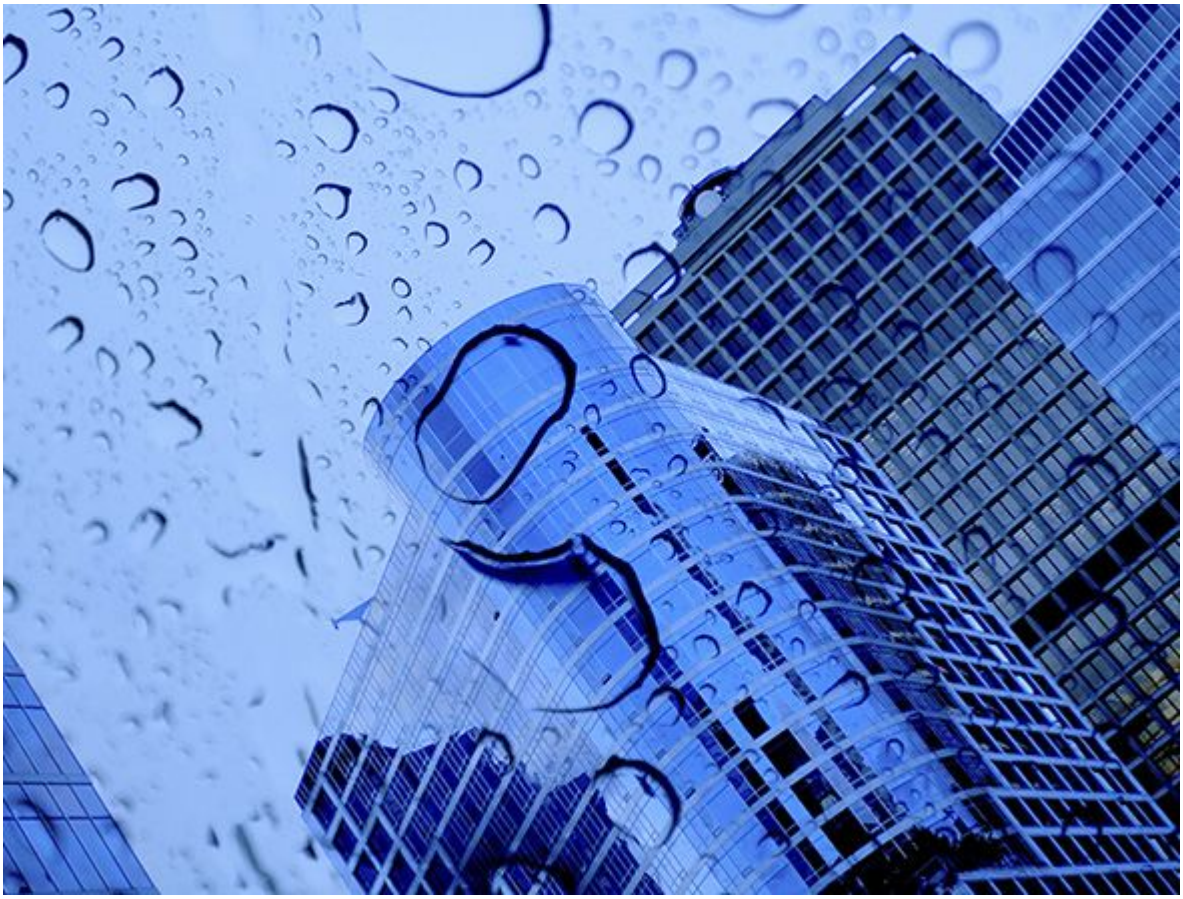
Why water issues are now commercially important

VIEWPOINT 10 APR 2014

Water is essential for life, but many businesses still fail to recognise the commercial importance of this vital resource. Darran Messem explains why businesses must take note.



In the twenty years leading to 2030 global freshwater demand is expected to rise by 40%. But despite the stress on water globally, few organisations currently measure their water use, or manage the risks associated with the depletion and degradation of this critical resource.

Water stress is already causing serious impacts in countries around the world, and has direct production impacts on industries such as agriculture, food and drink production, and energy generation. Dealing with this stress can also exacerbate climate change,

leading to greater levels of carbon emissions and causing wider environmental damage.

For example in China severe water shortages in Tianjin and Beijing are leading to a need to spend at least $3.3 billion over the next five years on building desalination plants to get fresh water from seawater.

Given the energy input required to run the desalination units this water costs around 30% more at present than more normal alternatives, and the fact that the energy is derived from fossil fuel further degrades the already poor local air quality.

The total cost of water consumption and disposal within an organisation can often be surprising, and the associated greenhouse gas emissions very substantial. Therefore businesses should be including water measurement and reduction as part of both organisational cost reduction and sustainable development strategies.

It is helpful here to consider the potential impact of a cubic metre of water, which can cost a UK business up to £50 and be responsible for up to 270 kilograms of carbon emissions. For perspective, a cubic metre of water is 1,000 litres, 220 gallons, or 1,759 pints, and it takes around 2,500 cubic metres of water to fill an Olympic swimming pool.

This cubic metre of water may cost anywhere between £1 and £6 depending on the mains water supply. Pumping that volume of water each second for an hour could cost around £14 in electricity. Heating the water to create steam would incur a further £33 of gas costs. Simply heating the water to 60°C for general commercial processes would cost £2-3 in electricity.

Using a single cubic metre of water can very quickly add a lot to operating costs, especially when you consider that UK businesses alone use 10 billion cubic metres of water each year.

The commercial benefits of water reduction have been discovered byBerendsen, Britain's largest laundry business. Berendsen were one of the first companies to achieve certification to the Carbon Trust Water Standard. Since 2007 Berendsen has reduced water use by more than 50%, or the equivalent of more than one billion litres a year. Part of this achievement was made through reducing the water required to wash linen, from 20 litres a kilo to just 2 litres. The associated energy cost reductions from the need to heat and pump less water has proven to be highly valuable to the company.

Reducing water use can also provide numerous benefits when considered as a key part of implementing a wider sustainability strategy. For example, public transport operator the Stagecoach Group, worked with the Carbon Trust to develop a combined energy, water and waste reduction programme that delivered a robust investment case and compelling payback.

Similarly, shipping company DFDS worked with the Carbon Trust to come up with a combined scenario for a major reduction in energy, water and waste costs compared to business-as-usual projections. The company's footprint was 10,000 tonnes of CO2, 432,000 litres of water, 496 tonnes of waste and 1.8 million litres of fuel consumed every year. Taking action to reduce this had a surprisingly attractive return on investment.

Taking action on water, as well as any corresponding energy use and waste production, doesn't just save operating cost - it is an essential part of an organisation's risk mitigation strategy too. Even in areas perceived to be relatively wet, the demands of growing population, rising living standards and both domestic and industrial processes place huge demands on water systems.

Dry summers, and in particular dry winters, can prevent reservoirs and aquifers recharging, and water shortages quickly result. Minimising water consumption reduces exposure to water resource scarcity. For organisations dependent upon large scale water supply - for example food and drink production - water resource management is a key survival strategy.

The case for water efficiency in business is clear. Reduce your water bill. Reduce your energy use. Reduce your greenhouse gas emissions. Protect your business from future water scarcity. It is time businesses started waking up to water and taking serious action.

About the author

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Darran leads the Carbon Trust's pioneering certification team, and the Carbon Trust's international development. Darran’s international experience includes being a Director of companies in Canada, the US, China and South Africa, and the UK. Before joining the Carbon Trust Darran was Vice President Fuel Development for Shell, and General Manager Market Development for British Airways. Darran graduated with a First in Geography from Cambridge University and holds a post-graduate diploma in Marketing. Beyond the Carbon Trust, Darran is Chairman of the Low Carbon Vehicle Partnership, and a Fellow of both the Chartered Institute of Marketing and the Royal Geographical Society.