Low energy use at Västervik sports centre

Västervik, in south Sweden, has saved both energy and money since modern energy-efficiency equipment was installed in its swimming pool and bowling alley. Energy use in the sports centre has so far fallen by around 830 MWh/year, and operating costs have been reduced by efficient heat recovery.

Energy efficiency at the Västervik sports centre is a good example of how a local authority can save energy and money by installing modern equipment for ventilation and heat recovery in a facility with high energy consumption.

POSITIVE ENVIRONMENTAL AND ECONOMIC IMPACTS

The well-used sports centre, including a swimming pool and bowling alley, is in central Västervik. In 1999 the Municipality received grants from the local investment programme (LIP) to improve the facility’s energy efficiency. An efficient ventilation system with a dehumidifier and heat exchanger was installed at the swimming pool, reducing the need to introduce cold air. In addition the bowling alley, which did not have heat recovery, was given a modern heat-recovery plant.

- Lower operating costs due to efficient heat recovery.
- Reduced energy use (electricity and district heating) for the plant at around 830 MWh/year.

MODERN EQUIPMENT SAVES ENERGY

The modern and highly efficient units for heat recovery, dehumidification and heat exchange result in lower operating costs and reduced energy use, which means that the Municipality of Västervik saves energy and money.
Installation at the swimming pool resulted in slightly higher air humidity, but a relative humidity of 60% is common in swimming pools and difficult to reduce without inconveniencing bathers. A new fan room installed in the roof contributed to higher than anticipated costs, but the financial and economic gains outweigh these.

New frequency-controlled circulation pumps for the pool water were installed in 2007. They are to have occupancy control capability, giving a further improvement of energy saving and heat recovery.

POTENTIAL AND FUTURE BENEFIT

Baths and sports facilities are heavy energy consumers, so measures to save energy are highly effective. Many baths were built in the 1960s and 1970s. Developments in recent decades, for example featuring adventure pools, spa facilities and rehabilitation pools, have meant a rise in water temperature of up to 10 degrees. The increased number of facilities – both in Sweden and abroad – with stricter demands for temperature, ventilation and water treatment, means that more energy is needed. This makes energy efficiency measures crucial and also improves the market prospects for good energy, ventilation and water treatment systems.

WHY BEST PRACTICE

The project has had a favourable environmental impact, with major energy savings and greater economy. The local authority is continuing with energy investments after the end of the LIP project, by installing circulation pumps with occupancy control for the pool water. Information about the facility has been provided through study visits and brochures and on a website. informationsbroschyren och på webbplats.