

Water and Sanitation in the News

South Africa struggling to manage the water crisis – Turton

Albeit a water-strained country, South Africa has one of the most diverse economies in the world for the ecosystem in which it is embedded, according to University of the Free State professor and water expert Dr Anthony Turton.

Speaking at the ninth yearly Green Building Conference in Sandton, Gauteng, on Wednesday, Turton noted, however, that while South Africa had achieved major feats in water engineering technology, such as the engineering involved in cascading water from one basin to another, the reality is that it has reached constraints in terms of efficiently managing the water crisis. He added that the only area in the country that will have a surplus of water over time is Gauteng, and that will be from sewage return flow.

Turton noted that, by 2025, South Africa will have a total national water deficit of 2 044-million cubic litres of water, but is luckily in a position to manage it. “Currently, our sewage plants throughout the country are collapsing. We produce five-billion litres of sewage a year and only 20% of that is treated to a standard that makes it safe to be discharged back into rivers and lakes,” he said, reiterating that the water crisis is a fundamental problem within South Africa’s economy.

Turton pointed out that potable water plants in South Africa are overloaded, as they were not designed to take sewage water and treat it, although that is what they were currently doing. He added that 240 of the country’s potable water plants were in very poor condition. Turton further highlighted neurotoxin microcystin as “a massive new problem that South Africa’s water supply is currently facing”. Microcystins are toxins produced by a blue-green algae called cyanobacteria and are ubiquitous in surface water when conditions are favourable for growth and for the formation of algal blooms. Cyanobacteria release toxins upon cell death and have already killed a number of animals across the country that have been exposed to contaminated water.

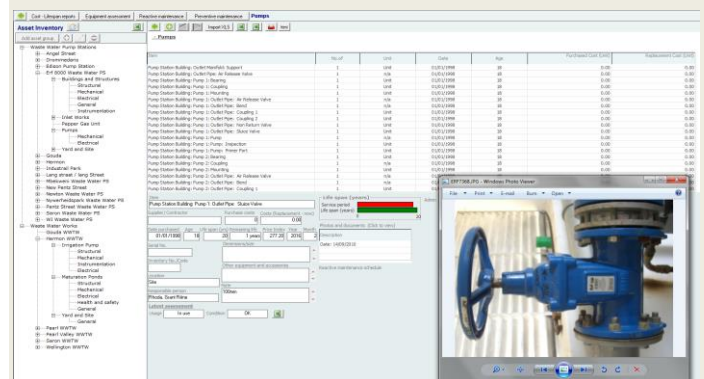
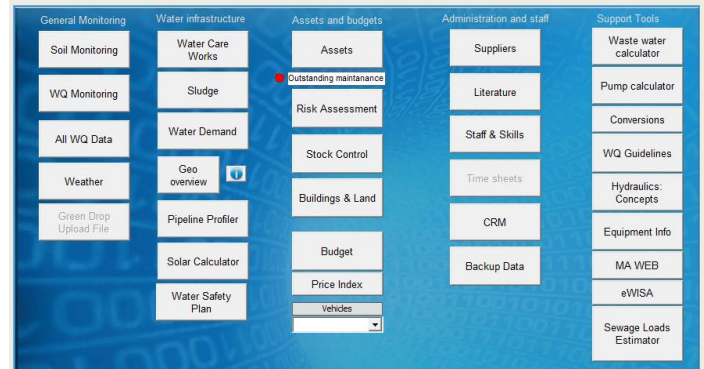
Finland, for example has 10 µg/l of microcystins in contaminated water, while South Africa’s contaminated has 18-million micrograms a litre, making it the country with the highest level of contamination in the world. “Unfortunately this is not recognised as a major problem, so it is not being funded or researched and is just being swept under the carpet,” said Turon.

Turton noted that there was no single solution to ensure water supply in terms of green building and that each application was

different. “An integrated water management plan should be developed [in green building applications], underpinned by a 20-year budget cycle,” he said. These types of applications allow for the storage of water offline and onsite, making use of next-generation technology and cutting-edge filtration systems that remove all toxins from water through a sophisticated process. “These types of units will be rolled out in South Africa soon,” he said.

Source: *Engineering News*, 27 July 2016

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