extends over two floors, and offers guests 104 rooms and spacious facilities. Re-equipping the hotel in 2009 with a view to improving its energy balance, the Building Technologies Division of Siemens has brought about savings of more than 28% of the requirement for primary energy, such as natural gas and electricity to the hotel. This is the equivalent of an annual reduction of carbon dioxide emissions of 145 tons, and annual savings made on energy and water of approximately €22,000 without taking rising energy prices into consideration.

The investment in equipment from Siemens is already paying for itself, as hotel owner Horst Wende emphasizes: "Compared to the previous year, we were able to save 3,300 m3 of gas in March 2010 alone. That is an impressive saving for a single month."

Energy efficiency at work

Instead of oil, the hotel's water is now heated by the solar heating system installed by Siemens in cooperation with solar power specialists Sonnenkraft. Further savings were achieved by installing new pumps with regulators to provide heating on demand; a more efficient condensing boiler has replaced the existing boiler; ventilation of the swimming pool hall has been optimized using high-performance heat recovery; thermostats have been fitted to regulate room temperatures; and water-saving fittings installed wherever possible throughout the hotel. Siemens has also undertaken the control and monitoring of energy usage in the hotel, so that savings are maximized.

For its energy efficient operation, the Hotel Wende was awarded the "Green Building Certificate", which is a reward for dedication to the environment and climate protection. This environmental protection initiative was created in 2005 by the European Commission and should promote the change over to renewable energy, the reduction of energy consumption and waste generated by private and public buildings. In Austria, the program is managed by the Austrian Energy Agency.

Highlights

- Optimization of the heating system through the installation of new pumps with a new control system that enables demand-based heating
- Water heating via solar energy
- Replacing the old boiler with an efficient, modern condensing boiler
- Optimization of the ventilation systems through the use of high-performance heat recovery for the ventilation in the swimming pool hall
- Installation of thermostat units for room temperature control
- Installation of low-flow inserts at all water taps
- Energy monitoring services

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