

Case study – Sydney Olympic Park Authority



Sydney Olympic Park goes for gold with energy efficiency

By implementing 10 key recommendations from its recent Energy Saver audit, Sydney Olympic Park Authority will cut the electricity use of its sporting venues by nearly 20 per cent and its carbon emissions by 2300 tonnes.

Established in 2001, Sydney Olympic Park Authority is responsible for managing and developing the 640 hectares that comprise the former Olympic Games site for the benefit of the community. This includes management of the Aquatic, Athletic, Archery, Sports and Hockey Centres and Sports Halls.

Built in the lead-up to the 2000 Olympics Games, these sporting venues were the subject of a recent Office of Environment and Heritage (OEH) Energy Saver audit. The audit identified a number of initiatives that could cut annual electricity consumption for these venues by more than 2000 megawatt hours and gas by in excess of 10,000 gigajoules, which will offset rising energy costs.

Ross Coggan, who is General Manager of Sydney Olympic Park Authority's venues, says the audit provided them with direction on initiatives to tackle straight away and more long-term projects.

'The auditors came up with 20 initial recommendations,' says Coggan. 'We were keen to progress half immediately, knowing that the payback period for our outlay was less than three years.'

Many projects involved the Aquatic Centre, which accounts for 50 per cent of the Authority's annual energy spend. The centre, which attracts ▶

In brief

An Energy Saver audit of Sydney Olympic Park Authority's sports venues identified initiatives that will help reduce electricity use by close to 20 per cent. Many of the projects involve adding variable speed drives to the numerous pumps and fans in the facility as well as controlling the HVAC system.

Results

- Potential saving of \$1.9 million over 10 years at a capital cost of \$300,000 for priority projects.
- Annual reduction in carbon pollution of more than 1700 tonnes following full implementation.
- Average payback period of less than three years.
- Funding assistance can be sourced through the creation and sale of Energy Saving Certificates under the NSW Energy Savings Scheme.



- ▶ more than a million visitors each year, includes four pools, a health club and offices. In addition to leisure crowds, it hosts the state and national championships and numerous swimming carnivals. Built more than 17 years ago, the venue underwent an extensive upgrade before the Sydney 2000 Olympic and Paralympic Games.

Most of the audit's recommendations were for the Aquatic Centre and included using variable speed drives (VSDs) on the pump for the water feature, and to link control of the filtration pump to the quality of the water in the pool.

The audit recommended VSDs to control the flow rate of all hot, chilled and condenser water circulation pumps in the Aquatic and Sports Centres. The audit identified further energy savings in lighting upgrades and operation.

'The variable speed drives are a terrific improvement,' says Coggan. 'In the case of the water filtration system at the Aquatic Centre, adding the VSD will allow us the opportunity to ramp down the pump speed to 80 per cent at peak times and 50 per cent otherwise, subject to guidelines.'

'That's one of our more strategic projects with a capital cost of more than \$170,000 and payback period of three-and-a-half years.'

Coggan says that while energy efficiency was always on the management's radar, the audit provided the scientific evidence that the authority was on the right track. Reducing electricity consumption by three per cent per annum is now a key performance indicator.

'Of course the challenge for us is containing costs while trying to maintain a positive visitor experience for over a million people using the Aquatic Centre,' says Coggan. 'Likewise, we need to ensure that our pumps are working at full capacity only when needed and we don't use full TV lighting on a field where 10 people are training.'

'While the audit came at a cost to the Authority, it was well worthwhile getting an expert opinion. The audit paid for itself within months.'

'It's important that the Authority stays at the cutting edge of energy efficiency because we are seen as a role model in venue management and we are regularly consulted by councils and other venues.'

'The London Olympic organisers recently consulted us about how they could save power, which shows that what we do in Australia is setting benchmarks.'

Sydney Olympic Park Authority is also a Bronze Partner of OEH's Sustainability Advantage Program and is working towards Silver status. The Authority looks after a cluster of seven local businesses as part of the Program and is exploring using a gas-fired cogeneration unit for the Aquatic Centre.

Your next step

To find out how your business can access support contact the Energy Saver team

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