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Water risk's long shadow

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Cape Town crisis unleashes explosion in innovation and investment

Water is a sector that has long been resistant to change, but escalating water shortages and pollution mean serious money is now flowing into solutions. Mike Scott reports

Cape Town's declaration late last year that it would run out of water in April 2018 if urgent action was not taken to conserve it captured the attention of the world. The drought-hit South African city has averted "Day Zero" for now, but only by introducing stringent conservation measures that at one point cut consumption to 50 litres per person daily, compared with the average Californian daily usage of 387 litres.

Cape Town is not an isolated example: cities from Los Angeles to London and Beijing to Bangalore are at risk of water stress. There will be a 40% shortfall in global water availability by 2030, according to the UN. When water runs short, the media focus tends to be on households, but businesses suffer significant impacts too. "Business needs water to heat, cool, clean and as an ingredient. But get it wrong, the consequences can be devastating and costly to the bottom line and to reputations," points out PwC.

According to the UN Global Compact initiative CEO Water Mandate, water risks to business generally fall into three categories:

- Physical – Not having enough clean, affordable water, when and where you need it, to run your factories and business.

'Business needs water to heat, cool, clean and as an ingredient. But get it wrong, the consequences can be devastating and costly'

- Regulatory – Current and future laws and regulations that affect the availability and price of water.
- Reputational – The positive or negative brand impact that stems from how your business uses and manages water.

The most obviously affected sectors are water utilities, power stations and agriculture, but companies in sectors ranging from food and beverages to the semiconductor sector and construction face disruption if they do not have a reliable, high-quality supply of water. (See Drinks industry thinks outside the box to protect its most precious resource)

Investors have also started to take note. "The global investor community is starting to recognise that water is a precious resource, not an endless one," says Brooke Barton, senior director of water and food at the US investor coalition Ceres. "There is growing evidence that they are starting to take this seriously."

There is an increasing number of investment funds such as Pictet's Water Fund, the first water-themed investment vehicle, which was launched in 2000. The Swiss fund manager says water offers "a wealth of investment opportunities", with the sector expected to grow globally at around 4-6% a year, not least because "over $1 trillion needs to be spent each year between now and 2030 to provide effective water infrastructure globally".

To balance water demand and supply will be a difficult process, the group adds. "Outsourcing of the management and operations of water infrastructure can be a good way to ensure the world's water resources are efficiently managed. This creates new and sustainable opportunities for companies providing solutions, from infrastructure and distribution, to waste water collection and treatment."

Demand is being driven by a number of megatrends, including population growth and higher demand for meat and other water-intensive products as incomes grow. Underpinning everything, though, is climate change, says Barton. "The recent Intergovernmental Panel on Climate Change report

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- There will be a 40% shortfall in global water availability by 2030, according to the UN. Water shortfalls will have physical, regulatory and reputational impacts on businesses across sectors from power stations to fashion.
- Investors are recognising water is limited, and water-themed investment funds have sprung up. The first, Pictet's Water Fund, was launched in 2000, and the sector is expected to grow globally at around 4-6% a year, with over $1trn needing to be spent each year until 2030 on infrastructure.
- Demand for water is being driven by population growth and demand for water-intensive products, as well as the effects of climate change. Meanwhile pollution and deterioration in water quality are increasing and regulations tightening globally.
- This is leading to innovation in the sector, offering investment opportunities. Much of it comes from traditionally water-stressed countries such as Israel, Australia and Singapore, but the UK is also a global hub for new products.

'The global investor community is starting to recognise that water is a precious resource, not an endless one'

made it clear that there is a stark difference between limiting temperature rises to 2°C or 1.5°C – it's a difference of 50% in the number of people living in water stress."

With both pollution and deterioration in water quality increasing, regulations are tightening around the world, creating a need to address environmental discharges, leaks and the amount of water homes and businesses use. As Cape Town illustrates, "what tends to happen is there is very little regulation, then a lot, suddenly," Barton says.


JEREMY REDDINGTON/SHUTTERSTOCK

Major cities globally, including London, are at risk of water stress

Innovation in the water market

This has led to an explosion of innovation in the water market. Much of it comes from traditionally water-stressed countries such as Israel, Australia and Singapore, but the UK is also a global hub for new products. "The UK is more water-stressed than you might think and there is a lot of water technology innovation going on," says Jim Totty, manager of the Nobel Sustainability Growth Fund at Earth Capital Partners.

Among his fund's investments is Arvia, a spin-out from Manchester University, which has developed a technology that can remove very low concentrations of highly toxic chemicals from wastewater using much less energy than other treatment methods.

"We are targeting markets where the drinking water contains lots of contaminants. There are many areas where there are lots of pesticides and other contaminants, many of them carcinogenic. They lack a cost-effective way of treating water at the moment," Totty says.

Another investment, Propelair, makes a water-efficient toilet that uses an integrated air pump to reduce the amount of water per flush from 6-8 litres to just 1.5. The product is initially aimed at the business market, but the company hopes to produce a domestic version as it scales up. "Companies and individuals are having limits to how much water they can use imposed on them," he adds. "In office buildings, fast-food chains, hotels and the like, the savings are really material."

However, the pace of change varies widely, Totty adds. "From country to country, the way that water is paid for is very different, so we need to work with local partners to navigate a very different set of commercial relationships. Some countries in the Middle East and Asia have very high subsidies,

'From country to country, the way that water is paid for is very different, so we need to work with local partners'


KATHIE NICHOLS/SHUTTERSTOCK

$1trn needs to be spent per year to provide 'effective water infrastructure'

for example, which means that people have no incentive to change their habits and save water."

Another issue is that water is not a sector that is famous for innovation. "It has a tremendously long sales cycle because many assets sit there for a long time, the industry is heavily regulated and capital expenditure is tightly controlled. It creates an environment where there is a real reluctance to change," Totty says.

Nonetheless, investors continue to target the sector because the water infrastructure gap is clear to see. Green bonds are increasingly being used to finance sustainable water infrastructure, boosted by the recent introduction of the Climate Bonds Initiative's Water Infrastructure Criteria, which Barton says is now "the most credible benchmark for the sector". The criteria, for the first time, mean watersheds, wetlands, and forests can be protected, managed and restored using Climate Bonds' certified green bonds.

In addition to the opportunities to invest in water solutions, investors are also looking at water as a risk to their portfolios. (See Rising water risk pushes companies to seek higher ground in collaboration) However, it is difficult for them to assess their water risks because there is still a very large disclosure gap from companies.

In 2017 70% of companies reporting to the CDP's investor programme said they had board oversight on water. However, only a small group of companies incentivise executives for performance on water-related issues, while only a few firms, including Diageo, Colgate, Palmolive and Nestlé, are putting an internal price on water to account for social and environmental costs and benefits. (See We can't wait for Al Gore. CEOs have to lean in to the water crisis) Some institutional investors, however, are starting to turn up the pressure. Dutch investor Actiam has announced a target to make its investment portfolio water-neutral by 2030, to manage its freshwater impacts and reduce its risk exposure.

"As investors move up the learning curve, companies should expect more direct engagement from investors on issues such as industry practices and their ability to achieve zero liquid discharge, while investors will also be engaging with local policymakers," Barton says. "There will be increasing demand for products tilted towards companies that can demonstrate they are better stewards of water."

Mike Scott is a former Financial Times journalist who is now a freelance writer specialising in business and sustainability. He has written for The Guardian, the Daily Telegraph, The Times, Forbes, Fortune and Bloomberg