

SA's looming water crisis: An expert's insights for ESG investors

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Among the many challenges faced in South Africa, one that is imminent is the looming water crisis. Globally, securing access to clean water has also been identified as one of the United Nations' Sustainable Development Goals (ensure availability and sustainable management of water and sanitation for all), underscoring its importance the world over.

To quench our thirst for knowledge and ease growing concerns around the economic, social and environmental implications of this crisis, Anthony Walker from our ESG team sat down with Helen Hulett, an expert in the water industry, who shared her views on the looming water crisis, its parallels with the electricity crisis, and the need for urgent action.

Q: Can you explain the extent of the water crisis facing South Africa?

A: In the long-term, South Africa is heading towards water shortages. The country faces a growing water crisis due to factors like changing rainfall patterns but more so, inadequate infrastructure development, as well as the lack of executed projects to meet the growing urban demand.

The short-term focus is on failing municipal infrastructure around water supply concerns. The latest Blue Drop Report, a comprehensive assessment of the state of South Africa's water supply systems, indicates that failures at municipal level are both widespread and material in terms of the municipality's inability to provide access to safe drinking water across the country.

What makes matters more complex is the failure at a municipal level. Firstly, the long-term plans for water safety and provision are not on track. Secondly, the existing water infrastructure has not been sufficiently maintained, upgraded or replaced. These aging systems are now beginning to fail. This is further exacerbated by placing these already fragile, aging water systems under strain to provide water in excess of their planned capacity as a result of increasing urbanisation to major metropolises.

Q: Are there parallels between the electricity crisis and the impending water crisis?

A: In some respects, parallels exist between the factors contributing to the water and electricity crises. Some of the similarities such as failing infrastructure, coupled with the lack of investment, execution or progress in new projects.

But we face unique challenges with water, and I believe that it requires urgent attention if our cities are to have adequate water supply in the next few years. If no action is taken, most large cities will likely face severe water shortages in the next few years, with potential "day zero" scenarios.

Electricity can be created from alternative and renewable sources and can be temporarily provided through generation and storage. On the other hand, water is non-renewable and while it can be recyclable to a point, it cannot be created where there is insufficient supply. One is restricted to re-using or mitigating further loss of an existing finite supply.

Another important solution for replenishing water supply is desalination. While it's historically been considered expensive, it is becoming a more viable option due to technological advancement. Desalination would require a substantial amount of energy and a distribution system to pump the desalinated water over a significant distance to regions beyond the coastal areas. In addition, brine (saline wastewater) will need to be managed, which requires a sustainable solution.

Q: How widespread is the impact?

A: If we continue on this trajectory of inaction and lack of progress, most of South Africa's large cities will face severe water shortages within the next few years, and as a result will have to radically throttle supply or potentially face 'day zero' scenarios with no access to water. Over the past few years, the Department of Water and Sanitation (DWS) has made massive progress in these areas. However, in some cases the execution of these plans is up to 10 years behind. Going forward, we will need to monitor the situation closely around whether these projects continue to advance as planned.

We are also seeing failing infrastructure at local municipal level at an extremely high rate, either in the provision of water, or where water supplied is failing acceptable health standards.

Q: What has been SA Inc's response to mitigate future dwindling water provision?

A: The massive impact on companies has been a result of water supply systems failures (broken pipes, treatment system failure, vandalism, etc). Loadshedding has compounded these issues in a number of ways, pressure surges causing the pipelines to burst, or reservoirs running dry, to name a few. Notwithstanding the lengthy downtime experienced during periods while repairs are being done coupled with the time it takes to get the water supply system back to equilibrium.

As a result, companies are taking measures to mitigate water risks. Smaller companies have been ensuring that they have a 'buffer' supply of water available to ensure uninterrupted operations. However, this challenge becomes far more complex for larger industrial entities as they require unfeasible volumes of backup water storage, which means they have to start driving internal efficiencies and reuse where possible to reduce their demand.

In light of the current situation, companies will have to manage frequent and severe water restrictions, which usually take the form of pressure throttling. In these instances, some industries are forced to shut down certain areas of their production line that cannot operate under water throttling conditions.

Some of the largest industrial players in South Africa, such as the mining companies, are cognisant that water supply remains critical to their operations and that this key resource will be acutely under pressure in the near future.

Many of the mining operations already reuse their wastewater, but they still require a supplementary supply of fresh water. In some cases, mining companies assist local government with water infrastructure to ensure that the miners and their community have sufficient supply of water to meet their basic needs. The result is a growing number of private public sector partnerships in certain areas of the country.

We've seen some large industrial operations take fairly drastic measures to secure their water supply is uninterrupted, including pumping water from greater distances, sourcing from different areas, the use of boreholes, or the use of advanced water treatment in order to utilise water which ordinarily wouldn't be available for industrial processes. Other companies faced with water supply challenges opt to relocate their operations to entirely different regions, particularly if the future of water provision is fraught with challenges and uncertainty. Consequently, this has far-reaching implications for the vacated regions in terms of economic stability and employment.

Q: Do SA companies have risk management in place for water?

A: Tools used internationally for screening purposes are often inadequate to effectively identify the unique water risks faced by South Africa. Popular risk identification frameworks used internationally may not fully be able to account for the South African context.

While there is a growing awareness of water risks, an organisation's ability to move from identifying their water risks to operational investment in capital is often a challenging task. Too often water risk management is dealt with in the same way as climate change without appreciating that there are strong differences in the nature of the impact on operations. Water can linger for too long at a sustainability committee level, without translating into an operational need in sufficient time.

Equally, too much time can be spent focusing on "pretty" reporting and objective setting, as well as overly broad policy statements, without understanding or wrestling with the true risks in terms of timelines and the need for imminent capital projects.

Q: What are 'non-negotiables' in terms of a company's approach to water?

A: Broadly speaking, careful consideration of the following aspects is a good starting point to gain an understanding of the level of maturity of the entity in approaching its water risks through elements, such as:

- Water supply chain risk mapping
- Water balance (quality and volume)
- Effective data management system
- Full set of water quality results (particularly incoming water supply)
- Understanding of how the facilities' water risk could impact production
- Emergency plan to protect production during restrictions, and/or quality failure
- A short-, medium- and long-term strategy
- Internal mechanisms (such as an internal water price) to motivate intervention

Concluding thoughts

Ultimately, Helen's insights into South Africa's water challenges paint a concerning picture of both current deficiencies and looming crises. This underscores the urgency for integrated action by government and industry to secure sustainable water sources and mitigate risks effectively, safeguarding both economic stability and environmental health in South Africa's future.

At M&G Investments, we believe that the water crisis in South Africa requires immediate attention from investors, companies, and government entities. By understanding the complexities of this issue and supporting entities that prioritise water risk management, we can work towards a more sustainable future for all stakeholders involved.

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