BEST MEASURING TOOL FOR EFFECTIVE RESULTS

Competition Entry from the Swedish Exhibition & Congress Centre, Gothenburg:

OPTIMAL PLANNING, PURPOSEFUL CONTROL

The Swedish Exhibition & Congress Centre operates a highly diversified group of companies housed within a single facility. The group has been able to reduce its consumption of energy and water by working with a dual-component system for building management control.

The first component, an adapted version of Siemens' EMC (Energy Monitoring & Controlling) solution, in use since 2006, measures our consumption of electricity, heating, cooling, gas and water.

The other component is our in-house customised BCM (Building Control & Monitoring) solution. Together with improved manual procedures, this solution, which itself has been further improved and optimised in recent years, has also helped us to reduce our energy consumption levels per square metre as follows:

2010 208 kWh

2011 199 kWh

2012 189 kWh

2013 186 kWh

WATER CONSUMPTION PER SQUARE METRE DURING THE SAME PERIOD DECREASED TO THE FOLLOWING LEVELS:

2010 0.68 litres

2011 0.65 litres

2012 0.61 litres

2013 0.61 litres
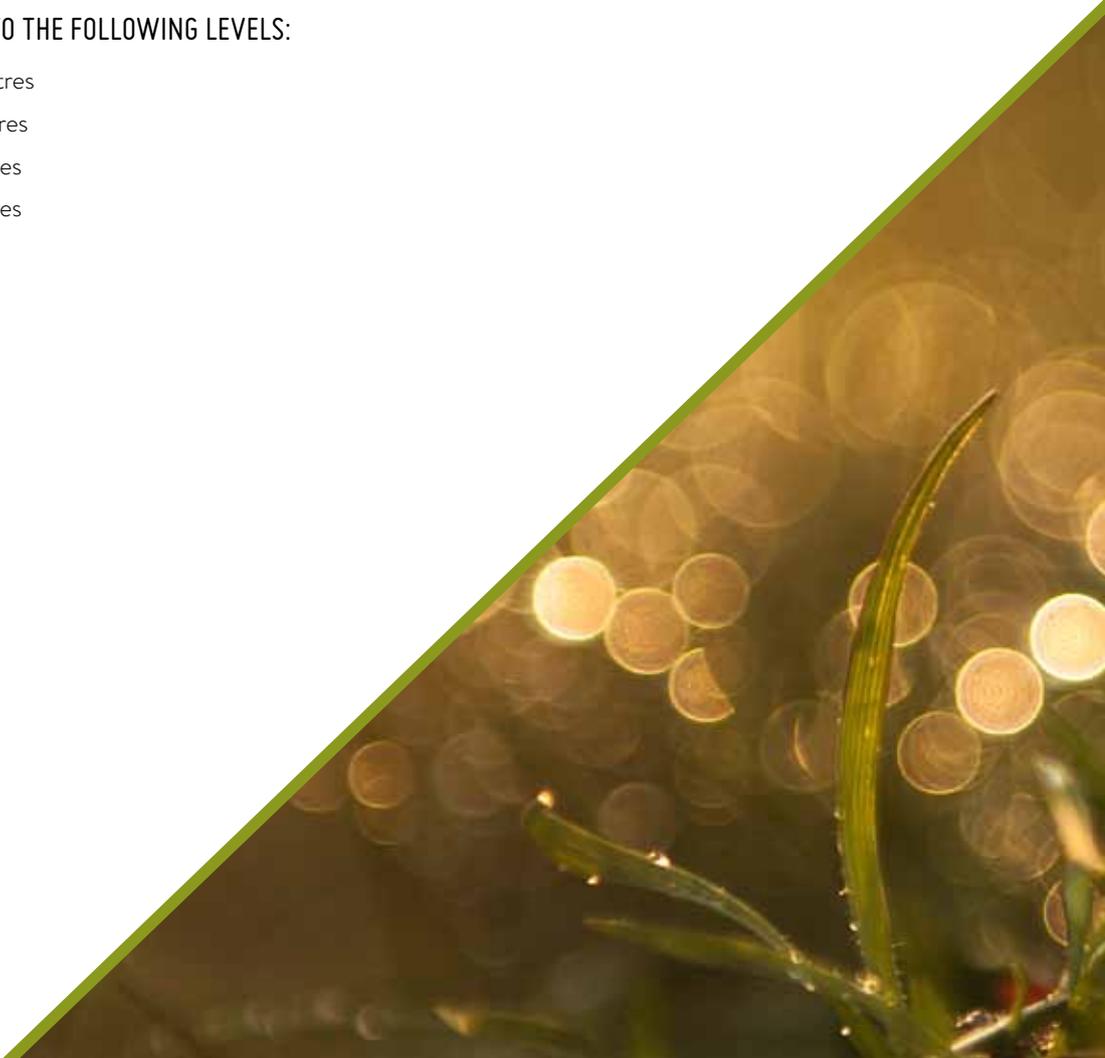
BACKGROUND

The Swedish Exhibition & Congress Centre is engaged in several lines of business - fairs and exhibitions, congresses and conferences, events, restaurants, hotel and spa - all housed within a single facility in central Gothenburg.

More than a million people a year visit our facility, where we arrange and host some 40 exhibitions and trade fairs, several major congresses and conferences, and hundreds of meetings and events per year. We operate Gothia Towers, one of the largest hotels in Europe, at present with more than 700 rooms (1,200 rooms on completion of new construction projects in 2014), and one of the largest restaurant operations in Sweden, catering for everything from haute cuisine dining to banqueting and exhibition meals and refreshments .

The Swedish Exhibition & Congress Centre employs more than 600 people, and has an annual turnover of SEK 800 – 900 million.

Our total floor space (prior to completion of ongoing new construction) is about 145,000 m^2. Some 85,000 m^2 of this is used for exhibitions, congresses, conferences, storage, workshops and cellars. Our hotel and restaurants take up a further 40,000 m^2. Office space accounts for the remaining 20,000 m^2.

STRATEGIES FOR SUSTAINABILITY

The Swedish Exhibition & Congress Centre uses large amounts of energy, around 30,000 MWh annually, without causing any significant environmental impact.

Since 2011, our entire electricity requirement, which constitutes about half of the total energy need, comes from wind power.

We use district heating, and buy cooling from a local plant run by Göteborg Energi. We also use ambient, free cooling, which enables us to reduce the number of our own com- pressors.

Our gas needs, mainly for our restaurant kitchens, have so far been covered by natural gas. We plan to replace natural gas with biogas during 2014. The gas will be supplied by our recycling partners, Renova, who will produce it using anaerobic digestion of food waste that it collects from our restaurants.

ACTIONS TAKEN TO SAVE ENERGY AND WATER

Since 2010, we have actively worked to reduce our consumption of energy and water. We have done this on several levels:

a) By raising awareness among staff of the importance of closing doors and gates, turning off lights in rooms that are not being used, switching off computers and closing water taps.

b) By improving the automatic monitoring of lighting, temperature and air quality throug hout our facility via our BCM system (see above). This is done in several ways. In the exhibition halls and meeting rooms, the amount of CO_2 in the air is monitored

continuously so that the fans start up to bring in fresh air before the CO_2 reaches a critical level.

On the hotel side, we have introduced three-stage room occupancy monitoring. In an unlet room, both the lighting and indoor climate unit are completely switched off. When a guest checks in, the system for the appropriate room is activated. And when the key card is inserted, the lighting is switched on and the room temperature and ventilation are optimised.

c) The implementation of new routines has also been effective. For example, our BCM solution is adjusted on a daily basis to meet the specific requirements of the various activities listed in our Exhibition and Meetings Programme, thereby optimising the timing of the lighting, ventilation, heating and cooling in the premises scheduled for use. We have also created routines for an active dialogue between our technical staff and our exhibition managers to make it easier to carry out adjustments to suit any changes in the Exhibition and Meetings Programme or during an ongoing event. Also, resources for the daily monitoring of the technical systems have been put in place.

d) Investments in energy-efficient technologies, e.g. modern pumps and fan motors, have also contributed to savings. We have also changed from neon to LED lighting for our outdoor signs, and replaced very many 20W light bulbs with 4W bulbs, giving a power reduction of 80%. More efficient dishwashers in our restaurants and low-flush toilets are also helping to reduce water consumption.

SUMMARY OF OUR COMPETITION ENTRY

Our dual component system for building management control, made up of the EMC solution and our own BCM solution, enables us to show significant savings in energy and water consumption (see above).

In terms of money, the Swedish Exhibition & Congress Centre saved approximately SEK 6 million in reduced costs for energy and water consumption during the four-year period 2010 – 2013.

This has been possible due to technical improvements and optimal planning in conjunction with deliberate, purposeful monitoring and control in a complex environment with routinely high, and at times extremely high, flows of exhibition and trade fair visitors, conference and congress delegates, and hotel and restaurant guests.

YOURS SINCERELY,

Petra Löfås
Sustainability Manager

The Swedish Exhibition & Congress Centre Group

SVENSKA MÄSSAN
THE SWEDISH EXHIBITION & CONGRESS CENTRE