

# Brigittenau swimming pool goes green, saving energy

25-year-old pool gets new, energy-efficient lease on life



Energy and water cost savings and reduced CO<sub>2</sub> emissions earn award for Vienna's Brigittenau indoor swimming pool

## "Green Swimming Pool" energy-efficiency program helps relieve burden on public-sector budgets

### ■ Model for refurbishing other facilities

In addition to impressive sustainable energy savings and better comfort for its swimming public, the City of Vienna, Austria received recognition from the European Commission for its "green swimming pool" project in 2007. The jury for the European Energy Service Initiative was impressed by the water cost savings and CO<sub>2</sub> emission reduction generated by the Siemens Energy Saving Performance Contract. The green swimming pool was praised as a model for refurbishing other aging, energy-intensive facilities.

Vienna's leadership turned to Siemens and its proven Energy Saving Performance Contract to fund necessary modernization of building technology equipment and automation technology. Siemens guaranteed annual energy savings of 200,000 euros for the 10-year contract period, which are used to

fund the investment of 1.44 million euros in new equipment. As part of the Energy Saving Performance Contract, Siemens pays the difference if the annual savings fall below the guarantee. If annual savings exceed the guarantee, the city keeps the difference.

With Energy Saving Performance Contracting, Siemens helps customers bridge the gap between continuously rising energy costs and limited system engineering budgets. In more than 1,900 projects around the world, Siemens has helped customers save more than 2 billion euros in annual energy costs. This allows customers to invest the money saved in other areas and also benefits the environment. By reducing more than 2.4 million tons of CO<sub>2</sub> emissions each year, Siemens demonstrates impressively what it means when it talks about sustainable energy savings. And Siemens guarantees the results.



Swimmers of all ages enjoy newly energy-efficient pools, which have new technology that reduces the burden on public-sector budgets

### ■ Sustainable budget reduction funds new technology

Brigittenau swimming pool, designed by architect Grunberger, sits in a beautiful undulating meadow in the midst of Vienna, perfect for its sun beds. However, the substantial operations costs of indoor swimming pools can be a burden on public-sector budgets, jeopardizing their ongoing operation. Energy Saving Performance Contracts that systematically modernize and optimize building technologies are particularly suitable for indoor swimming pools, many of which are more than 30 or 40 years old. The new technology can be used to exploit the full potential for energy savings.

An analysis of the Brigittenau pool, which was about 25 years old, showed that most of the energy was used to heat the water, run the ventilation system and dehumidify the interior. In addition, the water was being heated by a fairly inefficient district heating system and was unnecessarily wasted. The solution included installing solar collectors for

heating the water, which also provided more effective insulation for the structural shell. These improvements make it possible to recover heat from the water in the pool, and the water flow into and out of the pool is controlled by the fixed chlorine content in the pool water. All water treatment systems have been refurbished, including water-saving fittings for showers and washbasins. The heating system now incorporates a condensing boiler.

A new building management system was installed to ensure efficient operation of the building technology as well as the lighting and heating of the sauna. The ventilation system was optimized. An energy management system based on DESIGO Insight control technology was installed for energy monitoring and controlling to help with peak load reduction as well as data archiving and reporting. All of these measures reduced energy used to heat the pool by 66 percent and water consumption by 45 percent.

### Highlights

- Customized 1.44 million euros modernization of building technology equipment and automation technology without the need to invest capital
- Guaranteed energy and water savings of 200,000 euros annually during the entire contract period
- Energy services with monitoring and controlling to ensure the guaranteed energy savings
- Contribution to climate protection by reducing polluting CO<sub>2</sub> emissions by 600 tons
- Amortization period of ten years

The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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