

SA hotels now 'aquasmart' thanks to new tool

The Water Research Commission (WRC) has developed a tool to help hotels and other hospitality accommodation establishments reduce their water consumption. Sue Matthews reports.



When the small coastal town of Hermanus was gripped by drought a few years ago, permanent residents eyed the perilously low level of the De Bos Dam with a growing sense of unease, and frequently bemoaned the view that visitors to the area were not committed to saving water. The town's population increases fourfold during the peak summer season, and although this is partly due to the abundance of holiday homes, there are numerous guesthouses and B&B's, as well as a few hotels.

It was perhaps fitting, then, that a workshop to test-run a tool designed to assist these accommodation

establishments to be more 'water wise' was held in Hermanus recently. The AquaSmart Hotels tool was developed by engineering and environmental consulting firm, Jeffares & Green, as part of a WRC-funded project that aimed to increase awareness for water conservation within the hospitality industry.

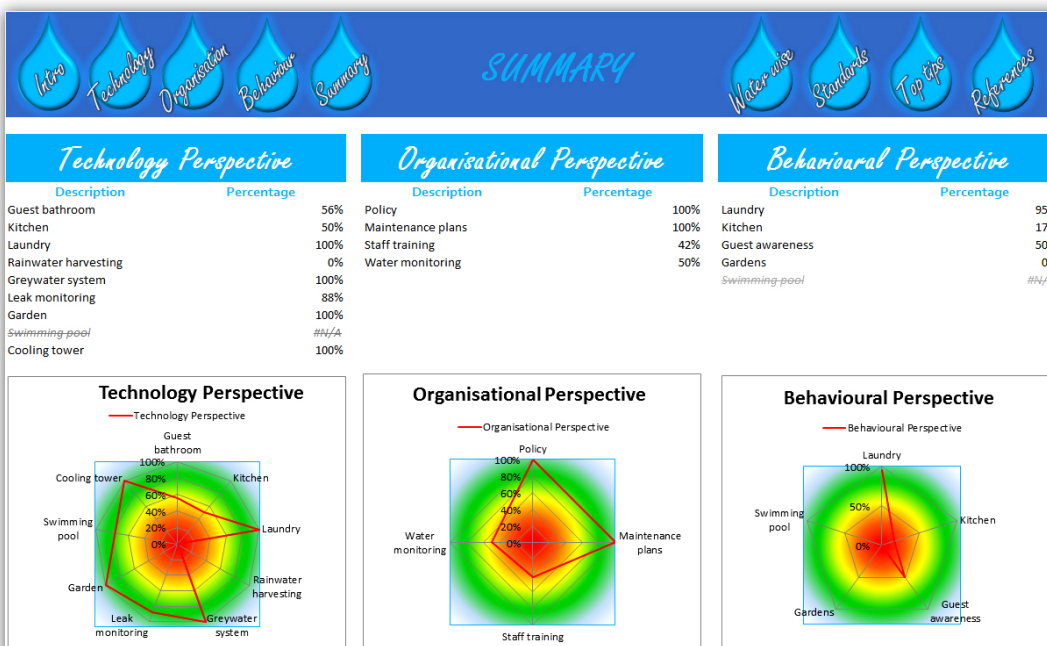
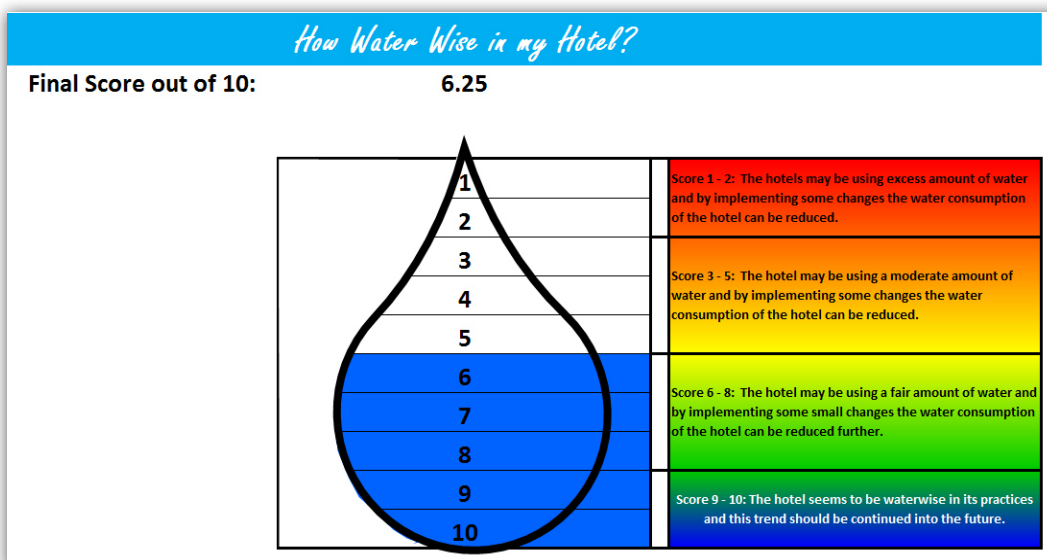
"It's been found in other studies that guests in hotels are likely to use more water than they would at home," explained project leader Melissa Wade. "And according to research in Australia, the average medium to large hotel uses about 300 litres of water per room, which equates to 29 Olympic-size swimming pools in a year."

Surprisingly, showers have been found to account for the major share of this water use, so just replacing standard showerheads with low-flow aerated ones can result in a 65% saving per shower. 'Friendly reminder' signs in bathrooms asking guests to save water and take shorter showers are quite common nowadays, and – since the laundry is another significant water guzzler – many hotels have introduced a 'no change' policy, with towels and bed linen only washed after check-out, or every few days for long-stay guests.

These are examples of the three kinds of interventions required for a successful water-conservation programme, likely to achieve substantial savings in water usage:

- **Technological changes:** The installation of water-saving equipment and devices to improve water efficiency
- **Organisational changes:** A review of the policies and procedures that need to be in place in order to help reduce utility costs
- **Behavioural changes:** The efficiency of water use within the establishment is dependent on the habits of guests and employees.

The first section of the user guide accompanying the AquaSmart Hotels tool provides water-conservation tips incorporating these three aspects for guest rooms, laundries, kitchens, gardens, swimming pools and cooling towers for air-conditioning systems, as well as some information on rainwater harvesting



Top: The AquaSmart Hotels tool gives a final 'water wise' score out of 10.

Bottom: The Summary worksheet contains the percentage scores from the various divisions in the Technological, Organisational and Behavioural Perspective worksheets, and spider diagrams as graphic representations of the results. The closer the red line to the centre of the diagram, the worse the score.

and greywater recycling. The importance of training and incentivising staff to conserve water is highlighted – for example, short-stay guests may not report leaking pipes, dripping taps and running toilets to reception, so house-keeping staff need to bring such problems to the attention of management for prompt repairs.

The second section of the user guide covers the tool itself.

“The tool is divided into two Excel workbooks,” explained Melissa. “One is the actual tool, which is like a scorecard – it’s trying to determine how well the hotel is doing with regards to water usage and to highlight where more could perhaps be done. The second is a database where the water consumption information can be stored.”

Once users of the tool have answered the questions listed in three worksheets covering technological, organisational and behavioural aspects, a Summary Worksheet containing the water wise score and more detailed results is generated. The results highlight areas needing attention, after which the Example and Information Worksheets can be used to identify ways in which water consumption can be reduced, and awareness and water management improved. More specifically, the Example Worksheet allows the user to input the cost of a water wise utility or product, and the tool will determine the payback period in months based on the amount of water that will be saved. These figures are only estimates, however, so users should research the costs and savings of such products themselves before making a purchase.

The database allows monthly information such as the water tariff, water consumption and occupancy rate to be recorded, and then ‘number-crunched’ to determine the monthly cost of water used. Results

are displayed in four different graphs, namely:

- Water consumption vs occupancy rate
- Total cost vs occupancy rate
- Water consumption vs total cost.

Average water consumption per guest per day.

There are two case studies in the user guide, one of them being Zoete Inval Traveller’s Lodge in Hermanus. Owner Marilyn van der Velden attended the Hermanus workshop, and her answers to questions in the worksheets yielded a water wise score of 6.92 out of 10. While low-flow showerheads have been installed in all the bathrooms, and rainwater harvesting and limited greywater recycling are used to water the lodge’s garden, other technological, organisational and behavioural changes could be considered to reduce water consumption further. One of the other hotels represented at the workshop, the three-star Windsor Hotel, has recently installed a water recycling system in the laundry, and is looking forward to the busy summer season to see how this reflects on operating costs.

Internationally, most reasonably up-market hotels have implemented water-saving initiatives of some kind, often as part of a broader environmental policy. For those belonging to large hotel groups, this may be driven by requirements for annual sustainability or corporate social responsibility reporting to shareholders, but even small hotels must meet the expectations of a growing sector of their clientele who are well-informed about responsible tourism practices.

There are also concerted efforts at awareness-raising from within the industry. For example, the International Tourism Partnership – set up under the International Business Leaders Forum by the major hotel groups in the wake of the Rio Earth Summit in 1992 – publishes the *Green Hotelier* magazine, an environmental management manual for hotels, and the Going Green guide on minimum standards for sustainable hotels.

There are a variety of environmental certification schemes for hotels, while the InterContinental Hotel Group, which owns the InterContinental, Holiday Inn and Crowne Plaza brands, has its own online sustainability management system. Called Green Engage, it allows member hotels to input their water, waste and energy data, and they immediately receive an automatically generated report with ‘green solutions’ to reduce their impacts – tailor-made for the particular climatic location – and an energy benchmark so that they can compare their performance to other hotels. Worldwide, more than 2 600 hotels are now enrolled in the system, and the Group has set a

Improving water conservation in the hospitality industry is crucial for water-scarce holiday towns, such as Hermanus.



Sue Mattwes

target for the period 2013–2017 to reduce water use per occupied room in water-stressed areas by 12%.

Closer to home, the City of Cape Town published a guideline for the hospitality industry on water use and management as part of its Green Goal Campaign for the 2010 FIFA World Cup, while the eThekweni Municipality conducted a Responsible Accommodation Campaign coinciding with the UN Convention on Climate Change COP17 in Durban in 2011. The Tourism Grading Council of South Africa has included responsible environmental and business practices in its grading criteria, although the maximum score that can be earned for water management is only 12 out of a total 1 000 points for hotels and lodges, or 22 out of 1 004 points for guesthouses and B&B's. In addition, the Federated Hospitality Association of Southern Africa (FEDHASA) has a water management category as part of its annual Imvelo awards for responsible tourism.

However, few hotels have gone as far down the greening road as the Hotel Verde at Cape Town International Airport. Having only opened in August 2013, the hotel won the Enviropedia/SABC 3 Eco-Logic Award for Water Conservation a month later. Its most significant water-saving initiative is the grey-water recycling system incorporated into the design of the hotel. Water from showers and baths is piped to a treatment plant where it is biologically filtered and UV-sterilised before being reticulated throughout the hotel and used for the flushing of toilets.

The hotel's basement houses a 40 000 ℓ tank that stores captured rainwater and any subsoil drainage water seeping into the basement. This water is used for drip irrigation of the waterwise indigenous gardens, as well as car washing and cleaning of paved areas.

Only eight of the hotel's rooms have baths, the taps and showers have low-flow, aerated fittings, the toilets are dual-flush and the urinals are the waterless variety. The washing machines in the laundry use water from the final rinse cycle for the pre-wash cycle of the next load. And a comprehensive metering system allows monitoring of water use in the various parts of the hotel.


Of course, that's just the technological initiatives for saving water – there are as many on the energy front. Management seems to have all the right organisational policies and practices in place, judging from the environmental vision statement on the hotel's website, but what of the behavioural aspects? The hotel encourages guests to have an environmentally friendly stay by rewarding those who re-use towels and linen, recycle

waste and don't use air-conditioning with 'Verdinos', redeemable at the hotel's deli or bar.

The hotel has set a high standard, but as a newly constructed building – seemingly with no expense spared – it had the benefit of working 'from the ground up'. Indeed, the hotel is the first in Africa to be given a Platinum rating under the LEED green building rating system in the building design and construction category.

Existing hotels, and smaller guesthouses and B&B's on a tighter budget, can make a range of changes that significantly reduce their water usage though, and this is where the AquaSmart Hotels tool comes into its own.

"We want the sector to be more proactive in contributing to water efficiency," says Jay Bhagwan, the WRC's Executive Manager for Water Use and Wastewater Management. "So the WRC will ensure that we get copies of the AquaSmart Hotels tool to all the South African hospitality industry associations and indicate to them that it is available, free of charge, and will help many of the small emerging hotel and B&B establishments to contribute to improving their water efficiency and use. If there's follow-up capacity building that is required, we can facilitate that in partnership with those associations."

"The tool is a first in South Africa, and it's not the Rolls Royce model, but it's a start. Based on demand and use, we foresee that we will in future be able to improve the tool and the platform for web-based bench-marking so that hospitality establishments can compare how they are doing and learn from others." 

To obtain a copy of the *AquaSmart Hotels User Guide* (WRC Report No. TT 606/14) contact Publications at Tel: (012) 330-0340; Fax: (012) 331-2565, Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.

An architectural visualisation of Hotel Verde at Cape Town International Airport, winner of the 2013 Eco-Logic Award for Water Conservation.

