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# Water infrastructure crisis in South Africa: Unearthing investment opportunities



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## The fast view

- South Africa faces a severe water infrastructure deficit, caused by decades of under-investment.
- This limits economic growth and social development.
- The government lacks the necessary funding and skills to close the infrastructure gap.
- Thus, public-private partnerships have been proposed, presenting interesting opportunities for investors.
- Legislation is being amended to simplify the procurement process for public-private partnerships.
- Eleven strategic projects are in the pipeline.

## The state of South Africa's water infrastructure: The present

Inadequate investment in water infrastructure, along with the pressing issue of severe water scarcity have emerged as the two significant challenges contributing to South Africa's water crisis. This has been exacerbated by multiple factors:

- Unequal distribution of water resources leaves western regions, such as the Western and Eastern Cape particularly vulnerable.
- The country's rapid population growth and urbanisation are straining existing water resources and infrastructure.
- Climate change has resulted in irregular rainfall patterns and reduced water availability: Damage to city infrastructure (excluding human settlements) caused by the floods in Durban is estimated to be about R3.8 billion by the eThekweni Municipality.
- Inefficient water management practices and ageing infrastructure: Earth.org has estimated that we lose about 70 million litres of purified drinkable water daily due to the thousands of leaks in our water reticulation systems.

The water infrastructure crisis in South Africa has negatively impacted many areas of society, casting a long shadow over agriculture, industry, public health, and local communities. In the agricultural sector, water scarcity has jeopardised food production and livelihoods for farmers, leading to crop failures and reduced yields. Simultaneously, industries reliant on water for their operations have faced disruptions, in the process stifling economic growth and hampering job creation. The crisis has taken a severe toll on public health, as inadequate access to clean water and sanitation facilities increases the prevalence of waterborne diseases, putting the most vulnerable populations at risk.

While South African households and companies have implemented solutions, notably solar, to cope with Eskom's load shedding, solving the rising water infrastructure crisis may not be as simple.

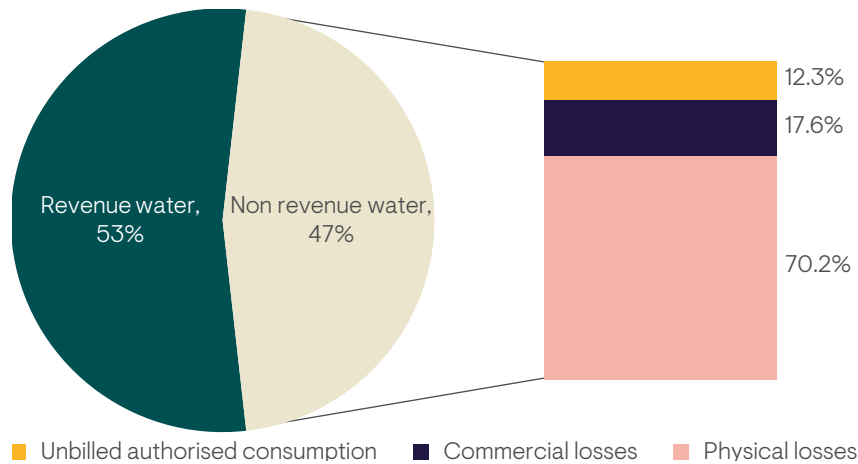
Here, we delve into the pressing issue of the water infrastructure crisis in South Africa, and explore potential solutions, with a focus on the role of the private sector.

## Underspending and system inefficiencies

Ensuring a dependable water supply and proper wastewater treatment is a critical priority for South Africa's future. The magnitude of this challenge is not to be underestimated: the Department of Water and Sanitation (DWS) estimates a staggering R90 billion per year of investment in water and sanitation infrastructure is required over the next decade. This investment is essential to refurbish and upgrade existing systems, as well as construct new infrastructure to support the growing population and foster economic growth. Regrettably, the DWS has fallen short of this ambitious goal. Between 2018 and 2022 expenditure hovered at about R17 billion annually for all water programmes, including new projects and maintenance. Even the latest budget allocation from the National Treasury for the 2023 to 2025 period, totalling R69.3 billion, fails to bridge the gap, falling R200 billion short of the necessary target. The consequences of these underspending realities are far-reaching and demand urgent attention to secure the future wellbeing of our nation.

The causes of the under-expenditure fall heavily upon the water and sanitation sector, which is grappling with an array of financial challenges, casting a shadow over its state. This situation stems from several factors, including an alarming funding gap, soaring levels of non-revenue water (NRW), the relentless erosion of existing asset value, and tariffs that fail to reflect the true costs. The gravity of the NRW issue is evident in the June 2023 No Drop Report, compiled by the DWS, which reveals a worrying NRW rate of 47% for the 2021/22 period. This soars far above the globally accepted best practices of 15% or less prescribed by the International Water Association (IWA). NRW, encompassing unbilled authorised consumption, commercial losses (theft), and physical losses (leakage), signifies an astonishing volume of water supplied by the utility that yields no income. The heart of this loss lies in the 70.2% attributable to leakages (as depicted in the chart below), painting a stark picture of inadequate operation and maintenance of the water distribution infrastructure, a distressing truth that demands urgent rectification.

Figure 1: System water balance



Source: Ninety One; June 2023 No Drop Report, DWS.

## Facing the challenge of non-payment by customers

One of the significant challenges faced in the water sector is a strong culture of non-payment by customers, which has put a strain on the financial stability of the water boards and the Water Trading Entity (WTE) within DWS. The WTE plays a crucial role in managing water infrastructure and resources, as well as facilitating the sale of raw water. As of September 2022, outstanding payments owed to the WTE amounted to R24.5 billion, of which the municipalities and water boards owed R8.5 billion and R7.7 billion respectively. The inability of the water boards to meet their commitments to the WTE is, in part, due to the R14 billion non-payment by municipalities. (Debtors' days in the WTE's 2021/22 annual report have been revealed to be 309 days on average, after impairments, which is not sustainable by any means).

<b>Breakdown of amounts owed to the WTE</b>	
Municipalities	8,453,881.00
Water Boards	7,661,696.00
Company	4,587,098.00
Water User Association	1,891,224.00
Individual	1,118,148.00
Irrigation Board	503,696.00
Provincial and National Government	358,065.00

Source: 2021/22 AFS of the WTE.

While the situation may seem daunting, there is room for optimism. Improvements in payment practices by municipalities would substantially narrow the funding gap, signalling progress in ensuring adequate water infrastructure and addressing supply shortfalls. Recognising the scale of funding required, proactive steps towards payment compliance can bring us closer to a future where our water resources are sustainably managed, and our supply needs can be met with confidence.

## Unlocking the potential for private-sector involvement

Almost all of South Africa's water infrastructure has been developed and managed by the public sector, municipalities and the government. The only exceptions are private boreholes, water treatment plants owned and managed by the large intensive water users such as mining companies, and some micro-desalination plants dotted along the KZN coast and in the Western Cape. However, years of underinvestment and neglect have awakened the private sector to the water infrastructure opportunity.

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The government has recognised the substantial funding required for comprehensive infrastructure rejuvenation, with an emphasis on water, energy, and transport. Consequently, it is actively seeking private-sector participation. Players in the water industry in South Africa recognise that mismanagement and corruption within the government have contributed to complex regulation (i.e. the municipal PPP regulations under the Municipal Finance Management Act), limiting the agility of responses and resulting in inefficient procurement processes and under-expenditure.

During the 2023 budget review, National Treasury indicated that it planned to review the public-private partnership (PPP) regulatory framework to streamline and simplify the procurement process. A new Public Procurement Bill was tabled in Parliament in 2023 and government expects this to help with access to funding as well as the implementation of water projects.

However, it is essential to acknowledge that the successful implementation of PPPs hinges on resolving issues like non-payment, particularly in the realm of local government finance. Addressing these challenges is paramount to fostering a strong partnership between the public and private sectors.

With the right policies and regulations in place, the government can create an enabling environment, encouraging increased private-sector engagement in water infrastructure projects. This collaborative approach holds the key to unlocking new opportunities, ensuring sustainable and innovative solutions to the water infrastructure crisis, and paving the way for a prosperous future for South Africa.

## Emerging investment opportunities in the water sector

In the water sector, government is prioritising eleven strategic projects with an estimated value of R115 billion. The projects are expected to create about 20,000 jobs during construction and 14,000 jobs during operation.

The table below presents estimated capital investment, expected completion years, and the funding status of a few water infrastructure projects:

<b>Project name</b>	<b>Estimated capital investment (R billion)</b>	<b>Expected year of completion</b>	<b>Funding status</b>
Lesotho Highlands Water Project (Phase II)	39.3	2028	Trans-Caledon Tunnel Authority (TCTA) has raised about R15 billion from the Development Bank of Southern Africa, the African Development Bank and the New Development Bank to continue construction on the project
Berg River-Voëlvllei Augmentation Scheme	1.1	2026	Long-term funding contingent on agreements
Phase 2 of the Mokolo-Crocodile River Water Augmentation Project	12.3	2028	Funding raised through development institutions
uMkhomazi Water Project	23.2	2029	Funding approved by National Treasury
Lebalelo Water (Private sector led by Glencore and Anglo American Platinum)	27	2030	In funding talks with local and international banks

Source: 2023 Budget Review.

## Conclusion

South Africa's water infrastructure is facing a severe crisis, driven by inadequate investment, water scarcity, climate change, and inefficiencies in the system. This crisis has far-reaching consequences, affecting agriculture, industry, public health, and local communities. To secure the nation's future well-being, urgent attention is required to bridge the funding gap and address the financial challenges plaguing the water sector. While the situation may seem daunting, improvements in payment practices and the potential for private sector involvement offer a glimmer of hope. By fostering strong partnerships between the public and private sectors and implementing the right policies and regulations, South Africa can unlock new opportunities and find sustainable and innovative solutions to its water infrastructure challenges, paving the way for a prosperous future.

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