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Sustainability Snapshot

Water risk: The mispriced crisis on South African balance sheets

Water risk does not announce itself the way energy risk does. There is no equivalent of a load shedding schedule, no carbon price ticking upward and no grid failure that makes the front page. It shows up in declining catchments, failing municipal infrastructure and tightening water-use regulation: incremental and largely invisible in the data that financial institutions use to price risk and allocate capital.

That invisibility is the problem. South Africa is one of the world's most water-scarce economies. Mining, agriculture, energy generation and food processing, all water-intensive, all deeply embedded in the banking sector's loan book, account for a large share of South Africa's GDP. The risk is already embedded in balance sheets. It is simply not being measured, priced or disclosed.

In this issue, we make the case that water scarcity has crossed a threshold: from an environmental and operational concern to a financial risk that requires disclosure, pricing and a credible framework. South Africa has the policy infrastructure to act, but it has not yet translated that into mandatory, system-wide disclosure.

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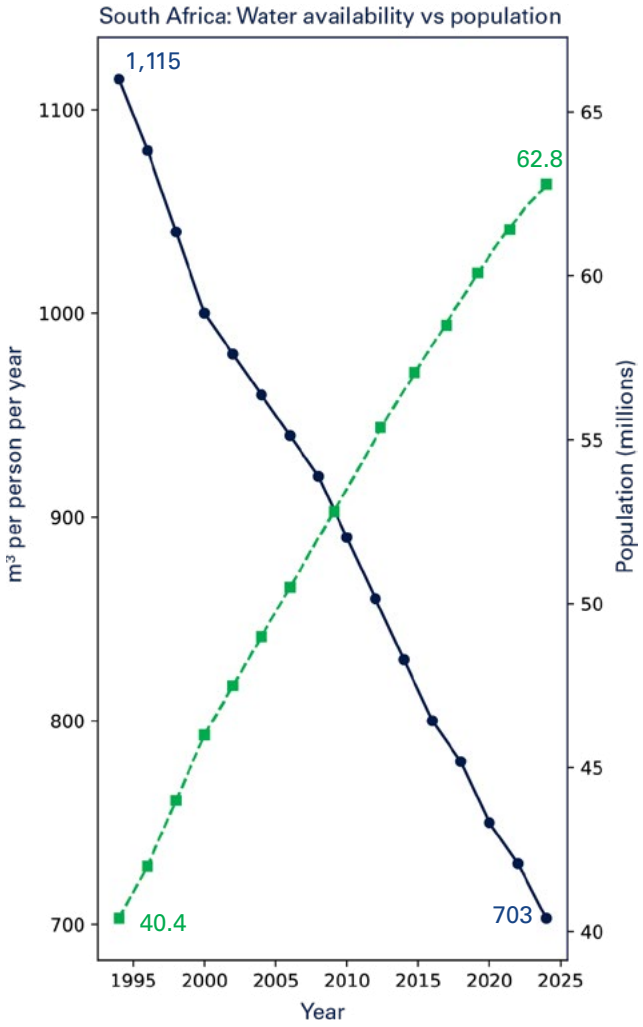
South Africa is one of the world's most water-scarce economies. It receives roughly 495mm of rainfall a year, well below the global average of 860mm and per capita water availability has been declining for decades as the population has grown.



Water scarcity has crossed a threshold from environmental/social concerns to be managed by government and utilities, to a financial risk that sits on the balance sheets of South African banks, insurers and investors. South Africa is one of the world's most water-dependent economies. Mining, agriculture, energy generation and food processing, all water-intensive industries, account for a large share of GDP and the banking sector's loan book. Yet water risk is almost entirely absent from financial disclosures, credit assessments and capital allocation decisions. The result is a growing mismatch between the risk and financial pricing that leaves institutions exposed and markets unaware of the materiality of that risk.

The shift required in how water scarcity should be accounted for follows directly from how water stress translates into economic losses. When river catchments decline, aquifers are depleted or municipal supply fails, farmers lose harvests triggering loan defaults and covenant breaches. Similarly, mines curtail production, impairing the revenues that service debt. Power stations operating below capacity create energy supply constraints that ripple through every sector of the economy. These are credit events. They reduce the value of collateral and impair cashflows, exposing lenders to losses.

Water-use regulations are tightening across South Africa as scarcity intensifies. For example, the Department of Water and Sanitation plans to establish a regulator commission to manage water trading and improve sustainable provision. Strict protections are being advanced for strategic water source areas (SWSAs) to combat pollution and damage from mining and agricultural activities. Businesses that depend heavily on water face mounting compliance costs, potential production restrictions and, in the most exposed cases, the prospect of assets that simply cannot operate viably in a more water-constrained future. This constitutes a transition risk category that most financial risk frameworks have not yet defined or measured.

Cape Town's near miss with Day Zero in 2018 illustrated both the speed at which water risk can materialise and the degree to which markets were unprepared for it. The crisis had a measurable impact on GDP, disrupted business operations across the city and required emergency government intervention. Yet there was no early warning mechanism embedded in financial markets, no pricing signal that reflected the growing probability of supply failure and no structured disclosures that would have alerted investors or lenders to anticipate the exposure.

How water risk enters balance sheets

Water risk reaches financial institutions through three identifiable channels, each of which is currently invisible in standard credit assessment and portfolio monitoring frameworks.

The most direct is credit risk in water-intensive sectors. Agriculture accounts for approximately 60% of South Africa's total water consumption and underpins a significant portion of rural lending books. Mining, particularly in the platinum belt and the gold-producing regions of the Witwatersrand, is both water intensive and concentrated in watersheds that are already classified as highly stressed. Food and beverage manufacturing and thermal power generation complete the picture of a set of sectors that are deeply embedded in the financial system and deeply dependent on water supply that is becoming less reliable.

The second channel is municipal and infrastructure counterparty risk. Banks and development finance institutions that lend to municipalities or have exposure to bulk water infrastructure face a compounding problem. The very institutions responsible for water supply are themselves financially distressed and are unable to maintain their assets to deliver reliable services. The lender faces credit risk on the municipal borrower and simultaneously faces the collateral impairment that follows when water service failures depress property values, disrupt commercial tenants and undermine the economic activity that services other parts of the loan book.

The third channel is less visible but potentially the most pervasive – through supply chains and indirect contagion. A food manufacturer that does not itself consume large volumes of water may nonetheless be entirely dependent on agricultural suppliers that do. A retailer whose stores operate normally may face inventory shortfalls and margin pressure if its supply chain passes through water-stressed agricultural regions. These indirect dependencies represent a class of exposure that is material in aggregate and effectively invisible under current frameworks.

> Financial institutions face water risk across three channels, direct sector exposure, municipal instability and supply chain dependencies, yet the lack of disclosure standards leaves this risk unmeasured and mispriced."

The reason water risk remains invisible in financial markets is because there is no requirement to disclose it. Unlike carbon disclosures, where a decade of regulatory momentum has produced at least a nascent disclosure architecture, water has nothing comparable. There is no standardised methodology for calculating "financed water risk" in the way that financed emissions have been defined under the GHG Protocol and the Partnership for Carbon Accounting Financials. There is no mandatory requirement for South African banks to disclose their watershed-level exposure, their concentration in water-intensive sectors or their assessment of borrower vulnerability to water stress. CDP's (formerly, Carbon Disclosure Project) Water Security questionnaire captures some corporate level data, but financial institution participation is low and the granularity is insufficient for portfolio-level risk management. This is a worse starting point than the carbon disclosure gap described in the January 2026 Sustainability Snapshot. Carbon at least has an agreed unit of measurement, an established methodology for estimation where primary data is unavailable and a growing body of regulation that is moving towards mandatory disclosure.

South Africa's specific exposure and its contradictions

South Africa's position is acute in ways that make the disclosure gap particularly costly. The Limpopo and Olifants river basins, which serve a significant share of mining and agricultural activity, are classified as highly stressed and are already over-allocated. The energy system's structural dependence on water means that water risk, energy transition risk and climate risk are overlapping and mutually reinforcing in ways that no current analytical framework adequately captures.

Against this backdrop, the gap between policy design and market reality needs to be addressed. South Africa's Green Finance Taxonomy explicitly includes water infrastructure as an eligible green activity. The taxonomy provides clear technical screening criteria and aligns with international standards. Yet three years on, there is no systematic reporting on how much bank lending is flowing to water resilience, and no disclosure of how much is flowing to sectors whose water dependence poses a risk. Major financial institutions can maintain sustainability commitments while holding concentrated exposure to water-stressed borrowers, and neither regulators nor investors have the data to detect the contradiction.

> Sophisticated policy frameworks that have not been converted into mandatory, granular disclosure requirements produce commitments that cannot be verified, and risks that cannot be priced.

The global framework taking shape

Internationally, the direction of travel is increasingly clear. The Taskforce on Nature-related Financial Disclosures (TNFD) framework has attracted an early adopter cohort that includes major global banks, and its integration into mainstream financial supervision is accelerating. The ISSB has signalled that a nature-related standard building on the TNFD is under consideration, which would extend the logic of mandatory climate disclosure to water and other nature-related risks. The EU taxonomy already includes water-related activities under its environmental objectives, establishing classification criteria that will shape the expectations of European investors and lenders with exposure to South African counterparties.

For South Africa, these developments create both an opportunity and a risk. The opportunity is that the FSCA's move towards IFRS S2 alignment creates a natural entry point for water risk, if TNFD is incorporated alongside the Task Force on Climate-related Financial Disclosures (TCFD) into the emerging disclosure architecture. The risk is that it is not, leaving water risk as a future consideration to be addressed once the carbon disclosure framework is bedded down. Such sequencing would leave a significant and growing class of financial risk unaddressed for years.

The lesson from the carbon disclosure journey is that early movers on transparency capture a disproportionate share of sustainable finance mandates, develop proprietary analytical capabilities and face lower costs of capital as investors are better able to assess and price their risk.

A way forward

Three actions would move South Africa meaningfully forward. They follow the same logic applied to climate disclosure, but require deliberate application to water and nature risk specifically.

The first is to integrate water risk into the FSCA's proposed mandatory disclosure framework . This means explicitly requiring TNFD-aligned reporting alongside IFRS S2, so that water and broader nature risk are treated as a present obligation. Disclosure requirements should include watershed-level exposure for material lending portfolios and borrower-level water risk assessments for significant counterparties in water-intensive sectors.

What is watershed-level exposure?

A watershed is the total land area that drains into a single river system or water body. Rain falling anywhere within that area will eventually flow into the same river, dam or aquifer. South Africa's major watersheds each serve distinct economic geographies, and each faces a different degree of physical water stress.

Watershed-level exposure refers to a financial institution's concentration of lending, investment or insurance within watersheds that are under strain. A bank with large agricultural loan books in the Limpopo basin, significant mining sector exposure in the Olifants catchment, and municipal bond holdings in Gauteng, all of which draw from the same over-allocated Vaal system, may carry substantial water-related credit risk even if no single borrower appears vulnerable in isolation. The risk is not in any one loan; it is in the geographic concentration of many loans within a system where water supply is finite, contested and declining.

The second is to activate the Green Finance Taxonomy's water infrastructure categories as a mobilisation tool. The taxonomy exists and the classification criteria are in place; it needs a reporting requirement that tracks actual capital flows into taxonomy-aligned water infrastructure activities. National Treasury and the FSCA should work together to establish this reporting as part of the broader taxonomy implementation process, creating a feedback loop between policy intent and capital allocation.

The third is to develop a South African methodology for water-risk assessment in financial institutions. Unlike carbon, where internationally accepted methodologies exist and can be adapted to the South African context, water-risk assessment in lending requires location-specific analysis that reflects local watershed conditions, regulatory frameworks and infrastructure realities

Conclusion

The climate finance conversation in South Africa has focused on the energy transition. Decarbonisation is urgent and the financial flows involved are large. However, the physical risks of a changing climate also emerge through empty reservoirs, failing municipal systems and collapsing agricultural yields. The financial system's exposure to these risks is currently unpriced.

South Africa is well-placed to respond. It has the policy infrastructure that most emerging markets lack. What is now required is the resolve to move from voluntary frameworks and stated ambition to mandatory, granular disclosures that makes risk visible. This will facilitate the flow of capital towards resilience.