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Solutions for Hospitality

# Green break at the world's first net zero-energy city hotel

Boutiquehotel Stadthalle reconciles profitability and sustainability goals to better address the needs of environmentally sensitive guests

Award winning Boutiquehotel Stadthalle in Vienna combines renewable energy sources with intelligent energy management from Siemens to achieve a net zero-energy balance.

## The green challenge

Boutiquehotel Stadthalle is a three star eco hotel located in the 15<sup>th</sup> district of Vienna. Hotels the world over are faced with a balancing act between their business goals – such as enhanced brand equity or profitability improvements – the increasing expectations of their target customers and changing environmental policies.

With its sustainability initiatives, backed by systems from Siemens, Boutiquehotel Stadthalle is achieving all of these goals, and was even rewarded by being the first hotel in Vienna to receive the strict EU Ecolabel for tourism businesses who limit their environmental impact.

By becoming the world's first net zero-energy city hotel, it also demonstrates the vital role that sustainability now plays in the hospitality sector, and the importance given to the topic by cities themselves as they compete to attract investors, corporate visitors and tourists.

## Net zero-energy in 12 months

Originally offering 42 rooms in a thoughtfully renovated period town house, an extension to the hotel saw the addition of a further 38 rooms in 2010.

Ecology was already a prime focus before the extension work, illustrated by a number of initiatives, including the use of rainwater from large cisterns located on the roof, alongside signage that generates its own electricity. But the addition of the new building took this sustainability focus to a new level, with the hotel becoming the world's first Net zero-energy city hotel within 12 months of implementing new eco-friendly initiatives. The hotel now generates as much energy as it uses for its operation, through the use of renewable energy sources which include solar thermal and photovoltaic panels and ground water heat pumps. Three proposed wind turbines are also awaiting planning permission.

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### Produce energy sustainably, then manage it intelligently

Heating and cooling are significant contributors to a hotel's energy load. At the Stadthalle hotel, an in-house well supplies cooling energy and provides the heat pump system with groundwater. The power is generated by 82 square meters of photovoltaic panels and 130 square meters of solar thermal panels. This is used to heat the water for the hotel's general areas and its 80 rooms, as well as pre-heating fresh air through a ventilation system which achieves over 90 percent heat recovery.

Central to the operation is a DESIGO™ building automation system from Siemens, which offers intelligent energy management. Through integration of all the system components and processes, DESIGO ensures constant guest comfort and very efficient use of the hotel's energy. It features programmable automation controllers along the needed workflow patterns as well as flexible key performance indicators related to measurement and control technology that

enable the monitoring and regulation of heating and ventilation based on actual demand or pre-defined schedules. The system also controls and monitors the concrete core activation, water heating, the solar panel system, buffer management and the geothermal heat pump. DESIGO's web-based operation enables energy data and reports to be accessed at all times, increasing energy monitoring capability, consumption transparency and usage efficiency.

### Sustainable cities need sustainable hotels

Michaela Reitterer is the hotel's Director and recognizes that green based guest engagement initiatives are also an important factor in achieving her hotel's impressive 83 percent annual occupancy rate. Ms. Reitterer comments – "Guests arriving by bicycle or by train receive 10 percent discount on the accommodation rate." Future plans also include the addition of two charging points to enable guests to plug in and recharge their electric cars at no cost – using energy generated by the hotel of course.

### Highlights

- A centralized DESIGO™ building management system ensures efficient energy use
- Programmable automation controllers help maintain the right balance between guest comfort and energy savings
- Heating and ventilation are monitored and regulated based on actual demand or pre-defined schedules
- Advanced, web-based reporting and monitoring capability ensures transparent energy use