

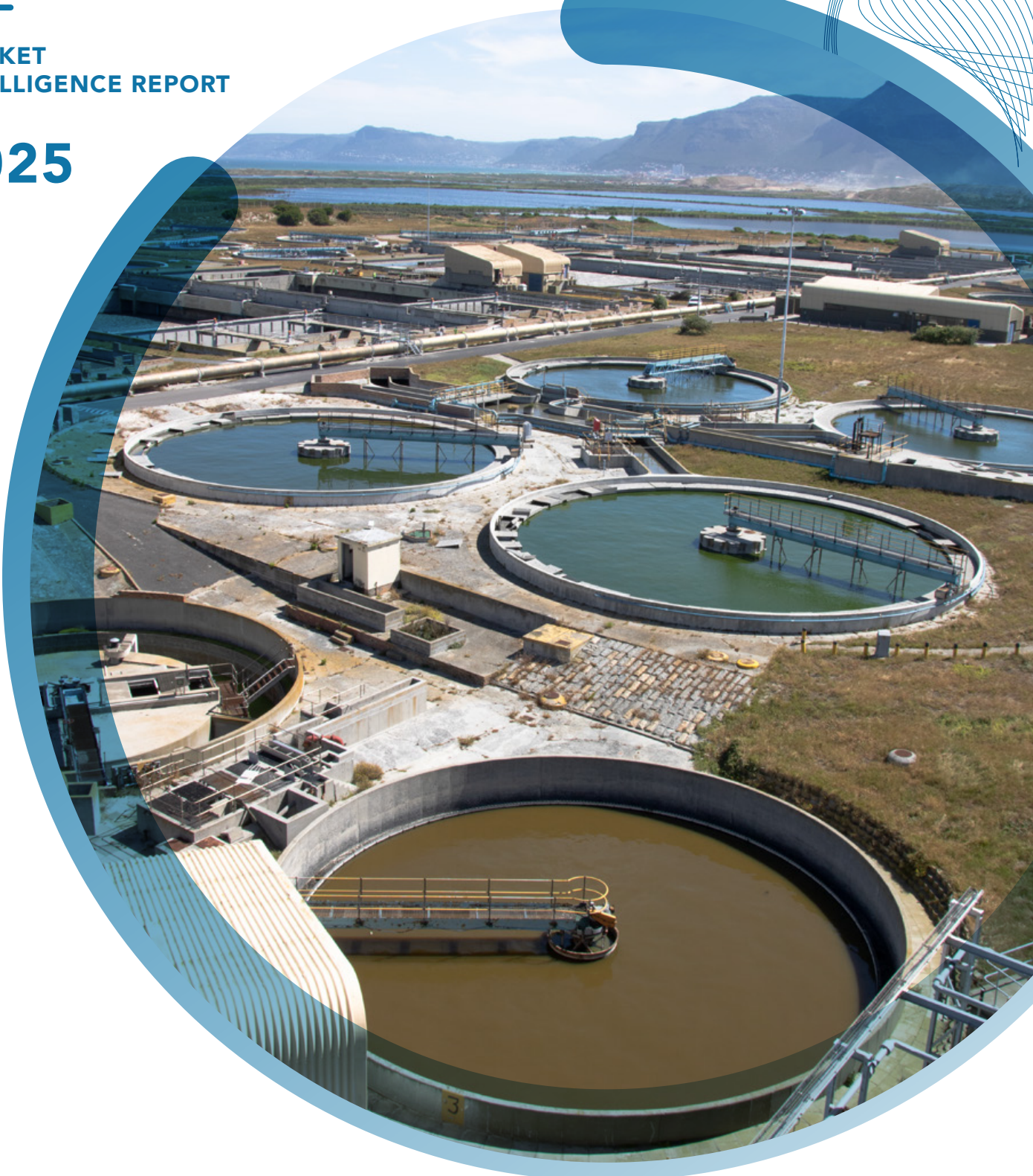


WESTERN CAPE

Water

MARKET
INTELLIGENCE REPORT

2025



Western Cape
Government
FOR YOU



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WATER

GREENCAPE

GreenCape is a non-profit organisation that works at the interface of business, government, and academia to identify and remove barriers to economically viable green economy infrastructure solutions. Working in developing countries, GreenCape catalyses the replication and large-scale uptake of these solutions to enable each country and its citizens to prosper.

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List of abbreviations and acronyms

AFD	Agence française de développement – French Development Agency	RBIG	Regional Bulk Infrastructure Grant
B-BBEE	Broad-based Black Economic Empowerment	RFQ	Requests for quotation
CCT	City of Cape Town	SA	South Africa
CoGTA	Cooperative Governance and Traditional Affairs	SALGA	South African Local Government Association
CSD	Central Supplier Database	SDG	Sustainable Development Goal
CTWO	Cape Town Water Outlook	SIDAFF	Sustainable Infrastructure Development and Financial Facility
DBSA	Development Bank of Southern Africa	SIDS	Sustainable Infrastructure Development System
DEA&DP	Department of Environmental Affairs and Development Planning	SIDSSA	Sustainable Infrastructure Development Symposium of South Africa
DFI	Development finance institutions	TCTA	Trans-Caledon Tunnel Authority
DMRE	Department of Minerals, Resources and Energy	TIF	Technology and Innovation Forum
DTIC	Department of Trade, Industry and Competition	TIPS	Trade and Industrial Policy Strategies
DWS	Department of Water and Sanitation	TMG	Table Mountain Group
ERRP	National Economic Reconstruction and Recovery Plan	TSA	Technical site assessment
GDP	Gross domestic product	VVISDP	Viability and Validations of Innovations for Service Delivery Programme
GTAC	Government Technical Advisory Centre	W&WW	Water and wastewater
IIO	Investment and Infrastructure Office	WC	Western Cape
Metro	Metropolitan	WC/WDM	Water conservation and water demand management
MFMA	Municipal Finance Management Act	WCG	Western Cape Government
MIMI	Municipal Innovation Maturity Index	WCWSS	Western Cape water supply system
MIR	Market intelligence report	WPO	Water Partnership Office
MTREF	Medium Term Revenue and Expenditure Framework	WRC	Water Research Commission
NDP	National Development Plan	WSA	Water supply authority
NRW	Non-revenue water	WSIG	Water Service Infrastructure Grant
NWA	National Water Act	WSP	Water service provider
NWP	National Water Programme	WSS	Water supply system
NWRIA	National Water Resource Infrastructure Agency Act	WTO	World Trade Organisation
NWRP	National Water Reuse Programme	WUA	Water user association
NWRS2	National Water Resources Strategy Second Edition	WWTW	Wastewater treatment works
NWSMP	South African National Water and Sanitation Master Plan		
PPP	Public-Private Partnership		
QSE	Qualifying small business enterprise		

Units

Kl/year	Kilolitres per year
L/c/d	Litres per capita per day
MLD	Million litres per day

1 Megalitre = 1 million litres = 1 000 000 litres = 1 000 kl = 1 000 m³

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EXECUTIVE SUMMARY

South Africa (SA) is facing a water crisis primarily due to recurrent droughts and ageing infrastructure (caused by insufficient maintenance and investment in infrastructure repairs and upgrades). The National Water and Sanitation Master Plan (2019) estimates that SA has accumulated repair and upgrade backlogs of ~R25 billion and ~R332 billion in municipal water and wastewater (W&WW) infrastructure, respectively. The pursuit of water security, resilience, universal access to water and sanitation services and sustainable economic development are key drivers for investment in the country's public water infrastructure.



This year's market intelligence report (MIR) is written for investors and businesses interested in business opportunities in the public water infrastructure sector, with particular emphasis on municipalities in the Western Cape (WC) and South African metropolitan municipalities. South African metropolitan municipalities are investing significantly in water, wastewater treatment, sanitation, and storm water infrastructure, providing key opportunities for businesses providing products and services in these areas. The combined water and sanitation infrastructure spend over the medium term (2024/25 – 2026/27) for all metropolitan municipalities in South Africa is approximately R54.6 billion, of which R22.4 billion¹ is planned by the City of Cape Town (CCT). Collectively, the other WC local municipalities are planning to invest ~R7.7 billion in water infrastructure over the same period. The key areas of investment are wastewater infrastructure, water distribution and the sewer reticulation systems. However, there is a significant funding gap to realise these opportunities given the limitations and competing priorities of the national fiscus.

The key areas of water infrastructure investment in the public sector and the limitations placed on the fiscus are the drivers of the opportunities that are featured in this year's MIR.

- Based on the planned infrastructure spend at municipalities an opportunity for **local manufacturing of key components** within the water value chain could be unlocked. The water value chain components which present the biggest opportunities for localisation are mechanical hardware relating to wastewater treatment works (WWTW) and pumps. Opportunities for the plastic pipe market (HDPE² pipes) will also be further unlocked within the next 10 years as municipalities are now in the position to replace their water distribution systems due to the current asbestos pipes reaching end-of-life.

- The second opportunity that is highlighted is **innovative financing models** for the public water sector. The need for alternative financing models is evident from the financial shortfalls of well-functioning municipalities in the WC with a demonstrated pipeline of bankable infrastructure projects. The decline in infrastructure grant allocations to municipalities has led to the need to look beyond traditional financing flows. There has been significant institutional strengthening in the water sector over the last few years with the establishment of innovative financing programmes and project preparation support facilities. These include the Sustainable Infrastructure Development and Financial Facility (SIDAFF) as well as the establishment of the Water Partnerships Office (WPO). These types of innovative finance initiatives could serve as vehicles that enable development finance institutions (DFIs) and the private sector to invest in the public water sector in South Africa.

While the public water sector provides opportunities for entrepreneurs and investors to conduct business within the water value chain as well as for DFIs and the private sector to enter and invest in the sector, there are a few barriers specific to this market. The barriers relate to **international trade commitments, complex municipal procurement processes, insufficient technical skills and capacity at municipalities** and **financial management at municipalities**.

Nonetheless, the urgency to redress poor basic service delivery, political will, and the availability of support structures, will likely ease some of the barriers to investment in the public water infrastructure market in the coming years.

¹ This includes capital expenditure on infrastructure upgrades, repairs and maintenance as well as new infrastructure and asset renewal.

² High-density polyethylene

SUMMARY OF MARKET OPPORTUNITIES

OPPORTUNITY		
LOCALISATION OF MANUFACTURING SECTION 4.1		
KEY DRIVERS	BARRIERS	MARKET CONTEXT
- Planned national and regional bulk water and wastewater infrastructure projects in the public sector. - Political will and increased expenditure in public sector infrastructure.	- International trade commitments and obligations. - Complex municipal procurement processes.	- South African metropolitan municipalities are investing in water, wastewater treatment, sanitation, and storm water infrastructure, providing key opportunities for businesses in these areas. The combined metropolitan municipalities planned water and sanitation infrastructure spend over the medium term (2024/2025–2026/27) is approximately R54.6 billion, of which R22.4 billion is planned by the City of Cape Town. - Collectively, the other WC local municipalities are planning to invest ~R7.7 billion in water infrastructure over the same period. - The water value chain components which presents the biggest opportunities for localisation are mechanical hardware relating to WWTW and pumps. Opportunities for the plastic pipe market (HDPE³ pipes) will also be further unlocked within the next 10 years as municipalities are now in the position to replace their water distribution systems due to the current asbestos pipes reaching end-of-life.
OPPORTUNITY		
INNOVATIVE FINANCING MODELS SECTION 4.2		
KEY DRIVERS	BARRIERS	MARKET CONTEXT
- Planned national and regional bulk water and wastewater infrastructure projects in the public sector. - Available grant funding for water and wastewater infrastructure services is insufficient. - Blended finance structures offer the leverage to de-risk projects and encourage private sector participation. - Enabling legal, regulatory and institutional environment.	- Lack of revenue collection. - Lack of capacity and skills at municipalities. - Financial mismanagement of municipalities⁴.	- The Water Services Infrastructure Grant (WSIG) and Regional Bulk Infrastructure Grant (RBIG) allocations to local municipalities in the WC over the next three years is expected to be well below R2 billion. Municipalities that have not built up a substantial capital reserve to fund projects will rely on external loans for project implementation. - There is an increase in project preparation support and available development finance linked to impact and sustainable development goals. These programmes include the Sustainable Infrastructure Development and Financial Facility (SIDAFF) and the WPO, both aiming to assist municipalities in building a pipeline of bankable projects.

³ High-density polyethylene

⁴ <https://pmg.org.za/committee-meeting/37883/>



WHAT'S NEW?



The 2023 Water MIR focussed on the various investment opportunities relating to public sector wastewater infrastructure repairs and upgrades, as well as sludge beneficiation and the implementation of energy efficiency measures at WWTWs. These opportunities were driven by the reinstatement of the Green Drop Certification programme to evaluate the state of WWTWs as a whole (inclusive of collection and distribution networks, pump stations, storage facilities as well as the management of the system) nationally. Subsequently, the Blue Drop Certification programme (state of drinking water systems inclusive of collection and distribution networks, pump stations, storage facilities and system management) and No Drop Certification programme (measure of water conservation and demand management) were reinstated and relevant reports were published. These three programmes provided a very clear picture of the poor state of water infrastructure and the management thereof in the public sector.

In response, and while the market opportunities presented in 2021, 2022 and 2023 are still relevant, this year's Water MIR provides a detailed analysis of two opportunities for private businesses as well as development finance institutions in the WC public sector water infrastructure market. The opportunities featured are:

- (1) **Localisation of manufacturing** for key components required for the largest water infrastructure projects planned in the public sector over the next three years.
- (2) **Innovative financing models** to assist in bridging the funding gap in realising key water infrastructure opportunities planned in the public sector.

Investors and businesses who would like a comprehensive view of all water sector market opportunities are encouraged to [read the previous Water MIRs](#) in addition to this 2025 MIR.







1

INTRODUCTION AND PURPOSE





This report has been compiled by GreenCape's water sector desk. It is written for investors and businesses interested in the South African W&WW sector, with particular emphasis on opportunities in the WC and South African metropolitan municipalities.

This report provides insights into the WC's W&WW sector in particular, but also into South Africa's metropolitan W&WW sector. The report also outlines market opportunities and barriers to be considered by investors and businesses who are active or interested in the W&WW market.

The key drivers of growth and long-term investment in the W&WW sector in the WC and more broadly in South Africa (SA) are three-fold: The increasing need for resilience to recurrent droughts; ensuring water security for sustainable economic recovery and growth; and achieving universal access to water and dignified sanitation. This year's report explores investment and business opportunities associated with the public market by examining the key W&WW infrastructure projects planned for the next three-year cycle (including **new, renewals, upgrades, repair and maintenance of water supply schemes and reservoirs, pipelines, pump stations, and treatment works**). The identification of key areas of infrastructure spend for municipalities presents the first opportunity of local component manufacturing pertaining to key areas of investment. Furthermore, given the funding constraints wherein municipalities operate a second opportunity relating to **innovative financing mechanisms** of planned infrastructure projects are also evident.

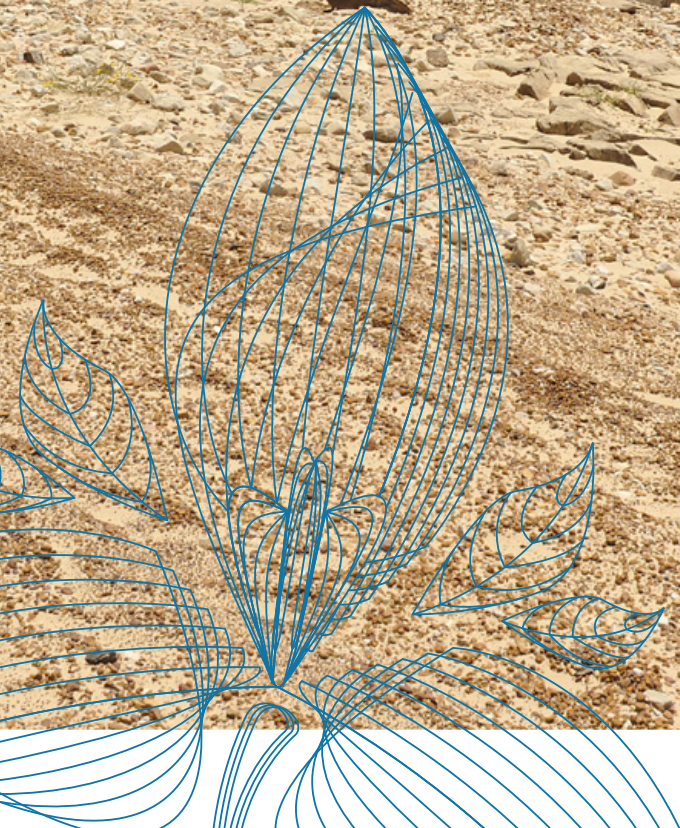
The report provides a sector overview ([Section 2](#)), which outlines water supply and wastewater service provision in the South African and WC context. This is followed by an overview of relevant policies and regulations ([Section 3](#)) that are attendant to W&WW infrastructure, and details of investment and business opportunities linked to W&WW infrastructure and barriers to realising these opportunities ([Section 4](#)).



2

SECTOR OVERVIEW

Water scarcity and inequalities in access to water and sanitation are major challenges that fall within the remit of the South African government. Addressing these challenges will require considerable investment in water-related infrastructure.





2.1. South African context

SA is characterised as a water-scarce country with significant spatial variability in rainfall, with the east of the country lying predominantly in the summer rainfall zone and receiving high rainfall. In contrast, the west of the country lies in the semi-arid region that receives less rainfall, predominantly in the winter season. To support its growing economy, SA requires additional water resources. With 98% of the available water resources already allocated, opportunities to supplement future water requirements with conventional surface water resources are limited. SA also faces challenges in water and sanitation provision due to insufficient water infrastructure maintenance and investment, increase in the frequency of extreme weather events such as droughts and floods, and considerable social inequity.

The country has a reliable yield (i.e. supply from current infrastructure) of ~15 billion kl/year (at 98% assurance of supply, or 2% annual probability of supply failure). The majority of this yield is from surface water (77%) and groundwater (9%) as shown in [Figure 1](#) (DWS 2022). Agriculture is the largest water-use sector (58%), followed by municipalities (30%), which covers residential, commercial, and industrial water users supplied by municipalities ([Figure 2](#), DWS 2022). The projections of the water supply mix for 2025 and 2040 ([Figure 1](#)) and projected water use in 2050 ([Figure 2](#)) are also included, indicating that the relative amount of surface water supply will likely decrease, with supply augmented through additional water sources such as desalination and the treatment of acid mine drainage. The relative proportion of municipal and agricultural use differs between provinces and municipalities (not shown), depending on human settlement patterns and the local economy.

Despite SA being a water-scarce country, the national average consumption is around ~218 – 237 litres/capita/day (l/c/d). These figures are much higher than the international benchmark of 173 l/c/d (DWS 2019a⁵, No Drop, 2023). Forecasts indicate that water demand will exceed supply by 10% by 2030 (DWS 2019a, DWS 2022). This will be driven by low water tariffs, inefficient use, inadequate cost recovery, leakages, inappropriate infrastructure choices (e.g. water-borne sanitation in a water-scarce country), and increased demand in the municipal, industrial, and agricultural sectors (Donnenfeld et al. 2018). The growth in municipal sector demand, which is expected to be the greatest, is driven by urbanisation, increased industrial production, commercial activity and population growth. The outlook for the water-use in each sector is presented in [Table 1](#), which also highlights the aim to reduce the per capita consumption per day from 237 litres to 175 litres.

⁵ These figures are based on the system input volume divided by the population served. The system input volume includes water provision for commercial and industrial demand, and also accounts for water losses through infrastructure leaks.

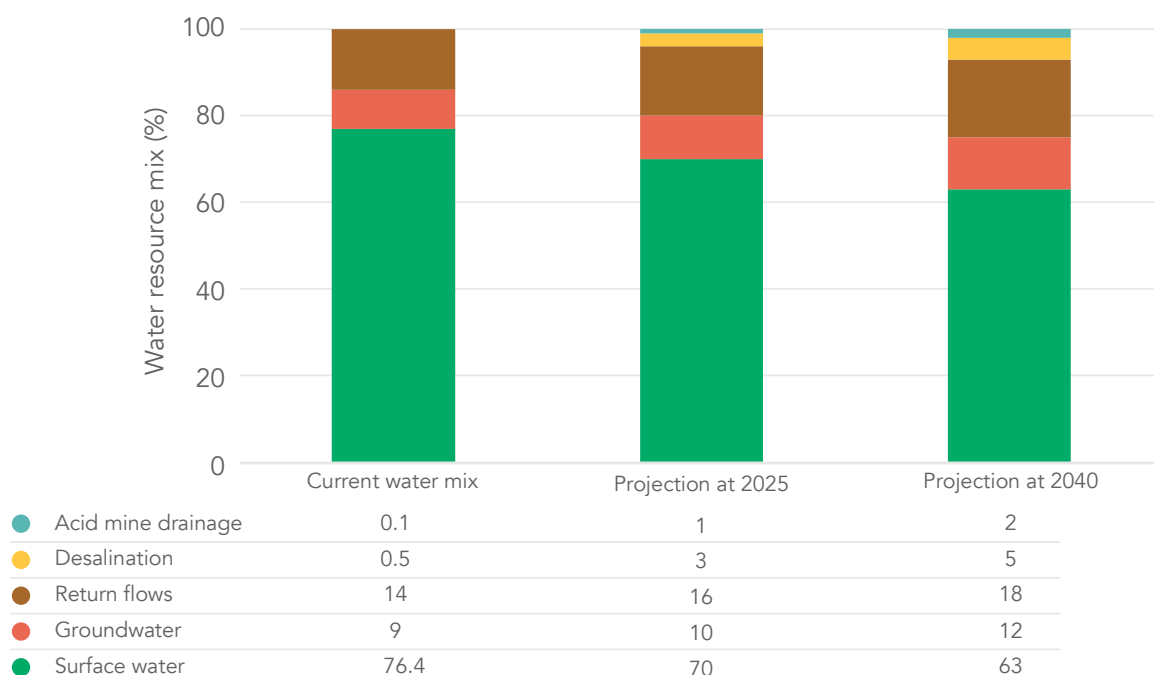


Figure 1: Overview of the current national water resource mix and the projected resource mix for 2025 and 2040
Source: DWS, 2022

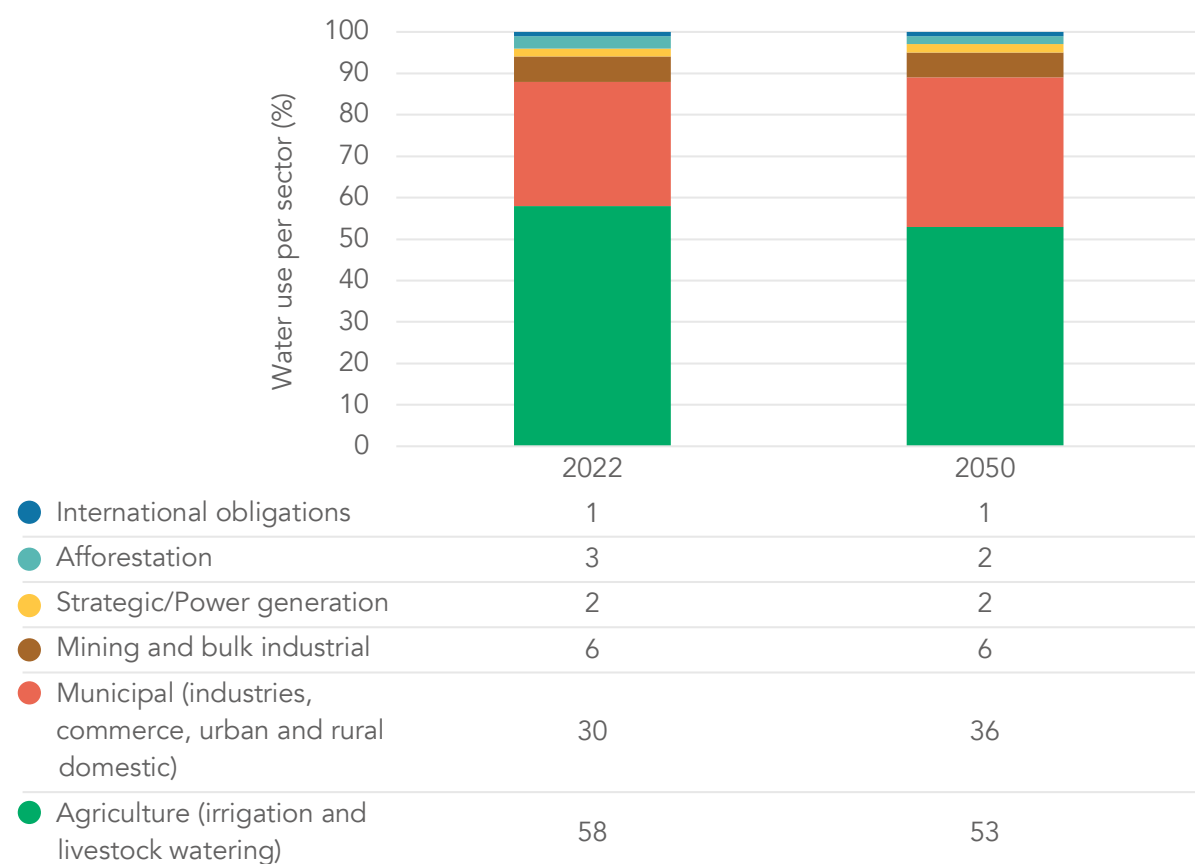


Figure 2: Water use per sector (%) in 2022 and projected use for 2050
Source: DWS, 2022

Table 1: National level strategic overview – Outlook for water use sectors

Source: DWS, 2022

SECTOR	KEY ASPECTS	OUTLOOK FOR WATER USE
Municipal and domestic	Need for eradication of service backlogs, leaks and system losses.	- Anticipate rapid growth in water demand over the short to medium term. - National goal to reduce per capita consumption to 175 litres per capita per day by 2025.
Agriculture and forestry	Demands for food for the growing population. Export led agriculture.	- Limit further allocations to irrigation. - Expansion of irrigated area to come from water savings within the sector.
International obligations	Commitments through international agreements.	- SA will honour its international water obligations in line with protocols. - Increase imports from other countries.
Strategic power generation	South Africa's energy mix is still dominated by coal fired power with water-based cooling. The aim is to have an energy mix and that this considers multiple objectives including cost and carbon intensity	- Integrated Resource Plan for energy for low carbon economy and renewables – likely less water use. - Power imports from other countries e.g. Inga Dam hydro power scheme.
Mining and industry	Key driver of economic growth and development of the country.	- Future growth is anticipated for the industry. - Minimal growth in water use due to implementation of Water Conservation and Water Demand Management (WC/WDM) and re-use. - Future of coal – use and export expected to reduce gradually.
Ecosystem	Environmental water requirement prescribed in law.	Implement allocations regimes, protect and improve water source areas.

A model of the future water balance for SA indicates that if planned additional water supply is added, and realistic water efficiency⁶ is achieved, the gap between supply and demand by 2030 can be narrowed substantially (Figure 3; DWS 2019a). Implementation of adaptation projects that promote WC/WDM would aid in narrowing the supply-demand gap. The national Economic Reconstruction and Recovery Plan (ERRP) published in October 2020 highlights the retrofitting of public and private buildings with technologies to improve water efficiency as a major part of SA's green agenda.

⁶ The water demand management target aims to reduce the per capita water consumption by 26% from 2018 to 2030 to be closer the international benchmark. During the 2016-2018 drought in the City of Cape Town, a far greater (~50%) per capita reduction in water consumption was achieved over a period of four years, which suggests that this target is very much achievable.

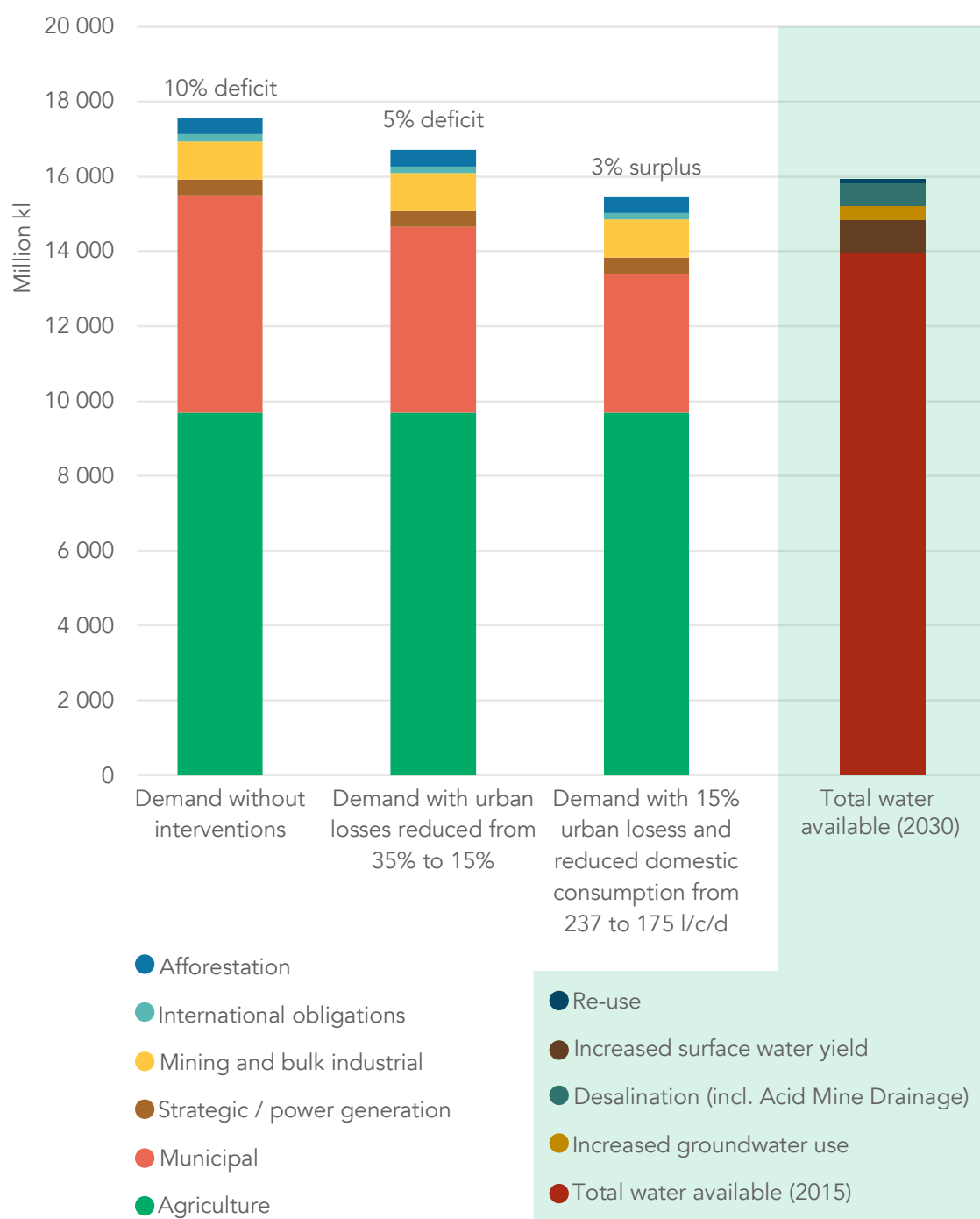


Figure 3: National water balance projections by 2030 with and without critical interventions

Source: DWS, 2019a

While total demand is projected to increase despite interventions that increase efficiency, and augmentation schemes can narrow the supply gap, it is imperative that these supply schemes are diversified. Water resource development projects underway and planned are tabulated in [Table 2](#). DWS plans to undertake the prefeasibility studies accordingly, in an incremental manner. These studies entail the appraisal of projects to ascertain the viability by analysing (i) the engineering and related aspects, and location, (ii) costing and infrastructure components, (iii) economic evaluation and assessment of the cost effectiveness of the project, (iv) environmental and social impact assessments and (v) the legal and institutional funding arrangements.

Table 2: Water resource development projects planned by DWS for between 2020 to 2050

Source: DWS, 2022

WATER RESOURCE SYSTEM	CURRENT PRIORITISED WATER RESOURCE DEVELOPMENT OPTION AND ESTIMATED DATE OF WATER DELIVERY		
	2020 – 2030	2031 – 2040	2041 – 2050
Integrated Vaal River System	Phase 2 of the Lesotho Highlands Water Project by 2025 (R32.6 billion) .	Use of Acid Mine Drainage.	Thukela Water Project (Jana and Millietuin Dams).
Orange River System	Gariep Pipeline by 2024 (R8 billion) , Vioolsdrift Dam in the Lower Orange (R6 billion) .	Dam at Verbeeldingskraal Dam in the Upper Orange River.	
Crocodile West River System	Mokolo Crocodile (West) Water Augmentation Project (MCWAP) by 2024 (R15 billion) .	Re-use of effluent.	Re-use of effluent.
Olifants River System	Olifants Water Resource Development Project (ORWRDP) Phases 2B (R6.6billion) , 2D (R1.8 billion) , 2E (R0.5 billion) & 2F (R2.3 billion) . Exploitation of the Malmani Dolomitic Groundwater Aquifer.	Re-use of effluent.	Olifants Dam (Possibly Rooipoort Dam).
Mgeni Water Supply System	Phase 1 of uMkhomazi Water Project by 2026 (Dam at Smithfield , transfer tunnel and associated works) (R18.5 billion) .	Re-use of effluent.	Phase 2 of uMkhomazi Dam (Dam at Impendle and associated works).
Algoa Water Supply System	Lower Coerny Balancing Dam Ground Water Development Scheme.	Re-use of effluent.	Kouga Dam augmentation scheme.
Western Cape Water Supply System	Berg River – Voëlvlei Augmentation Scheme (BRVAS) by 2021 (R0.9 billion) . Table Mountain Group Aquifer Scheme.	Breede-Berg River Augmentation Scheme (Mitchell's Pass Diversion and increasing volumes of Voëlvlei Dam).	Raising of Lower Steenbras Dam. Desalination of sea water.
Eastern Cape Water Schemes	Mzimvubu Water Project (R17.9 billion) , Koonap River Development Project (Foxwood Dam) (R3 billion) , Lusikisiki Water Project (Zalu Dam) (R2 billion) .	Groundwater development.	Phase 2 of Mzimvubu Water Project.
Letaba Water Supply System	Groot Letaba Water Augmentation Project (GLeWAP) (Nwamitwa Dam (R1.7billion) & Raising of Tzaneen Dam Wall).	Groundwater development.	Water re-use.
Olifants-Doorn Water Scheme	Clanwilliam Dam Wall Raising (R3.3 billion) . Phase of Conveyance System from the Raised Clanwilliam Dam (R6 billion) .	Phase of conveyance system from raised Clanwilliam Dam.	Groundwater development.

The most recent [Green Drop report from 2022](#) revealed that most of the WWTWs in South Africa fail to meet the prescribed discharge quality. Of the 850 municipal WWTWs, 334 (39%) were found to be in critical state, obtaining a Green Drop score of 30% or less. The average Green Drop score across all provinces was 50%. This is a further 11% deterioration from the average score of 61% achieved in 2013. This is not only attributed to the failure of WWTWs, but a significant portion of wastewater [spills into the environment](#) before getting to the treatment works.⁷

7 [Green Drop: DWS, 2022](#)

The resulting raw water pollution from untreated wastewater and poorly managed WWTWs present a significant environmental challenge, as well as a health and socio-economic risk to vulnerable communities that access water directly from rivers. Additionally, poor surface raw water quality increases treatment costs for potable uses as well as downstream industrial uses, and has a negative impact on agricultural yields.

The reinstated [No Drop report of 2023](#) assessed the degree to which the drinking water distribution systems of municipalities supply water efficiently, without wasting water. Four out of 144 water supply authorities (WSAs) (i.e. 2.8%) scored more than 90% and qualified for the No Drop Certification. The assessment found that national non-revenue water (NRW) increased from 37% in 2014 to 47% in 2023. This is caused by physical losses e.g., water leaking out of pipes above or underground, poorly functioning or non-existent water meters, illegal connections and poor billing and revenue collection. The international average for non-revenue water is 30%.⁸

The [Blue Drop report of 2023](#) is a comprehensive assessment of the state of all 958 water supply systems (WSS)⁹ in each of the 144 WSAs in the country. Twenty-six water supply systems (2.7%) scored more than 95% and qualified for the prestigious Blue Drop Certification. In 2014, 44 WSS were awarded Blue Drop status. This indicates an overall decline in excellence between 2014 and 2023. Of the 958 WSS, 277 (29%) located in 62 WSAs were identified to be in a critical state of performance. In 2014, 174 WSS in 33 WSAs were found to be in a critical state of performance. This indicates that there has been an overall increase in the number of systems in a critical state of performance between 2014 and 2023.¹⁰

8 [No Drop: DWS, 2023](#)

9 Not to be confused with WSA which is the governing body responsible for water and sanitation services, while a water supply system is the technical infrastructure that delivers water from source to consumer

10 [Blue Drop: DWS, 2023](#)



2.2. Western Cape context

The WC is located in the southwest of South Africa hosting one metropolitan and 24 local municipalities (Figure 4). It is a province that is home to approximately 7.3 million people with about 64% of this population living in the capital of the province, the City of Cape Town which is also the only metropolitan municipality (Metro) in the province. The Western Cape Water Supply System (WCWSS) serves more than 3.2 million people, providing water to the CCT and certain Overberg, Boland, West Coast and Swartland towns, as well as to irrigators along the Berg, Eerste and Riviersonderend rivers. This area generates approximately 14% of the national gross domestic product (GDP). The sectors that mainly dominate in GDP contributions of the WC are agriculture, forestry, and fishing; construction; and transport and communication (Quantec 2023). The WC has the lowest unemployment rate in South Africa sitting at 22.2% in quarter two of 2024 (StatsSA QLFS Q2:2024).

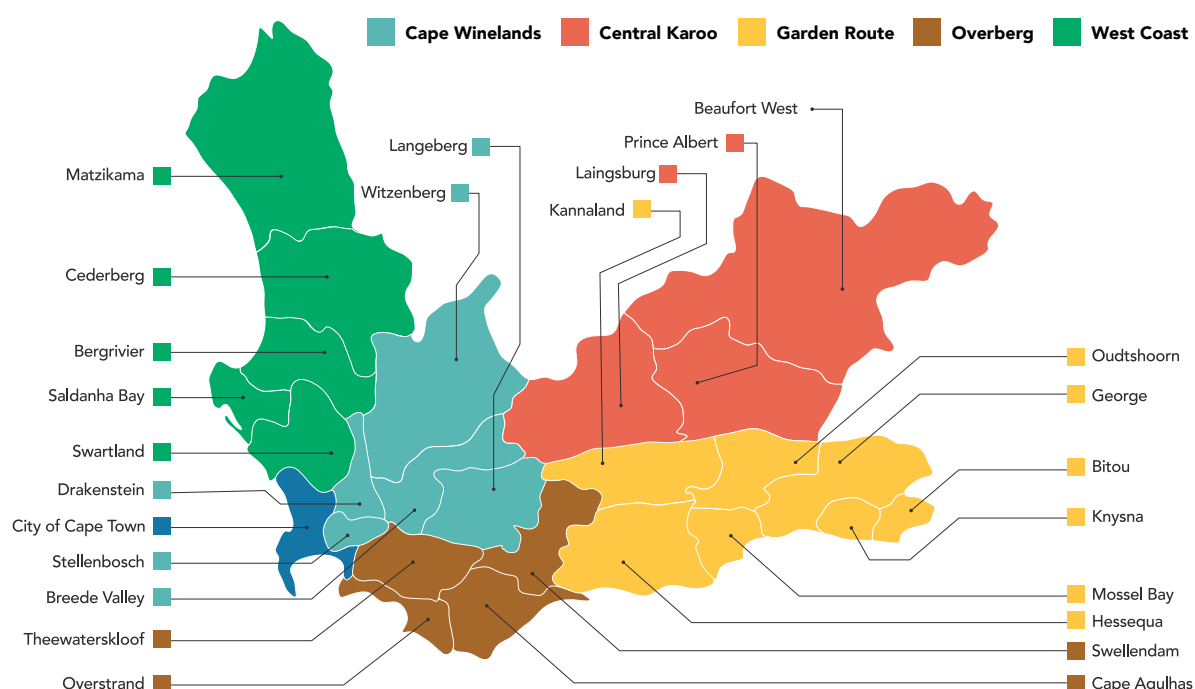


Figure 4: Locality and municipalities of the Western Cape Province
Source: Local Government Handbook¹¹

2.2.1 Western Cape Water Supply and Management System

The total water allocation for the WCWSS is ~590 million m³ per year (DWS 2019). Approximately two-thirds of the allocation is for urban use (including residential, commercial, and industrial use), and the remainder is allocated for agriculture, which is predominantly used in the summer months (DWS 2019b). Even without making provision for the ecological reserve, the total allocations exceed the 2018 revised system yield of 547 million m³ per year (DWS 2018). There are opportunities to raise dam walls within the WC that include the Clanwilliam Dam project located in the Cederberg Municipality. This is a ~R4 billion project in total, making it one of the largest government investments in the WC. The dam currently produces about 123 Mm³ and, upon completion, it is anticipated to produce 343 Mm³, nearly tripling the current supply (SAG 2023). Discussions have been held with the DWS to determine the appropriate measures for the initiation of a pre-feasibility study on the raising of the Steenbras Lower Dam (CCT, 2024).

¹¹ [Municipalities.co.za](https://municipalities.co.za)

2.2.1.1 Blue Drop status

Of 124 WSS in the WC, 15 WSS (12%) qualified for the Blue Drop Certification¹² (scoring over 95%) in 2023. In the 2014 assessment, eight water supply systems were awarded with the Blue Drop Certification showing a significant improvement for the province. The 15 WSS that qualified for the most recent Blue Drop Certification are presented in [Table 3](#).

Table 3: Water supply systems in the WC that received Blue Drop Certification in 2023

Source: Water and Sanitation Africa, August 2024 Edition¹³

MUNICIPALITY	WATER SUPPLY SYSTEM	SUMMARISED COMMENT IN REPORT (KEY SUCCESS FACTORS)
Berg-rivier Local Municipality	Velddrif	Transparency in uploading data to the Integrated Regulatory Information System (IRIS), as well as a good understanding of the system. Good complement of technical people on the management side to oversee and implement operations.
City of Cape Town Metro Municipality	Cape Town	All senior managers were present. Sufficiently staffed technical department and water safety plans are completed in-house. A high premium is placed on training. The operational side is well managed with automated systems.
Drakenstein Local Municipality	Hermon	Microbiological and chemical acute compliance demonstrated. Water safety plans provided in site-specific register.
George Local Municipality	George	Capable management.
Overstrand Local Municipality	Baardskeerdersbos Buffeljags Bay Buffelsrivier Greater Gansbaai Greater Hermanus Kleinmond Pearly Beach Stanford	Cooperative relationship between municipality and private service provider. Senior technical personnel present during audit, presenting an outstanding portfolio of evidence. Proof of implementation of water safety plans. Could list the risks of each catchment.
Saldanha Bay Local Municipality	Hopefield	Senior technical personnel present during audit, presenting an outstanding portfolio of evidence. Good operational and supply systems in place. Water safety plans are continuously updated and implemented.
Swartland Local Municipality	Withoogte	Senior technical personnel present during audit, presenting an outstanding portfolio of evidence alongside private engineering company. Good operational and supply systems in place. Water safety plans are continuously updated and implemented.
Theewaterskloof Local Municipality	Botrivier	Transparency in uploading data to the IRIS system, as well as a good understanding of the system. Good and capable management overseeing operations. Support functions on the maintenance side are in place with a good complement of technical staff.

12 The Blue Drop Report is an assessment by the DWS focusing on the quality and safety of drinking water in municipalities. It evaluates factors such as compliance with water quality standards, infrastructure, and overall management practices of water supply systems

13 [https://issuu.com/infrastructurenews/docs/wasa_july_august_2024?ct=t\(EMAIL_CAMPAIGN_10_24_2023_10_48_COPY_03\)](https://issuu.com/infrastructurenews/docs/wasa_july_august_2024?ct=t(EMAIL_CAMPAIGN_10_24_2023_10_48_COPY_03))

2.2.1.2 Green Drop status

During the last audit (published in 2022), 12 Green Drop¹⁴ Certificates were awarded for wastewater systems in the WC. The certificates were awarded to four systems of the CCT, three systems in Witzenberg, two systems in Bitou and one system each in Drakenstein, Saldanha Bay and Mossel Bay. The Green Drop scores achieved by municipalities during the last audit as well as the previous audit (2013) are presented in [Figure 5](#). It is evident that there is a general decline in the Green Drop score from 2013 versus the score achieved in 2021 highlighting the need for infrastructure repairs, maintenance and new builds for wastewater management.

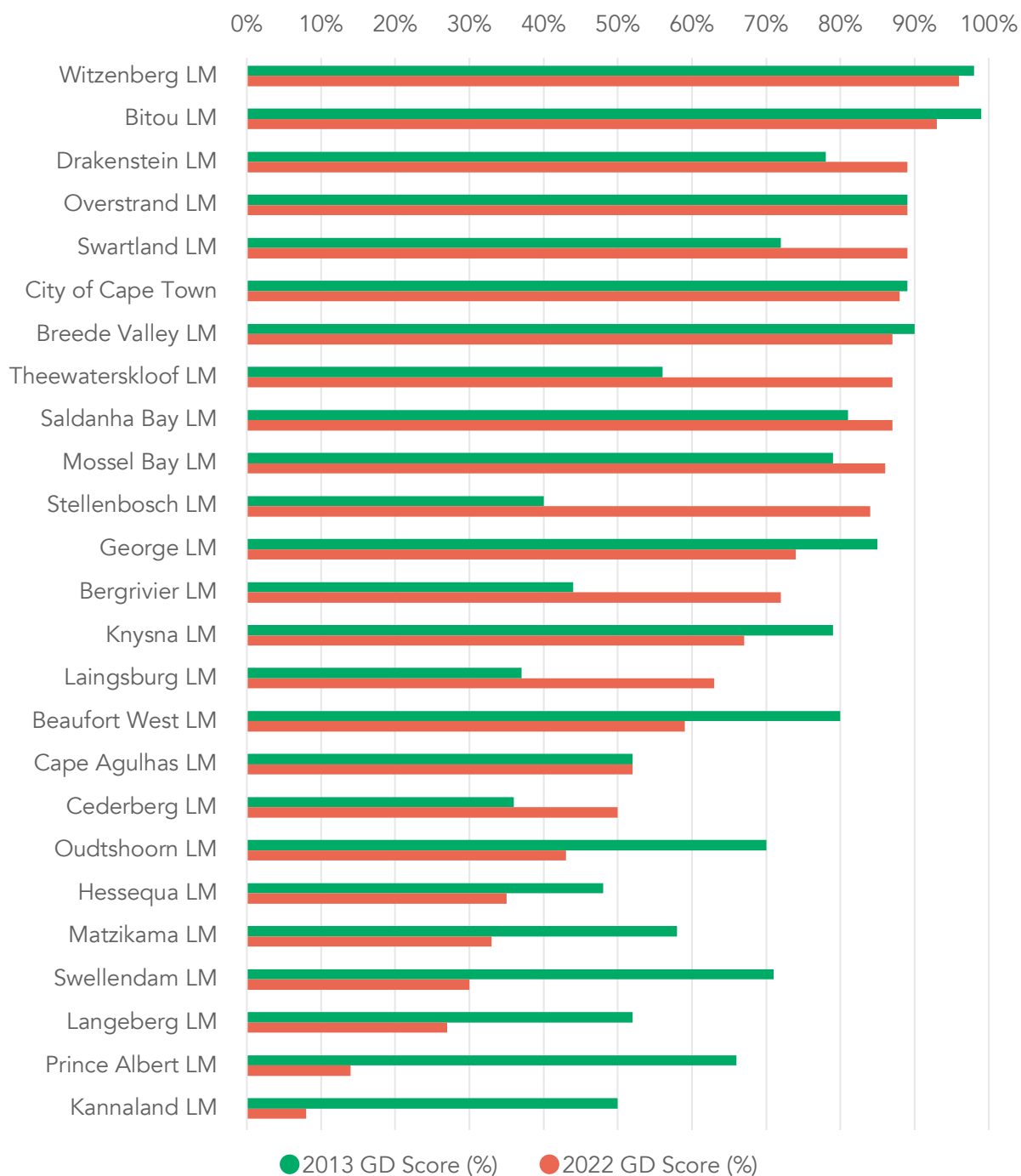


Figure 5: Green Drop scores for the 2013 and 2022 (latest) audit achieved by municipalities in the WC

Source: GreenCape analysis of data in GreenDrop (DWS, 2013) and GreenDrop Report (DWS, 2022)

¹⁴ The Green Drop Report looks at the state of municipal wastewater treatment. To qualify for a Green Drop Certification, a wastewater system requires a Green Drop score of 90% or above in criteria which includes Capacity Management, Environmental Management, Financial Management, Technical Management and Effluent and Sludge Compliance.

2.2.1.3 No Drop status

The No Drop Reports¹⁵ monitor water use efficiency and reduce water losses in municipalities. The WC performed well in the audits, which focused on WC/WDM. Overstrand scored over 100% and City of Cape Town and Swartland scored above 90%. Six WSAs scored above 80% (good performance). A summary for the No Drop results achieved by WC WSAs is presented in [Figure 6](#), noting that the majority of the municipalities in the WC performed poor in the asset management category, but excellently in having multi-year water balances.

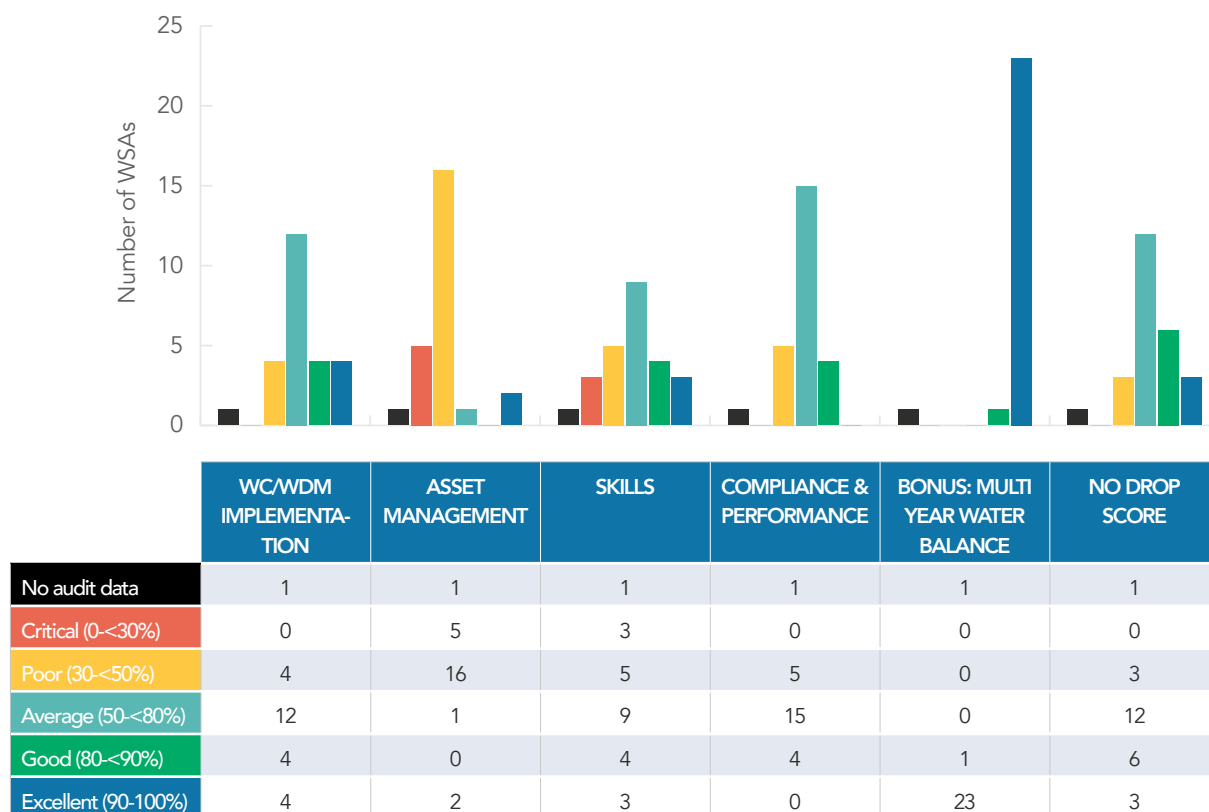


Figure 6: Summary of the No Drop results achieved for the municipalities in the WC

Source: [No Drop: DWS](#), 2023

2.2.2 Long-term planning in the Western Cape

The climate projections for the WC indicate a warming trend as well as projected drying in many areas, with longer periods between increasingly intense rainfall events (DEA&DP 2018). It also remains to be seen whether the most recent drought (2015-2018) represents a 'step-change' in the rainfall patterns (such as was experienced by Perth in the 1970s), or whether the decrease in average annual rainfall will occur gradually. Additionally, population and economic growth will place an additional burden on water supply and sanitation systems, which in turn is expected to lead to a decrease in water security and quality which would have a negative impact on the province and consequently the country's economy. The population in the province has grown by 0.7% between 2016 and 2022, and is expected to continue growing for the foreseeable future (Stats SA 2024). Water supply, without adding augmentation schemes, can be seen declining steadily ([Figure 7](#)) indicating that it would be challenging to meet water demand especially as the population grows.

¹⁵ The No Drop Report is a comprehensive assessment tool introduced by DWS to monitor water use efficiency and reduce water losses in municipalities. It evaluates the performance of municipalities based on indicators such as water conservation, leak management, metering, and water loss reduction. The report assigns a "No Drop" score, encouraging accountability and improvement in water management practices.

In order to address future water constraints, reconciliation studies are conducted to reconcile the gap between future demand and supply. The WCWSS reconciliation strategy study was completed in 2007, and annual status updates are to be produced by the DWS. The latest available update (2018) compares several future water balance assessment scenarios. **Figure 7** presents the base scenario of future water supply without additional water conservation and demand management interventions. In terms of demand, there are a number of scenarios. Scenario 1 assumes a projected 2% p.a. growth rate in water demand (DWS 2018). Solid fills show the planned water supply interventions, along with their height (or stacked thickness) indicating the estimated yields for the different interventions.

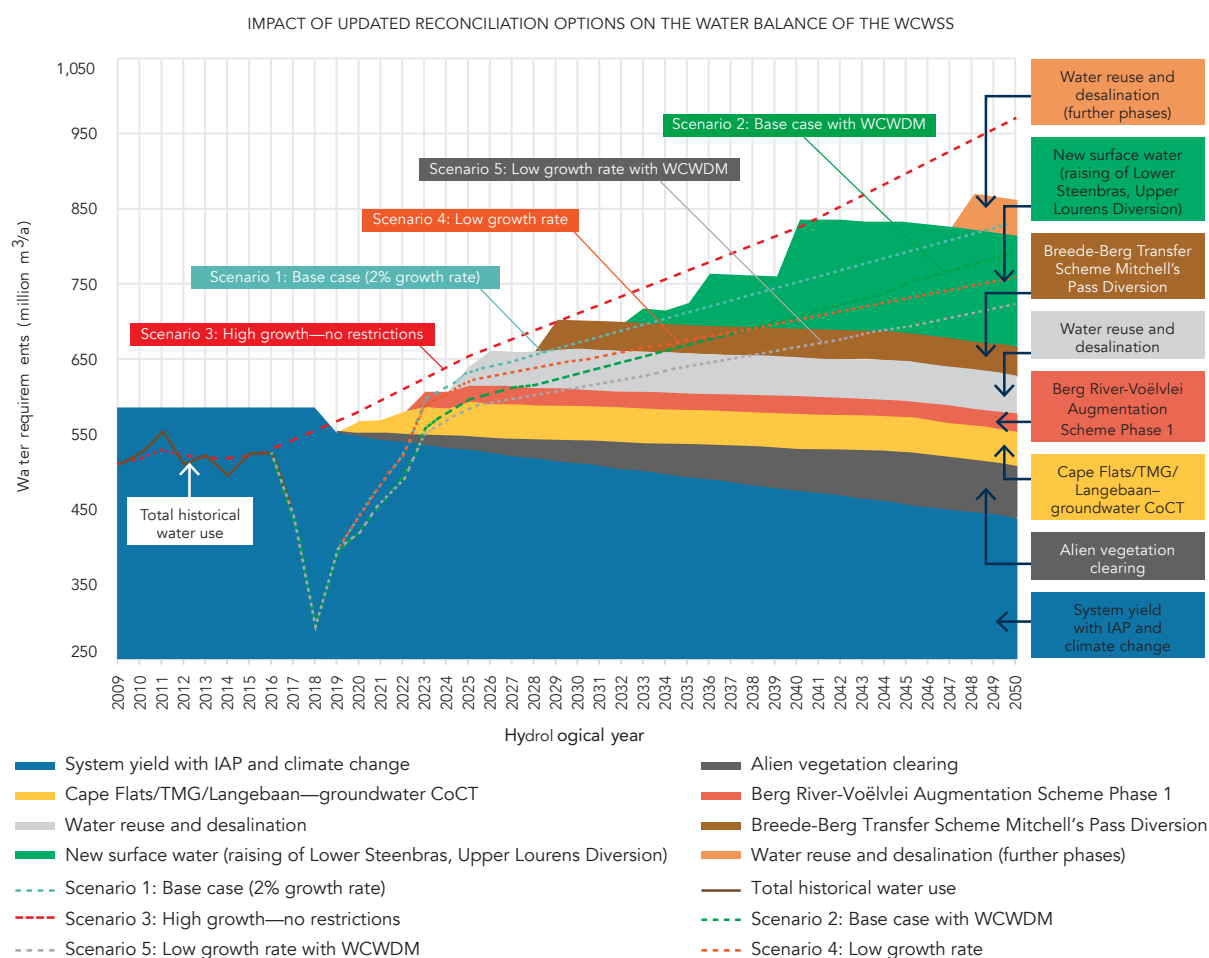


Figure 7: WCWSS planning scenarios showing reconciliation of supply and demand (noting that some projects may not reflect in detailed plans as it is in the outer years)

Source: WRG 2022



2.2.3 Long-term planning by the CCT

The CCT was at risk of reaching “Day Zero”¹⁶ during the 2015-2018 drought, but effective measures such as substantial demand reduction were taken to avoid it (CCT, 2024). The measures that were put in place resulted in improved water demand management, but water use post the drought has steadily increased again as depicted in **Figure 8A**. Population growth in the city between the years 2011 – 2022 was roughly 2% per annum and is anticipated to continue at this level for the foreseeable future (CTWO 2024). [The CCT Water Strategy](#) predicted that there would be a full rebound within three years of the drought and thereafter demand would increase in line with population growth. This, however, is not the case as can be seen in **Figure 8B**: it appears that period of high demand is extending and the rate of increase in water demand remains above the growth rate of the population. Thus the CCT intends to monitor water demand to ascertain if the growth in demand gravitates toward rate of population growth or not (CCT, 2024). If the rate of increase in water demand remains well above the 2%, this could, among others, necessitate a revision of the timing of the New Water Programme of the CCT (CCT, 2024).

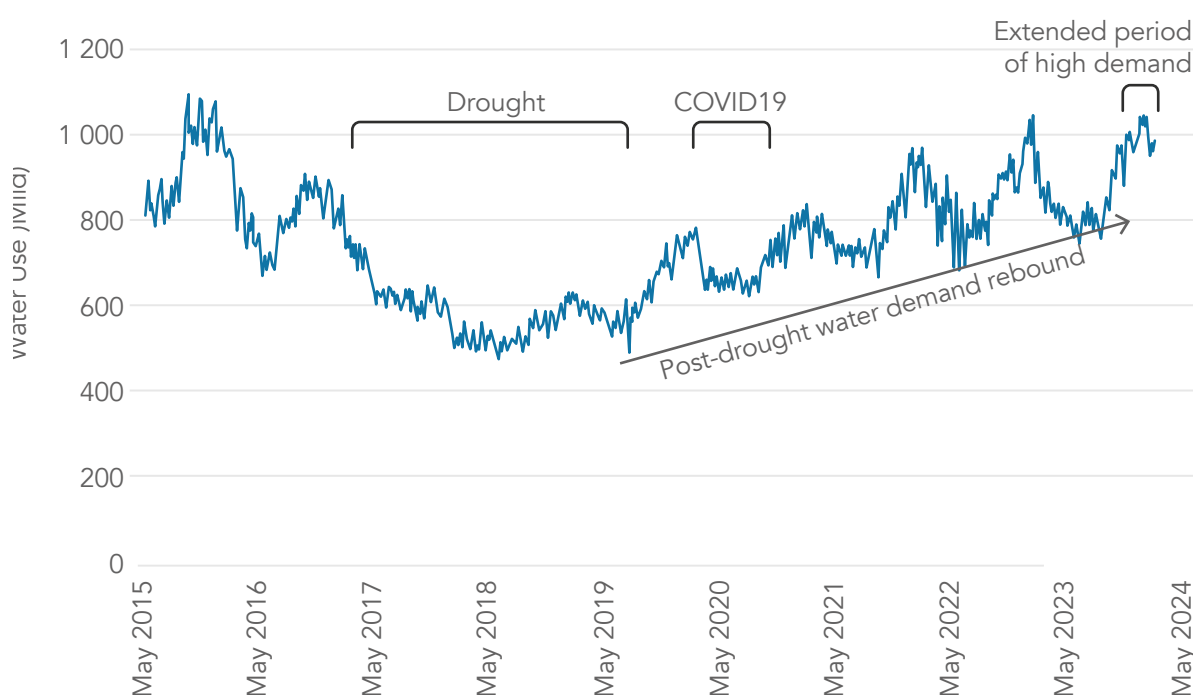


Figure 8A: Water usage in the City of Cape Town in MLD.

Source: CTWO, 2024

¹⁶ Day Zero refers to the critical point at which a city's water supply is predicted to be nearly completely depleted, leaving taps dry and communities in crisis.



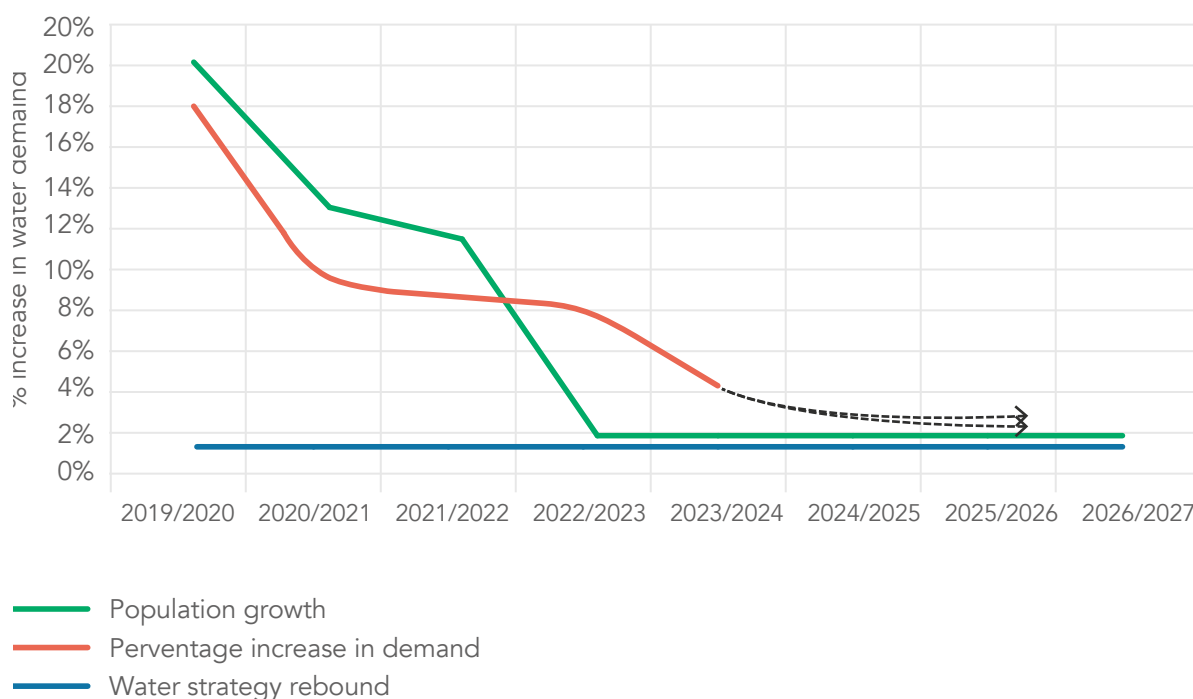


Figure 8B: The historical and predicted rate of growth in water demand versus the rate of growth predicted in water strategy ("water strategy rebound") and the rate of population growth

Planned augmentation schemes that form part of the New Water Programme include potable water reuse (from WWTWs), groundwater development (new resources and artificial recharge), and large-scale permanent seawater desalination. In this regard, long-term plans have been in place for several years, and many of the planned projects were brought forward and re-assessed considering the drought and need for economic water resilience (see [Figure 29 in 2019 MIR](#) and [Table 8 in 2020 MIR](#)). The CCT has implemented its groundwater schemes while other planned augmentation schemes are at different project phases (see [Table 4](#)). The CCT augments its surface water with ~7 megalitres per day (MLD) from groundwater and springs (CCT 2020). This is likely to rise by 52 MLD from the Table Mountain Group (TMG) aquifer when it is fully operational. Other phased augmentation schemes detailed in [Table 4](#) will contribute a total of ~240 MLD by 2026. Furthermore, the CCT has been supplying ~75 MLD of treated effluent from its WWTWs to ~950 registered users, mainly farmers, and businesses, through a 277 km permanent pipeline connection (CCT 2020)¹⁷. This supply network will be extended to ~938 km in the next 10 to 15 years.

¹⁷ The networking is being extended on a yearly basis, please contact the City of Cape Town for up to date figures and map of the current network



Table 4: Existing and planned augmentation schemes in the City of Cape Town

Source: CTWO, 2024

Intervention	Status	Capacity (MLD)	Total CAPEX (R million)	Unit CAPEX (R million)	Operating cost (R/kl)
Table Mountain Group Aquifer–Steenbras*	Various phases to be completed between 2023 – 2040.	25	468	18.7	5.5
Table Mountain Group Aquifer–Nuweberg*		15	523	34.9	5.5
Table Mountain Group Aquifer–Groenlandberg*		12	376	31.3	2.2
Cape Flats Aquifer–Strandfontein		5	378	75.6	6.5
Cape Flats Aquifer–Hanover Park		4	158	39.4	8.5
Cape Flats Aquifer–Strandfontein North and East		15	772	51.5	6.5
Cape Flats Aquifer–Philippi		6	434	72.3	8.5
Cape Flats Aquifer–Mitchells Plain		20	673	33.7	8.5
Atlantis Aquifer Rehabilitation and Expansion		16	314	19.6	8.5
Berg Voëlvlei River Augmentation Scheme	Planning – to be completed by 2027.	40	-	-	4.62
Water Reuse–Faure New Water Scheme	Design complete and now at evaluation of various financing, implementation, and operational options. Phase 1 to be completed by 2029.	70	1 882	26.9	5.7
Desalination	Detailed feasibility study of alternative options. To be completed by 2030.	50	1 800	33-40	9.0
Alien Vegetation Clearance	To be completed by 2026.	30	372	-	-
Improved Supply System Management (WCWSS)	To be confirmed once more detailed information becomes available.				
Water Conservation/ Demand Management					
Total		308	8 150		

* Treatment costs not included.

2.3. Water sector funding

The financing of water and sanitation provision is done through tariffs paid by the different groups of users, and subsidies stemming from national and municipal budgets (including grants). Subsidies are used to finance both capital and operational expenditures. The Water Services Act (No. 108 of 1997) stipulates that water economic flux¹⁸ should be ring-fenced i.e. meaning that all water tariff income is to be used for water related costs only.

The South African National Water and Sanitation Master Plan (NWSMP) estimates that there is a significant funding gap with **R898 billion required** over 10 years to meet the national objectives of universal access to water and sanitation **over the next ten years and ~R565 billion funding available, resulting in R333 billion additional funding required** (DWS 2018d). A visual representation of the institutions that are primarily responsible for providing investments in water and sanitation across areas of the water value chain and their projected funding (on an annual basis based on the NWSMP data) and financing sources is presented in **Figure 9**.

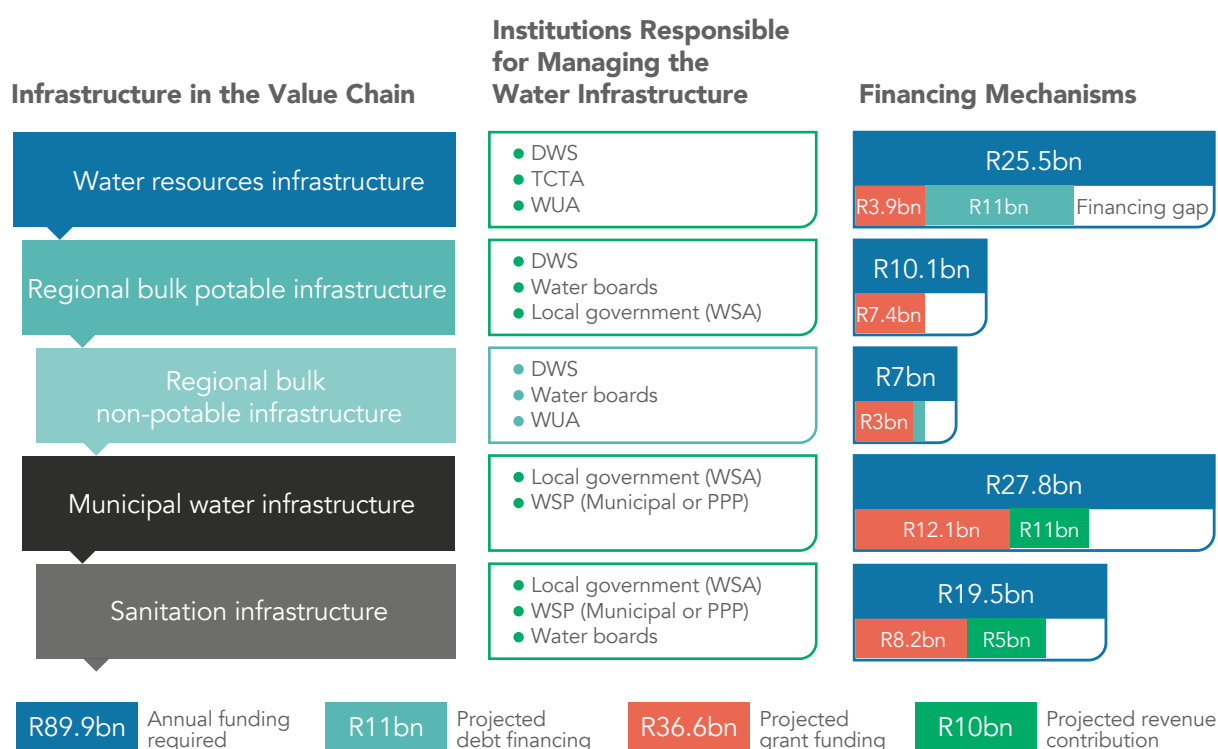


Figure 9: Institutional management of infrastructure in the value chain and financing mechanisms

Source: USAID WASH-FIN, 2020

As shown in **Figure 9**, there is a large capital investment funding gap for municipal water infrastructure. Municipalities receive funding from: (1) national government in the form of grants; (2) revenue from property taxes; (3) tariffs from the provision of services such as water and electricity to consumers and solid waste collection. Tariffs make up 80% of all funding in the water and sanitation sector (at a municipal-level), however many municipalities fail to recover operating costs due to the non-payment of services from users and large proportion of households that benefit from the indigent support system (free provision of basic services).

¹⁸ Water economic flux refers to the flow of money throughout the water value chain.

In 2020, Statistics South Africa (StatsSA) reported 2.67 million households as beneficiaries of free water supply (Statistics South Africa (StatsSA), 2022). As a result, there is limited money available for capital investments, which then need to be covered by government, external grants and funding sourced from the private sector. This represents an opportunity for private investors and development finance institutions (DFIs).

Budgeted funding of R56.1 billion in 2023/2024 falls well short of what is required, but estimated medium-term budgets indicate that the national government has plans in place to reduce the shortfall ([Table 5](#)).

Table 5: Required, budgeted, and projected public sector funding for water & sanitation services & infrastructure

Source: National Treasury, 2024

FUNDING (R BN)	REVISED ESTIMATE 2023/2024 (R BN)	MEDIUM TERM ESTIMATES 2024/2025 (R BN)	MEDIUM TERM ESTIMATES 2025/2026 (R BN)	MEDIUM TERM ESTIMATES 2026/2027 (R BN)
Community development:	15.0	15.26	14.95	13.78
Regional and local water and sanitation services (subsidies for basic services)	15.0	15.26	14.95	13.78
Water and sanitation infrastructure:	41.1	50.03	55.33	59.13
Water resource and bulk infrastructure	33.7	42.13	47.33	51.73
RBIG	3.5	3.9	3.8	3
WSIG	3.9	4.0	4.2	4.4
Total planned public sector funding for water and sanitation	56.1	65.29	70.28	72.91
Total estimated annual capital requirements	91.0	91.0	91.0	91.0
Funding shortfall	-38.4	-28.3	-22.8	-19.9

It is evident that there will still be a considerable funding shortfall. The expectation is that this shortfall will be filled by channelling infrastructure investment or loan financing to the public sector. Without investment, public sector infrastructure projects will remain delayed and the state of infrastructure poor. This need for investment opens up the related short to medium terms opportunities highlighted in [Section 4](#).

4

POLICIES AND REGULATIONS



This section provides an overview of the regulatory environment for the South African water sector. It does not comprehensively cover all relevant legislation; but highlights key information useful to potential investors.

3.1. Amendments to national legislation

Amendment to the National Water Act (NWA): The National Water Act 36 of 1998 (NWA) provides the legal framework for the effective and sustainable management of water resources (including surface water and groundwater) by the Department of Water and Sanitation (DWS) on behalf of the national government. The NWA gives DWS the overall responsibility and authority to:

- manage the use of water;
- protect water quality;
- allocate water; and
- promote inclusive water management.

The NWA will be amended to:

- measure impact in long-term projects;
- facilitate the re-allocation of water use through curtailment of existing lawful water users;
- strengthen penalties for environmental non-compliance;
- strengthen protection of strategic water source areas;
- promote equitable access to water and sanitation services to previously disadvantaged groups;
- redress past imbalances; and
- provide a more effective dispute resolution process (DWS, 2022a).

Status: At the time of writing (October, 2024), the National Water Amendment Bill, which was published in November 2023, is in the consultation and legislative review phase. Public consultations took place across the country starting in January 2024, with the deadline for written comments closing on 1 March 2024. At the time of writing, the bill is still under consideration, with ongoing engagements between stakeholders and the DWS. It is likely to undergo further revisions before it is presented for final approval in Parliament.



Amendment of the Water Services Act: This act aims to ensure a sustainable water supply; and to regulate the provision of water and sanitation services by Water Services Authorities. The Act is amended to introduce a legal requirement that water services can only be supplied by an entity or municipality that holds a valid water service provider (WSP) operating licence. The minimum performance or competency levels for the licence will be gazetted by the DWS Minister. In cases of persistent failure by a certain municipality, the minister may mandate the separation of the water services function from administration and require the municipality to contract with a licensed WSP.

Status: The draft bill was published for comment in Government Gazette 49733 in November 2023. This bill, along with the National Water Amendment Bill, is expected to go through further public consultations and reviews.



Draft minimum standards for Water Supply and Sanitation Services: The DWS published an update of the **Norms and standards for water supply and sanitation services** in January 2024 which seek to improve water loss management and water quality regulations, stipulate minimum qualifications for technical personnel in water services, and provide mitigation measures for adverse impacts of load-shedding in water services.

The primary focus of these norms and standards is to promote demand management and water conservation by prioritising the reduction of water losses through proper infrastructure maintenance and thorough assessment of water balances. In these norms and standards, the DWS seeks to ensure that persons have access to a minimum of 25 litres of potable water per day and six kilolitres for each household per day. Additionally, the supply of water should be available all year long without any disruptions longer than two days/48 consecutive hours. In the event of disruptions longer than a 48-hour period, water services institutions are mandated to provide an alternative water supply to allow people of the affected area to have access to at least 10 litres of potable water per capita per day.

The update also addresses interim and emergency sanitation services; it seeks to improve the quality of water discharged into water systems and naturally occurring water bodies.

Status: At the time of writing, the draft is still in the process of public consultation and review. The exact timeline for the finalisation and implementation of the standards is not yet publicly available.



National Water Resource Infrastructure Agency Act (NWRIA): Water infrastructure in South Africa requires large-scale infrastructure and maintenance on existing assets. Due to fiscal constraints, DWS cannot provide the amounts required and it was decided that an agency would be better positioned to raise external funds. The agency also seeks to address the current fragmentation in water resources management between DWS, Trans-Caledon Tunnel Authority (TCTA) and the Water Trading Entity (WTE). The aim of the agency is to raise commercial and development finance, domestically and internationally, and establish public-private partnerships (PPPs) (DWS, 2022b).

Status: The NWRIA Act was signed and enacted into law on 27 August 2024.



National Pricing Strategy for Raw Water Use Charges: This pricing strategy provides the framework for the pricing of the use of water from South Africa's water resources, i.e., the use of raw (untreated) water from the water resource and/or supplied from government waterworks, and the discharge of water into a water resource or onto land. Public consultations have been held to determine the pricing strategy for registered businesses abstracting water for commercial purposes. The charges will be applicable to water users registered with the department (DWS), who are abstracting water either from a river or from a government water scheme, and includes the discharging of water back into the resource. The pricing does not apply to subsistence farming or domestic use.

Status: This was published on June 21, 2024



SANS241 Drinking Water Quality: The South African Bureau of Standards (SABS) together with its Technical Committee 147 – Water (SABS/TC 147) has been working to revise and update the requirements of the national standard for drinking water in South Africa. The draft seventh edition of the *South African National Standard, SANS 241 – Drinking Water Quality* was opened for a second round of public comments in July 2024 and concluded in September 2024. The finalised standard will be published once due process has been concluded, including responding to the comments submitted by the public. The duration of the process will depend on the nature of the public comments, which may include further stakeholder engagements in the standards development process.

3.2. Municipal procurement

Municipal procurement is regulated by the Municipal Finance Management Act (MFMA) (56 of 2003) and its regulations, including the Municipal Supply Chain Management Regulations (2005). These regulations specify the minimum requirements, but municipalities are allowed to apply stricter standards. The MFMA outlines the competitive procurement processes, and unsolicited bids are not encouraged. National Treasury, in collaboration with the Department of Trade, Industry, and Competition (dtic), also sets further requirements such as local content under designated sectors through the Regulations of 2017 of the Preferential Procurement Policy Framework Act (5 of 2000).

The Public Procurement Act: The Public Procurement Act became law in SA on 23 July 2024, and will come into effect on a date to be determined and published by the President of South Africa. The Act aims to enhance fair, transparent, efficient and cost-effective procurement processes and requires the establishment of both a Public Procurement Office and a Public Procurement Tribunal. Once the Act is in effect, the accompanying regulations and guidelines to support its implementation will follow. In essence, the Act encourages alignment with preferential procurement policies that support Broad-based Black Economic Empowerment (B-BBEE)-compliant companies, small enterprises, and those advancing sustainable development. It also provides a framework for PPPs, where businesses can share risks and benefits while delivering public services or infrastructure. Businesses are expected to comply with reporting, transparency measures, and ethical standards when engaging in public tenders.

As stipulated by National Treasury (2017), for projects worth less than or valued at R50 million (incl. VAT), the price contributes 80 points of the total score and the B-BBEE status contributes 20 points. For projects above R50 million, the price contributes 90 points and B-BBEE status 10 points. The updated 2022 Preferential Procurement regulations, which came into effect on January 16, 2023, maintain these ratios but give organs of state the flexibility to define specific goals for their procurement. These specific goals may be based on contracting with historically disadvantaged individuals; alignment with the Reconstruction and Development Programme and support initiatives that encourage economic transformation and social equity.

Municipalities can also specify pre-qualification criteria to limit the competition to certain groups. These groups include companies with higher B-BBEE scores, exempted micro enterprises (EMEs), and qualifying small business enterprises (QSEs). Municipalities are also allowed to issue directives on emergency procurement procedures when a state of disaster has been declared under [Section 55\(2\)](#) of the Disaster Management Act (57 of 2002). For example, to facilitate emergency procurement of water and sanitation services to prevent the spread of COVID-19, DWS established the National Disaster Water Command Centre led by Rand Water and permitted direct engagement with manufacturers to provide water tanks, ablution blocks, sanitation packs, and related water services to communities without access to these services.

The procurement of services is permitted for a period of up to three years. If a contract is anticipated to extend beyond this three-year limitation, a municipal department must motivate for such an extension to be granted by its municipal council in accordance with the MFMA ([Section 33](#)). The process involves inviting comments from the national and provincial treasury, relevant national and provincial departments, and the public.

For the provision of services by an external service provider, the Municipal Systems Act (Sections 77 & 78) requires a feasibility study to justify the advantage of external over internal service provision. In addition, for PPPs, the MFMA ([Section 120](#)) requires a bankable feasibility study. GreenCape compiled an industry brief funded by the Western Cape Government (WCG) which details the steps and procedures to access the municipal market. The brief can be [accessed here via the GreenCape website](#) as well as the 110% Green website.

3.2.1 City of Cape Town procurement¹⁹

Companies wishing to do business with CCT must first register with the national Central Supplier Database (CSD)²⁰, then with the CCT's supplier database via its eServices portal²¹, and then register on the CCT's procurement portal and/or tender portal²².

The CCT publishes requests for quotations (RFQs) on its portal for goods and services worth less than R750 000, while those exceeding R750 000 (VAT included) require a formal bidding (tender) process. Tenders are also advertised in local newspapers and on the [national tender portal](#). The bidding process for tenders valued at more than R10 million is more extensive and requires additional documentation.

More information on the procurement processes of the CCT can be found on the CCT website²³. The list of tenders received by the City, and their prices, can be accessed via the CCT website [here](#).

3.3. Technology platforms

The South African Local Government Association (SALGA) in partnership with the Water Research Commission (WRC) has launched the Technology and Innovation Forum (TIF) in 2020. The TIF provides a collaborative platform for municipal partners to share their innovation needs and mobilise partnerships to jointly conceptualise programmes, projects, and funding.

The WCG seeks to promote green technologies and services in order to promote economic water resilience. In an effort to link water users with technology and service providers who can assist in improving water resilience, a public database of suppliers has been developed. Technology and service providers are encouraged to register their technologies on the WCG's database which can be accessed [here](#).

The CCT has a New Technology Platform to gain an understanding of innovative water technologies in the market. It gives companies the opportunity to present their products and services to the government in a fair manner. Information on how to submit information to the committee can be obtained by contacting Water.NewTechnology@capetown.gov.za.

¹⁹ Local municipalities in the Western Cape have similar processes and systems to the CCT. Information pertaining to these processes and systems can be found on the website of the local municipality of interest.

²⁰ Register for the CSD at <https://secure.csd.gov.za/>

²¹ Steps to register as a CCT supplier are available at <https://www.capetown.gov.za/City-Connect/Register/Business-and-trade/Register-as-a-supplier>

²² Register for the CCT procurement/tender portal at <https://web1.capetown.gov.za/web1/ProcurementPortal/Account/Register>

²³ The City's Supply Chain Management page is available at [http://www.capetown.gov.za/Departments/Supply%20Chain%20Management%20\(SCM\)%20Department](http://www.capetown.gov.za/Departments/Supply%20Chain%20Management%20(SCM)%20Department)



4

INVESTMENT OPPORTUNITIES, DRIVERS AND BARRIERS

The pursuit of sustainable economic development and growth, poverty alleviation and universal access to water and wastewater services in South Africa and the associated investment in water and wastewater infrastructure presents opportunities for investors and businesses in the public water and wastewater market.





Long-term opportunities arise from the need for repairs and maintenance to and new, upgraded, or refurbished public W&WW infrastructure. The largest expenditure expected in water supply schemes on a national and regional scale are wastewater treatment, water distribution and sewage collection infrastructure, respectively. This section presents an in-depth analysis on the planned W&WW infrastructure projects which are the key driver for the market opportunities that are featured.

The need for water and wastewater infrastructure for water security and universal access to water and sanitation presents investment opportunities for (i) localisation of manufacturing for the key components needed to realise the infrastructure opportunities identified and (ii) financing local municipalities' capital projects in terms of project execution but also project preparation studies. The focus of the market information presented in this section is on the Western Cape municipalities and metropolitan municipalities (metros) in the rest of South Africa. Where available, information for non-metro municipalities in the rest of South Africa is also provided. This section focuses on the following two opportunities:

Localisation of manufacturing: This opportunity analysis is for businesses and entrepreneurs wishing to expand their footprint within the water value chain or enter the public sector market. This opportunity analysis deep-dives into the planned infrastructure projects at a national level by looking at the eight metropolitan municipalities as well as the local municipalities in the Western Cape. Furthermore, an analysis is conducted on the specific components that will need to be procured to realise these projects. Within these component analyses, the market is explored by looking at key component requirements at specific plants as well as component trade balances.

Innovative financing models: This opportunity analysis makes the case for innovative financing models for the public water sector. The need for alternative financing models is demonstrated by highlighting the financial shortfalls of well-functioning municipalities in the Western Cape with a demonstrated pipeline of infrastructure projects. The decline in infrastructure grant allocations to municipalities nationally is illustrated for the Western Cape further highlighting the need to look beyond traditional financing flows. There has been significant institutional strengthening in the water sector over the last few years with the establishment of innovative financing programmes. These programmes and approaches are also highlighted and serve as vehicles where funders such as DFIs could get involved in investment in the public water sector in South Africa.

A summary including the drivers, barriers and key market segments for these opportunities is presented in [Table 6](#).

Table 6: Summary of market opportunities

OPPORTUNITY		
LOCALISATION OF MANUFACTURING		
SECTION 4.1		
Key drivers	Barriers	Market context
- Planned national and regional bulk water and wastewater infrastructure projects in the public sector. - Political will and increased expenditure in public sector infrastructure.	- International trade commitments and obligations. - Complex municipal procurement processes.	- South African metropolitan municipalities are investing in water, wastewater treatment, sanitation, and storm water infrastructure, providing key opportunities for businesses in these areas. The combined metropolitan municipalities planned water and sanitation infrastructure spend over the medium term (2024/2025 - 2026/27) is approximately R54.6 billion, of which R22.4 billion is planned by the City of Cape Town. - Collectively, the other Western Cape local municipalities are planning to invest ~R7.7 billion in water infrastructure over the same period. - The water value chain components which present the biggest opportunities for localisation are mechanical hardware relating to WWTW and pumps. Opportunities for the plastic pipe market (HDPE²⁴ pipes) will also be further unlocked within the next 10 years as municipalities are now in the position to replace their water distribution systems due to the current asbestos pipes reaching end-of-life.
OPPORTUNITY		
INNOVATIVE FINANCING MODELS		
SECTION 4.2		
Key drivers	Barriers	Market context
- Planned national and regional bulk water and wastewater infrastructure projects in the public sector. - Available grant funding for water and wastewater infrastructure services is insufficient. - Blended finance structures offer the leverage to de-risk projects and encourage private sector participation. - Enabling legal, regulatory and institutional environment.	- Lack of revenue collection. - Lack of capacity and skills at municipalities. - Financial mismanagement of municipalities.²⁵	- The WSIG and RBIG allocations to local municipalities in the Western Cape over the next three years is expected to be well below R2 billion. Municipalities that have not built up a substantial capital reserve to fund projects will rely on external loans for project implementation. - There is an increase in project preparation support and available development finance linked to impact and sustainable development goals. These programmes include the Sustainable Infrastructure Development and Financial Facility (SIDAFF) and the Water Partnerships Office (WPO), both aiming to assist municipalities in building a pipeline of bankable projects.

²⁴ High-density polyethylene

²⁵ <https://pmg.org.za/committee-meeting/37883/>

4.1. Public sector water infrastructure projects

This section presents an analysis of the planned infrastructure projects at a national level covering the eight metropolitan municipalities as well as the local municipalities in the Western Cape.

The South African ERRP was published in October 2020 as a blueprint for achieving economic growth in the country. A key component of the ERRP is a focus on infrastructure development, both in terms of attracting investment and providing a foundation for ease of doing business, as well as for poverty alleviation via job creation and basic service provision. W&WW infrastructure is a significant component of this infrastructure development focus, especially since the COVID-19 pandemic highlighted the essential nature of access to clean water, dignified sanitation and proper hygiene measures.

The opportunities are specifically in pipelines, pump stations, and water and wastewater treatment, water supply and storage, water conservation and water demand management (WC/WDM) infrastructure (Table 6). These business and investment opportunities are supported by South Africa's commitment to the Sustainable Development Goals (SDGs 2030), National Development Plan (NDP 2030)²⁶, 2013 National Water Resources Strategy Second Edition (NWRs2)²⁷, NWSMP²⁸, Water and Sanitation Industry Master Plan, National Infrastructure Plan for 2050 (NIP2050)²⁹, and the associated action plans. At a municipal level, the specific opportunities are supported by integrated development plans (IDPs) and water services development plans (WSDPs). The CCT has also published the Climate Change Strategy³⁰ and Water Strategy³¹ that have plans to invest in W&WW infrastructure resilience and efficient technologies.

4.1.1 Planned national and regional bulk water and wastewater infrastructure projects

Over the next three years, the eight metropolitan municipalities plan to spend a total of R54.7 billion on new water and wastewater infrastructure, upgrades, refurbishments as well as repairs and maintenance and asset renewal. The three-year medium term capital expenditure budgets (2024 – 2027) for W&WW infrastructure projects in metropolitan municipalities, obtained from their individual Medium Term Revenue and Expenditure Framework³² reports to National Treasury of 2024, are presented in Figure 10.

Each municipality has prioritised projects in different segments of their water and wastewater management services and the biggest opportunities are in **water distribution** (28%–R15.4 billion), **wastewater treatment works** (23%–R12.8 billion) and **sewer reticulation** (16%–R8.7 billion).

In the Western Cape, the combined three-year capital expenditure budgets on W&WW projects for local municipalities (i.e. excluding the City of Cape Town metropolitan municipality) is R7.7 billion. The three-year medium term expenditure budgets (2024 – 2027) for water and wastewater projects in the Western Cape local municipalities are presented in Figure 11 for all classes of capital expenditure (upgrading, new assets, repairs and maintenance as well as asset renewal). Breakdowns of the planned capital expenditure classes are presented in Figure 13 (upgrading, renewal and new assets) and Figure 14 (repairs and maintenance).

26 https://www.gov.za/sites/default/files/gcis_document/201409/ndp-2030-our-future-make-it-workr.pdf

27 <http://www.dwa.gov.za/documents/Other/Strategic%20Plan/NWRs2-Final-email-version.pdf>

28 https://www.gov.za/sites/default/files/gcis_document/201911/national-water-and-sanitation-master-plandf.pdf

29 http://www.publicworks.gov.za/PDFs/44951_10-8_PublicWorksInfras.pdf

30 https://resource.capetown.gov.za/documentcentre/Documents/City%20strategies%2c%20plans%20and%20frameworks/Climate_Change_Strategy.pdf

31 <https://resource.capetown.gov.za/documentcentre/Documents/City%20strategies,%20plans%20and%20frameworks/Cape%20Town%20Water%20Strategy.pdf>

32 The Medium Term Revenue and Expenditure Framework, as prescribed by the MFMA sets out indicative revenue and projected expenditure for the budget year, plus two outer financial years.

In the Western Cape local municipal context, the biggest opportunities are in wastewater treatment works (28% of the total capital expenditure, R2.17 billion), water distribution (19.6% of total capital expenditure, R1.5 billion) and sewer reticulation (16% of total capital expenditure, R1.3 billion).

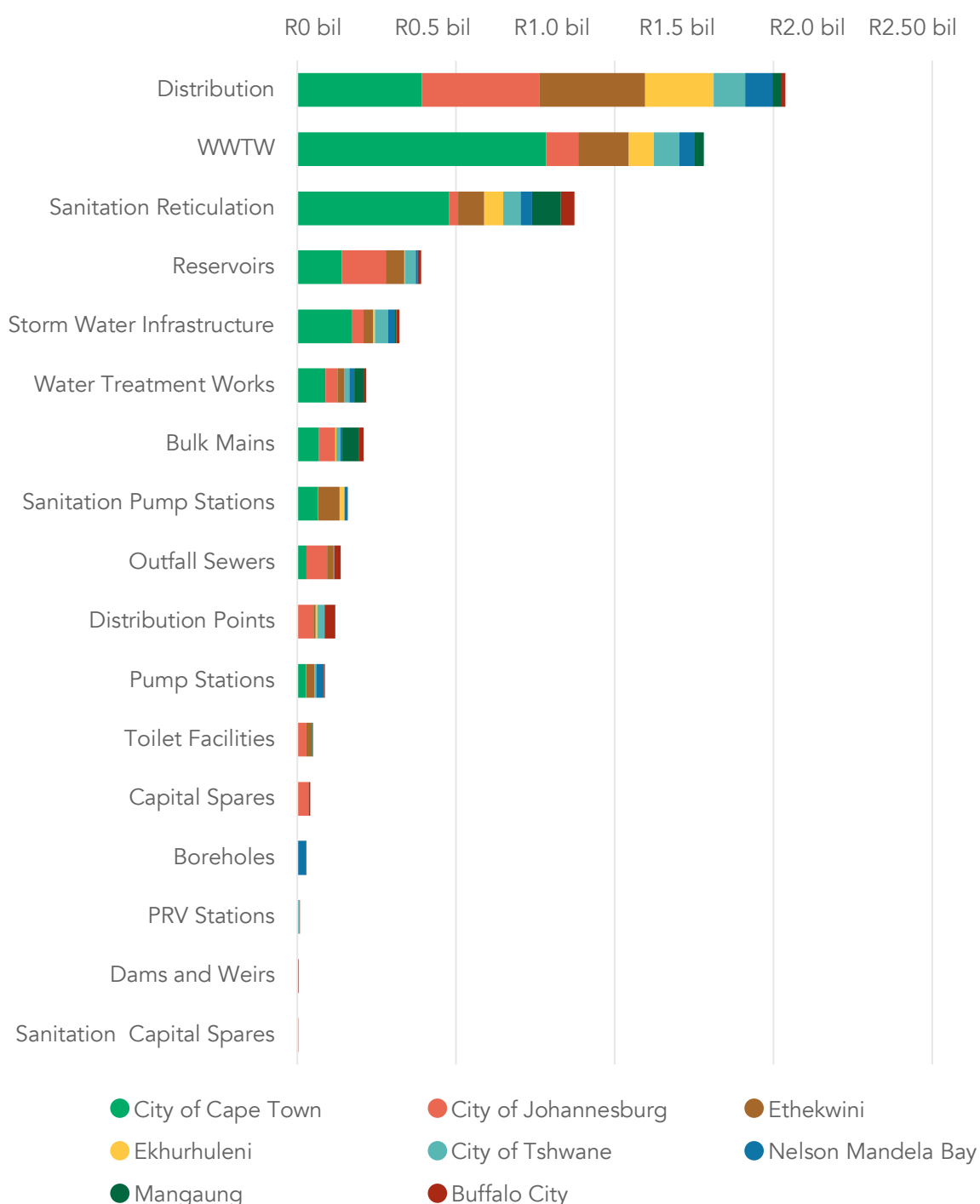


Figure 10: South African metros' three-year budgeted capital expenditure on new, upgraded, renewed as well as repairs and maintenance of water and wastewater infrastructure³³ (ZAR million)

Source: National Treasury – Municipal Documentation Portal³⁴

³³ WWTW – Wastewater Treatment Works, PRV – Pressure Reducing Valve

³⁴ https://lg.treasury.gov.za/ibi_apps/portal/Municipal_Documentation

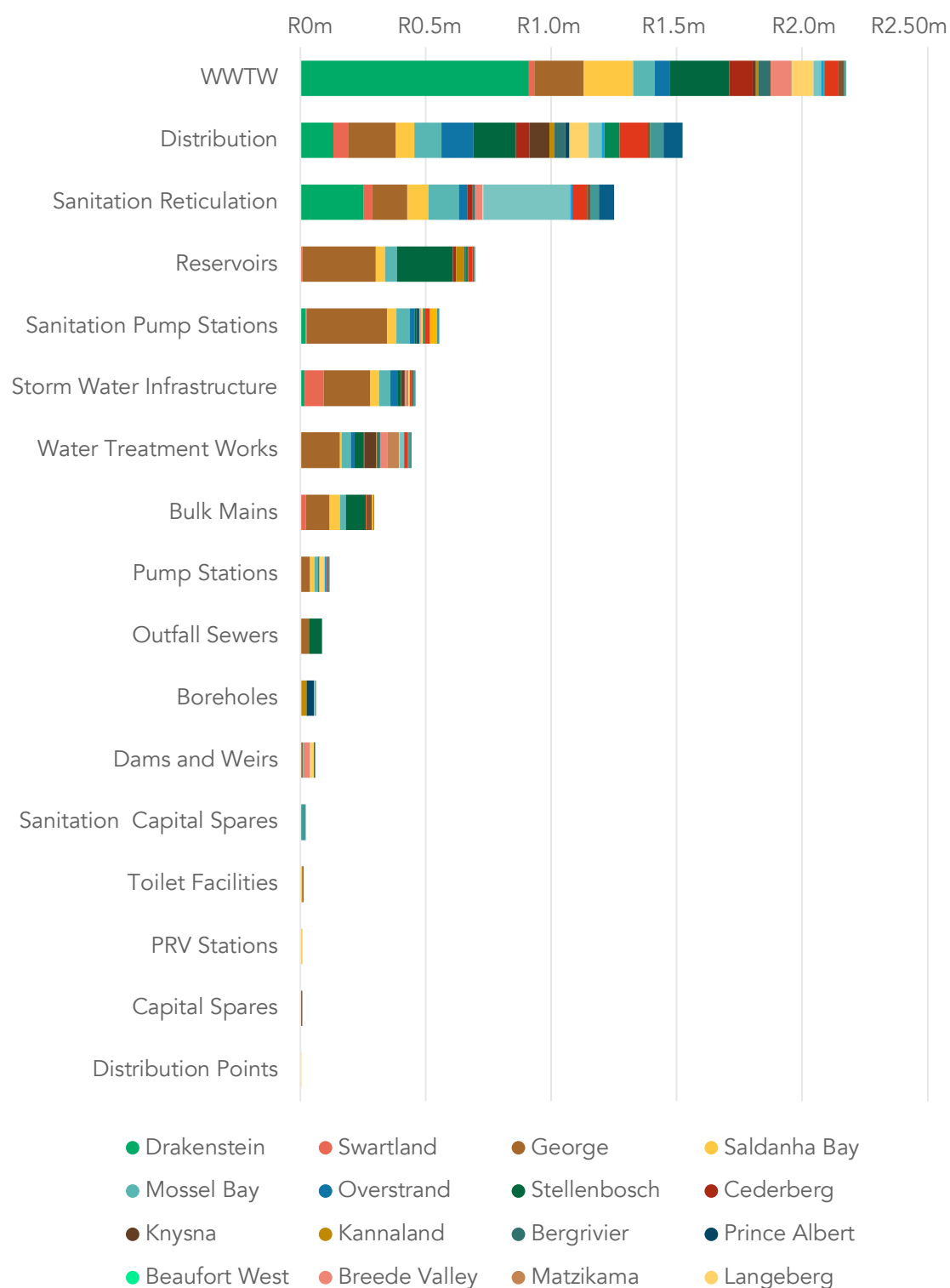


Figure 11: Western Cape local municipalities' 3-year budgeted capital expenditure on new, upgraded, renewed as well as repairs and maintenance of infrastructure by individual municipalities³⁵ (ZAR million)

Source: National Treasury – Municipal Documentation Portal³⁶

35 WWTW – Wastewater Treatment Works, PRV – Pressure Reducing Valve

36 https://lg.treasury.gov.za/ibi_apps/portal/Municipal_Documentation

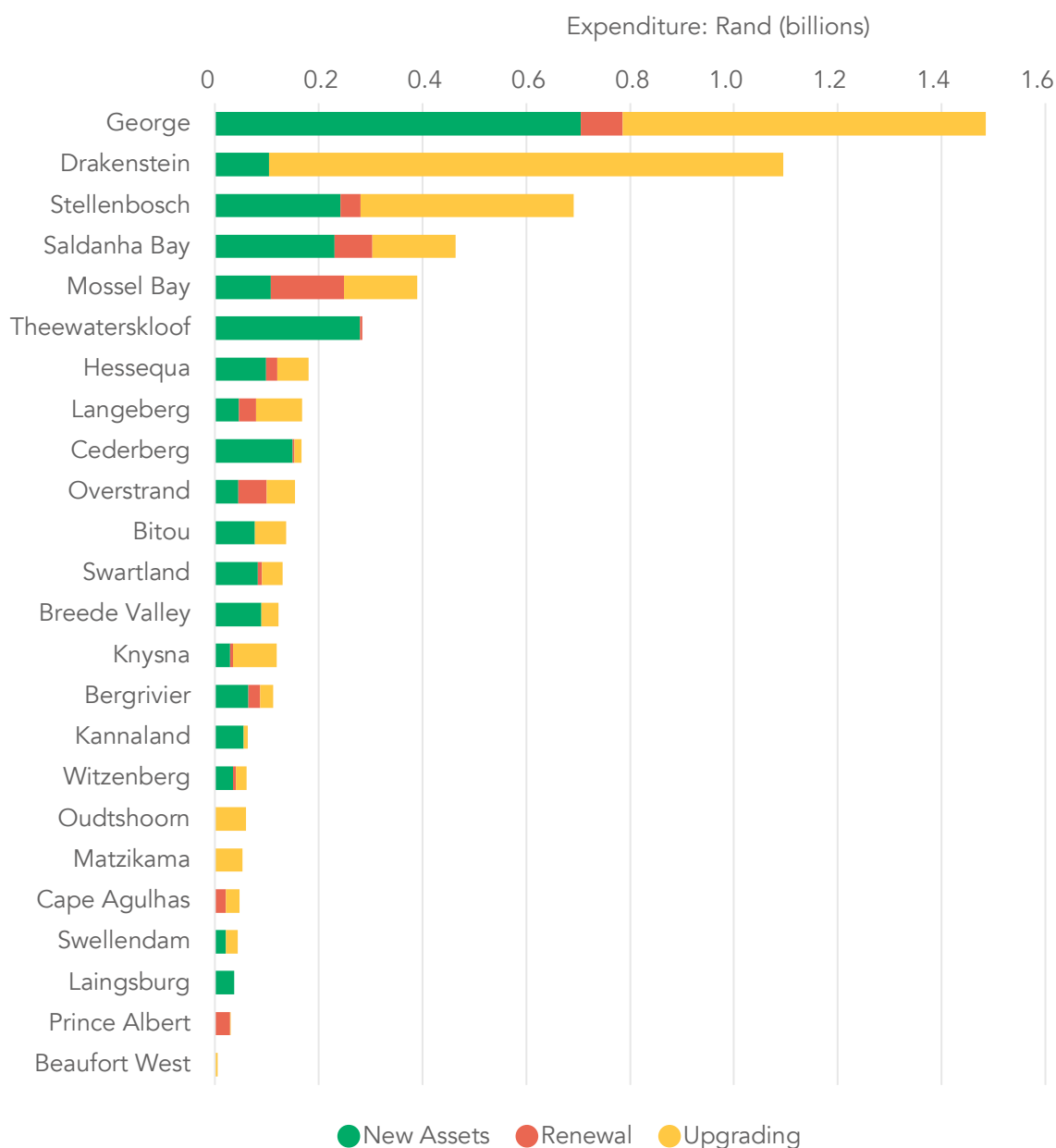


Figure 12: Planned expenditure on the upgrading, renewal and planned new assets for water and wastewater infrastructure over the next three years for municipalities in the Western Cape (ZAR million)

Source: National Treasury – Municipal Documentation Portal³⁷

37 https://lg.treasury.gov.za/ibi_apps/portal/Municipal_Documentation

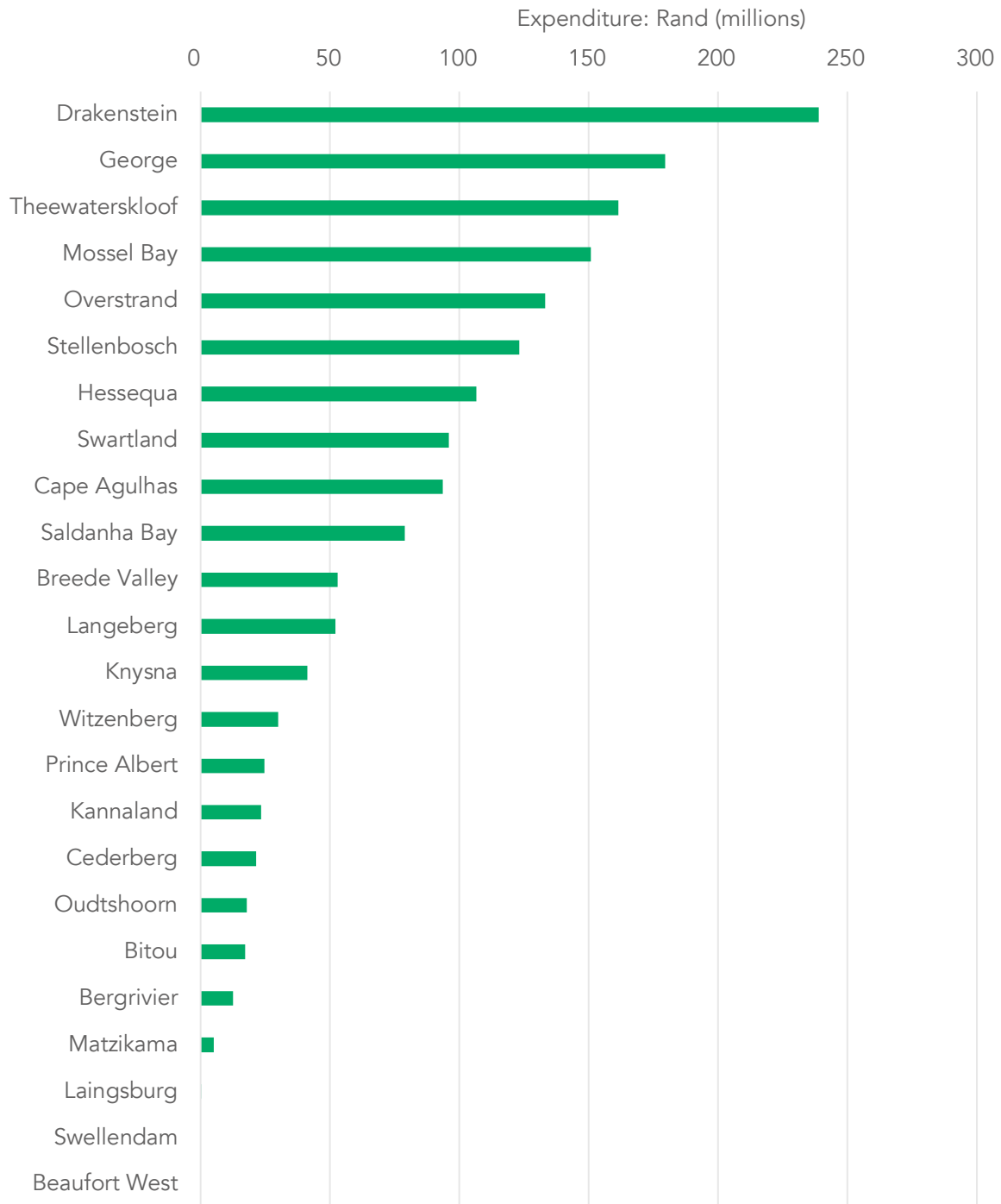


Figure 13: Planned expenditure on repairs and maintenance for water and wastewater infrastructure projects over the next three years for municipalities in the Western Cape

Source: National Treasury – Municipal Documentation Portal³⁸

38 https://lg.treasury.gov.za/ibi_apps/portal/Municipal_Documentation

4.1.2 Main water projects planned for CCT

The CCT has launched a R120 billion infrastructure portfolio with R45 billion allocated to W&WW infrastructure³⁹ over the next three years. This includes capacity upgrades at large wastewater treatment works such as Potsdam, Zandvliet, Athlone and Macassar as detailed in [Table 7](#) below, with over R3 billion approved over the current three-year budget cycle. In addition, as per [Table 7](#), R860 million is allocated towards the upgrades of bulk sewers with sewer pipe replacement quadrupling from 25km/year to 100km/year. The City further emphasised that a projected increase in infrastructure investment of 110% over the next three years is planned.

Table 7: Project highlights and plans in the CCT MTERF for [some](#) of the planned capital water and wastewater infrastructure projects over the next three years⁴⁰

Source: National Treasury – Municipal Documentation Portal⁴¹

Category	Project description	R (million) 2024/2025	R (million) 2025/2026	R (million) 2026/2027
Water distribution	Replace water network	224.19	239.5	60
	Water Pressure Management Programme	15	10	7.5
Sewer reticulation	Cape flats rehabilitation	178.1	85	0
	Philippi collector sewer	5	221.3	192.56
	Bulk reticulation sewers in Milnerton rehabilitation	162.3	68.99	48.44
	Gordons Bay Beach Front Sewer Phase 2	5.4	2.1	93
	Gordons's Bay sewer rising main	176	30.69	0.15
	Replace sewer network citywide	376.75	540	300
WWTW	Athlone WWTW capacity extension	112.77	27.81	0.515
	Wildevölvlei WWTW upgrade dewatering	90.64	203	37.8
	Macassar WWTW extension	22.11	1031	1743
	Potsdam WWTW extension	1485	971.5	190.56
	Wesfleur aeration & blower replacement	157.02	70	0.8
WC/WDM	Bayside canal upgrade	26.5	0.15	0
	Sir Lowry's Pass river upgrade	90.17	102.3	24.19
	Flood alleviation – Lourens river	10.8	0	0
	Upgrade Geelsloot pond Somerset West	8.01	0	0
	Macassar flood alleviation	1.11	0	0
	Upgrade Zandvlei canal	0.397	14.79	0.55
	Telemetry & automation	2.1	3	3
	Advanced metering infrastructure rollout	70	400	500
Reservoirs	Muldersvlei reservoir and pipeline	4	200	477.01
	Road access to Muldersvlei	58.3	0	0
Informal settlements	Sanitation services in informal settlements	34	33	36
	Standpipes	4	5	8

³⁹ <https://www.engineeringnews.co.za/article/r120bn-portfolio-boosts-cape-towns-water-infrastructure-2023-03-17>

⁴⁰ These exclude the renewal of assets, which is included in the data analysis for [Figure 11](#), as listed in the MTERF and should not be considered as the comprehensive project list to be implemented by the CCT.

⁴¹ https://lg.treasury.gov.za/ibi_apps/portal/Municipal_Documentation

Category	Project description	R (million) 2024/2025	R (million) 2025/2026	R (million) 2026/2027
Pump stations	Koeberg pump station capacity upgrade	5.16	51.8	74.85
	Langa pump station	5.51	5	64
	Raapenberg pump station upgrade	6.14	7.66	107.64
	Replacement & upgrade of sewer pump stations	137.61	41.32	63
	Sanddrift east pump stations	0.85	36	36
	Generators & UPS at sewer pump stations	80.58	31.47	0
	Generators at water pump stations	22.59	0	0
Groundwater	Atlantis aquifer: Upgrade Witzands MAR ⁴²	30	30	18
	Atlantis aquifer	41	5	2
	Cape Flats aquifer recharge	236.09	225.4	104.9
	Cape Flats aquifer: Hanover Park & Philippi	100	70	140
	Cape Flats aquifer: Strandfontein North East	10	5	31.49
	Table Mountain Group aquifer: Steenbras	10	0	0
TOTAL		4 005.20	4 767.78	4 364.96

Given the considerable planned spend on infrastructure, including as highlighted here the R7.7 billion in water and wastewater infrastructure projects planned across the value chain for non-metro municipalities in the Western Cape and the R54.6 billion planned for the metropolitan municipalities nationally over the next three years, an opportunity exists to explore the opportunities for component localisation and manufacturing within the water value chain. Localisation is associated with significant economic benefits such as increased economic growth emanating from the rise in the domestic manufacturing. Furthermore, this leads to job creation and increases in tax revenues. As the key areas of project expenditure are wastewater treatment works, sanitation reticulation and water distribution, this is also the where the value chain component analysis is focussed. This first market opportunity is discussed below.

4.2. Opportunity 1: Localisation of manufacturing

The first opportunity featured in this MIR demonstrates the opportunities for businesses and entrepreneurs wishing to expand their footprint within the water value chain or to enter the public sector market. In this section, an analysis is presented for the specific components that will be procured to realise the planned infrastructure projects. For these component analyses, the market is explored by looking at key component requirements at specific plants as well as component trade balances. This section is concluded by looking at the key drivers for this market opportunity as well as the barriers to consider.

The South African W&WW market grew by an estimated 6.2% a year from 2015 to 2022, with the growth trend expected to increase as investment and the implementation of large infrastructure projects increases. The civil engineering and equipment components which, according to analysis done by Trade and Industrial Policy Strategies (TIPS), account for 18% and 17% of the South African market, grew strongly over the period of 2015 – 2022, with 7.5% and 6.9%, respectively (TIPS, 2022)

42 MAR – Managed Aquifer Recharge

The typical components and services required in the implementation of each type of infrastructure project, are listed in [Table 8](#). This breakdown has been provided to indicate the opportunities for technology suppliers within the water value chain and range of technologies, that could be accessible via the project level opportunities, at a more granular level a list of typical financing mechanisms has also been provided for each project type, as an indication of the reliability of project financing.

Table 8: Typical components and services required and financing mechanisms per infrastructure project type

Source: GreenCape analysis, 2022

Project type	Typical components required	Typical services required	Typical funding sources for public sector projects
Pipelines			
Bulk water main	Pipes, bends, fittings, valves, concrete, graded sands, manholes.	Design, civil earthworks and construction, pipe and valve installation, monitoring, repairs and maintenance.	Municipality's own funding, loans, MIG/USDG/RBIG ⁴³ grants
Water distribution			Municipality's own funding, loans, USDG and ISUPG ⁴⁴ grants
Sewer reticulation			
Outfall sewers			Municipality's own funding, loans, MIG/USDG grants
Pump stations			
Water	Pumps, screens and associated equipment, pipes, bends, fittings, valves, concrete, masonry, electrical equipment.	Design, civil earthworks and construction, mechanical and electrical installation, monitoring, repairs and maintenance.	Municipality's own funding, loans, MIG/USDG grants
Sewer			
Treatment works			
Water	Screens, filters, pumps, mixers, settling tank bridges, disinfectant dosing equipment, dewatering equipment, weirs, pipes, bends, fittings, valves, concrete, masonry, electrical equipment.	Design, civil earthworks and construction, mechanical and electrical installation, monitoring, repairs and maintenance.	Municipality's own funding, loans, MIG/USDG grants
Wastewater	Screens, degritters, pumps, settling tank bridges, aerators, diffusers, compressors, mixers, membranes, odour control, chlorine dosing equipment, ultra-violet equipment, dewatering equipment, weirs, pipes, bends, fittings, valves, concrete, masonry, electrical and electronic equipment.		

43 MIG: Municipal Infrastructure Grant. USDG: Urban Services Development Grant. RBIG: Regional Bulk Infrastructure Grant.

44 ISUPG: Informal Settlements Upgrading Partnership Grant.

Project type	Typical components required	Typical services required	Typical funding sources for public sector projects
Water supply and storage			
Groundwater	Pumps, screens, pipes, bends, fittings, valves, concrete, masonry, electrical equipment.	Design, civil earthworks and construction, mechanical and electrical installation, monitoring, repairs and maintenance.	Municipality's own funding, loans, MIG/USDG grant
Dams and Weirs	Concrete, masonry, weirs, pumps, pipes, bends, fittings, valves, electrical equipment, turbines, generator, invertors.		Municipality's own funding, loans, RBIG grant
Reservoirs	Concrete, pumps, pipes, bends, fittings, valves, electrical equipment.		Municipality's own funding, loans, MIG/USDG grant
Demand Management	Water meters, smart water meters, pressure release valves (PRVs), flow control valves, flow limitation devices, smart and digital support systems	Networks design and planning, installation, repairs and maintenance, monitoring, data analysis, and reporting.	Municipality's own funding, loans, USDG and ISUPG grants for new settlements
The WSIG facilitates the planning and implementation of various water and sanitation projects to accelerate backlog reduction and enhance the sustainability of services, especially in rural municipalities and could also be used to fund some of the above project types.			

In the sections that follow, component analyses for these three project groups (**wastewater treatment works, water distribution and sewer reticulation**) are conducted to highlight the likely areas of component expenditure.

4.2.1 WWTWs

A key component of the reinstatement of the Green Drop Certification reports which were published in 2022 is the technical site assessment (TSA) score. This score serves as a due diligence score compared to the Green Drop Score achieved and entails that the Green Drop assessors physically visit one or two preselected wastewater treatment sites within a municipality. The TSA score is used to confirm the findings of the Green Drop desktop audit. The key areas requiring investment for a selected sample of WWTWs across the WC is presented in [Table 9](#). The sites with a TSA presented in [Table 9](#) were chosen based on the size, technology and audit findings to best represent the potential state of the remainder of the sewer networks and treatment works. Furthermore the civil, mechanical and electrical investment required per municipality in the Western Cape is presented in [Table 10](#).

The key areas for investment are listed in [Table 9](#), with the most predominant defects observed in faulty or vandalised electrical cables, primary- and secondary sludge settling, disinfection, sludge pumps, sludge treatment, and power backup. Mechanical defects typically include dysfunctional aerators, sludge and effluent pumps, mixers, screens, degritters, and disinfection equipment. Vandalism and theft, long procurement lead times, lack of management involvement, lack of maintenance, and lack of sufficient budget are the main reasons for dysfunctional assets. Most of these key investment areas will likely be covered in the municipal budget allocation for repairs and maintenance and upgrades of WWTWs. This opportunity will become realisable when municipalities go out to tender and appoint service providers as per their specific requirements.

Table 9: Key hardware investment areas identified at WWTWs for municipalities in the WC as per the TSAs of the 2022 Green Drop Reports (ordered in descending order based on the Green Drop Score)
Source: GreenDrop, 2022

WSA name	TSA WWTW name	WWTW Green Drop Score (%)	TSA Score (%)	Key investment areas
Witzenberg	Ceres	100%	80%	Chlorine dosing room. Outlet flow metering. Outlet dam wall. Older structures may need upgrade in future. Possible better lime dosing facility.
Bitou	Plettenberg Bay	93%	84%	No sludge management. Storage of backup chlorine gas cylinders.
Mossel Bay	Mossel Bay	92%	80%	No major hardware issues
City of Cape Town	Wesfleur Industrial	89%	96%	The air blowers for fine aeration need to be reinstalled. Fluidised bed aeration will always require fine monitoring to check for clogged units.
Drakenstein	Wellington	89%	95%	No major hardware issues
Swartland	Reibeeck Valley	89%	97%	Minor issues – new plant. Scum withdrawal.
City of Cape Town	Borchards Quarry	89%	91%	The primary sedimentation tanks are old, and work will be required on mechanical equipment and weirs. Fluidised bed aeration (FBA) will always require fine monitoring to check clogged units.
Overstrand	Hermanus	89%	74%	Settling tanks distribution box. Lime storage in an industrial container. Security.
Theewaterskloof	Grabouw	87%	61%	Desludging of maturation dams and repairs. Repair weirs and clarifiers. Repair composting plant. Replace sludge thickening. Implement more regular desludging.
Saldanha	Langebaan	85%	90%	Plant in excellent condition – no hardware defects. Scum management at clarifiers.
Stellenbosch	Stellenbosch	84%	86%	Repair clarified scum baffle and install proper scum draw-off. Work on specific power consumptions of units. Need more safety signs.
Breede Valley	De Doorns	75%	54%	Need to get the 2 x 20% A/S modules reconfigured and commissioned. Sludge recycle pumps not working. Sludge wasting. Chlorine gas disinfection.

WSA name	TSA WWTW name	WWTW Green Drop Score (%)	TSA Score (%)	Key investment areas
Knysna	Sedgefield	73%	75%	Clarity in CCT is poor, sludge present in CCT consider secondary clarification. Problems with disinfection evident from poor micro-bio results. Establish ferric iron measurement point after final polishing (maturation ponds). Securing the network pump stations.
Bergrivier	Piketberg	73%	66%	Theft – entire reactor out of service with raw sewage being discharged. Screen out for repair. Flow control dam. Out of service mixers and standby equipment to be replaced. Only one sludge return pump installed. Flow balancing sluice gates.
George	Gwaing	71%	70%	Erosion at CCT. Sludge stockpile.
Beaufort West	Beaufort West	64%	64%	Screening and compactor. Biological nutrient removal and disinfection.
Laingsburg	Laingsburg	63%	61%	Flow metering. Aeration. On-site electrolytic chlorination pump. Irrigation pump. Outlet meter.
Cederberg	Clanwilliam	51%	65%	Disinfection. Flow metering and balancing. Process knowledge and improved process control. Characteristic monitoring of aeration reactor. Chlorine gas safety training.
Cape Agulhas	Bredasdorp	50%	67%	Unlined sludge ponds. Network pump station needs fencing. Staff facilities need improvement.
Oudtshoorn	Oudtshoorn	44%	55%	Feed to biofilter. Scum blanket in biological nutrient removal (BNR) system.
Hessequa	Heidelberg	36%	68%	No major hardware issues
Matzikama	Vredendal South	32%	31%	Return activated sludge pumps dysfunctional. Chlorine dosing (chlorinator) repair. Aerator's dysfunctional. Anaerobic dam and maturation high solids content.

WSA name	TSA WWTW name	WWTW Green Drop Score (%)	TSA Score (%)	Key investment areas
Swellendam	Klipperivier	31%	54%	Unlined sludge ponds. None of the mixers are operational with phased repairs. Lined solar drying pad required.
Prince Albert	Klaarstroom	15%	52%	Ponds to be lined. Disinfection formalised. 2 nd irrigation pump required.
Kannaland	Ladismith	15%	49%	2 nd auto screen
Langeberg	Robertson	12%	38%	Automated screen out of order. Grit removal unable to handle the load and it is unlikely that channels can be cleaned. Only x1 humus tank operational, the other tanks are overloaded. Maturation ponds are full of sludge. Dewatering plant to be repaired.



Table 10: Civil, mechanical and electrical cost estimates for investment in WWTW in the WC to fix hardware issues as detailed in the 2022 Green Drop Reports

Source: GreenDrop: DWS, 2022

Municipality	Civil cost estimate	Mechanical cost estimate	Electrical & C&I cost estimate	Total cost
City of Cape Town	R52 202 614	R118 953 496	R0	R171 156 110
Langeberg	R5 646 592	R21 990 144	R7 435 264	R35 072 000
Laingsburg	R113 913	R87 256	R26 656	R227 825
Kannaland	R4 289 658	R4 260 608	R1 132 934	R9 683 200
Prince Albert	R42 200	R168 800	R0	R211 000
Beaufort West	R6 549 548	R2 726 463	R784 738	R10 060 750
Drakenstein	R0	R1 107 780	R0	R1 107 780
Bergervier	R1 650 902	R10 398 536	R9 390 843	R21 440 280
Cederberg	R17 971 128	R4 209 811	R2 755 242	R24 822 000
Matzikama	R806 153	R17 417 154	R2 991 253	R21 214 560
Stellenbosch	R18 161 000	R9 809 800	R629 200	R28 600 000
Witzenberg	R20 845 956	R5 436 769	R3 754 675	R30 037 400
Breede Valley	R70 197 039	R117 241 370	R58 866 991	R246 305 400
Theewaterkloof	R13 232 444	R46 802 000	R28 773 905	R88 808 350
Swellendam	R1 389 000	R2 528 000	R0	R3 917 000
Cape Agulhas	R2 308 044	R3 832 224	R1 117 732	R7 258 000
Hessequa	R176 000	R1 187 000	R0	R1 363 000
Mossel Bay	R0	R1 005 804	R662 196	R1 668 000
George	R7 614 000	R1 709 000	R633 000	R9 956 000
Knysna	R19 000	R426 000	R186 000	R631 000
Bitou	R409 000	R1 669 000	R1 522 000	R3 600 000
Oudtshoorn	R764 000	R4 584 000	R738 000	R6 086 000
Swartland	R67 000	R709 000	R172 000	R948 000
Overstrand	R9 526 800	R530 400	R142 800	R10 200 000
Saldanha Bay	R611 513	R3 376 613	R1 329 375	R5 317 500
Total	R234 593 504	R328 167 028	R123 044 804	R739 691 155
% Distribution	32%	52%	16%	100%
C&I – control and instrumentation				

4.2.1.1 Water distribution, sanitation reticulation and reservoirs

The import, export and trade balance average over the past 10 years (2014 – 2023) is presented in [Figure 14](#). This gives a high-level estimation of where opportunities for local capacity expansion in the pumps, piping and reservoir markets are. Plastic piping is used across many industries and used in the water industry by municipalities and water boards for water distribution networks (TIPS, 2022). The sizes of the pressure pipes range from 16 mm and 1 200 mm outside diameter. Non-pressure sewage networks are also mostly constructed using plastic pipes (TIPS, 2022). As is evident from [Figure 14](#), a significant opportunity exists in the manufacturing and supply of pumps which is a critical component in the water value chain. Opportunities in the plastic pipe market (HDPE⁴⁵ pipes) will also be further unlocked within the next 10 years as municipalities are now in the forced position to replace their water distribution systems due to the current asbestos pipes reaching end-of-life.

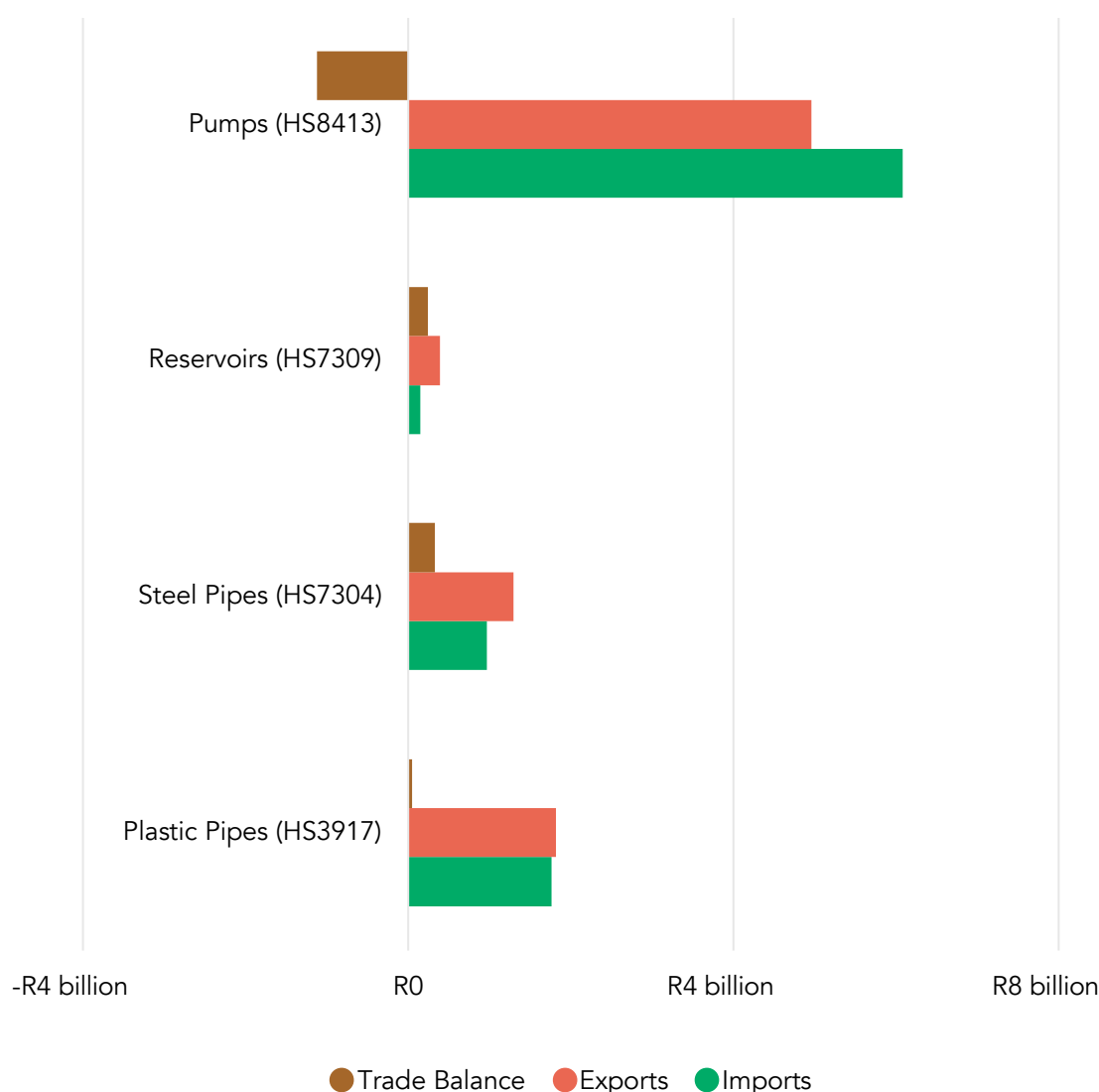


Figure 14: Import, export and trade balance data from 2014 to 2023 for key components used in the water value chain (with the respective Harmonised System⁴⁶ codes)⁴⁷

Source: Trade Map, 2024⁴⁸

⁴⁵ High-density polyethylene typically used as material for bulk distribution pipes. The South African Plastic Pipe Manufacturers Association (SAPPMA) is a voluntary, self-regulating, non-profit association that represents 80% of the plastic pipe manufacturers as well as other stakeholders in the Southern Africa market. SAPPMA is regarded as the quality control gatekeeper by engineers and customers.

⁴⁶ Standardised numerical method classifying traded products.

⁴⁷ Reservoirs refers to: reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 L, whether or not liner or heat insulated, but not fitted with mechanical or thermal equipment.

⁴⁸ <https://www.trademap.org/Index.aspx>



4.2.2 Drivers

The drivers relevant to localisation of manufacturing for key items used within the water value chain are presented below.

4.2.2.1 Planned national and regional bulk water and wastewater infrastructure projects

South African metropolitan municipalities are investing in water, wastewater treatment, sanitation, and storm water infrastructure, providing key opportunities for businesses operating in the pumps, piping and reservoir industries. As indicated earlier, the combined metro planned water and sanitation infrastructure spend over the medium term (2024/25 – 2026/27) is approximately R54.6 billion, of which R22.4 billion is planned by the City of Cape Town. Collectively, the other Western Cape local municipalities are planning to invest ~R7.7 billion in water infrastructure over the same period.

4.2.2.2 Political will and increased expenditure

The **Investment and Infrastructure Office** (IIO)⁴⁹ was established in 2019 by The Presidency. The IIO's function is to co-ordinate and integrate economic and social infrastructure development work done by various government departments. The body is responsible for developing the country's infrastructure investment strategy and creating expertise and capacity within the government to drive infrastructure development. The IIO's work with the private sector led to the development of the Sustainable Infrastructure Development System (SIDS) methodology⁵⁰, and establishment of a new institution, Infrastructure South Africa.



4.2.3 Barriers

Barriers hindering localisation in the water value chain are listed below.

4.2.3.1 International commitments

South Africa is a party to the World Trade Organisation⁵¹ which makes the tools available to effect localisation initiatives limited. An example of a limitation is that the Preferential Procurement Policy Framework Act (Act 5 of 2000) cannot be extended to private businesses (compelling private businesses to procure locally) as it would violate the terms of the World Trade Organisation (WTO) treaty. Local businesses wanting to localise the manufacturing of key components would also need to consider that they are competing with low cost imports from countries like China.

4.2.3.2 Complex municipal procurement processes (as outlined in [Section 3.2](#)) can be lengthy, tenders are often poorly specified, and legislation (MFMA) is restrictive to unsolicited bids. GreenCape compiled an industry brief funded by the Western Cape Government which details the steps and procedures to access the municipal market. The brief can be [accessed here via the GreenCape website](#)

⁴⁹ <https://iio.org.za/about/>

⁵⁰ The SIDS Methodology relates to **the identification, consideration, evaluation, approval, and implementation of workable infrastructure**, in order to ensure bankability

⁵¹ The WTO Agreements create an international trade framework for 164 economies around the world.

4.3. Opportunity 2: Innovative financing models

The second market opportunity featured in this MIR makes the case for innovative financing models for the public water sector. In this section, the need for alternative financing models is demonstrated by highlighting the financial shortfalls of well-functioning municipalities in the WC with a demonstrated pipeline of infrastructure projects. The decline in infrastructure grant allocations to municipalities further drives the need to look beyond traditional financing flows. Some innovative financing models that have been established to fund infrastructure projects in the public water sector are highlighted in this section and serve as vehicles where DFIs can invest in the public water sector in South Africa or can act as inspiration for DFIs to develop their own innovative financing models. This section concludes with an overview of the drivers and barriers for the implementation of innovative financing models within the water sector.

As presented in [Table 5](#) in [Section 2](#) a significant funding shortfall exists for the implementation of W&WW infrastructure projects in the public sector. The capital revenue streams (i.e. capital replacement reserve, loans and grants) for the five municipalities with the largest percentage contribution to the overall provincial water infrastructure project cohort ([Figure 12](#)) as per the 3-year Medium Term Revenue and Expenditure Framework (MTREF) cycle are presented in [Figure 17](#). Cumulatively, a capital requirement of R7.7 billion is needed for the current MTREF cycle (2024 – 2027) for the municipalities in the Western Cape (excluding the City of Cape Town Metropolitan municipality), where 62% is expected to come from grants and external loans.

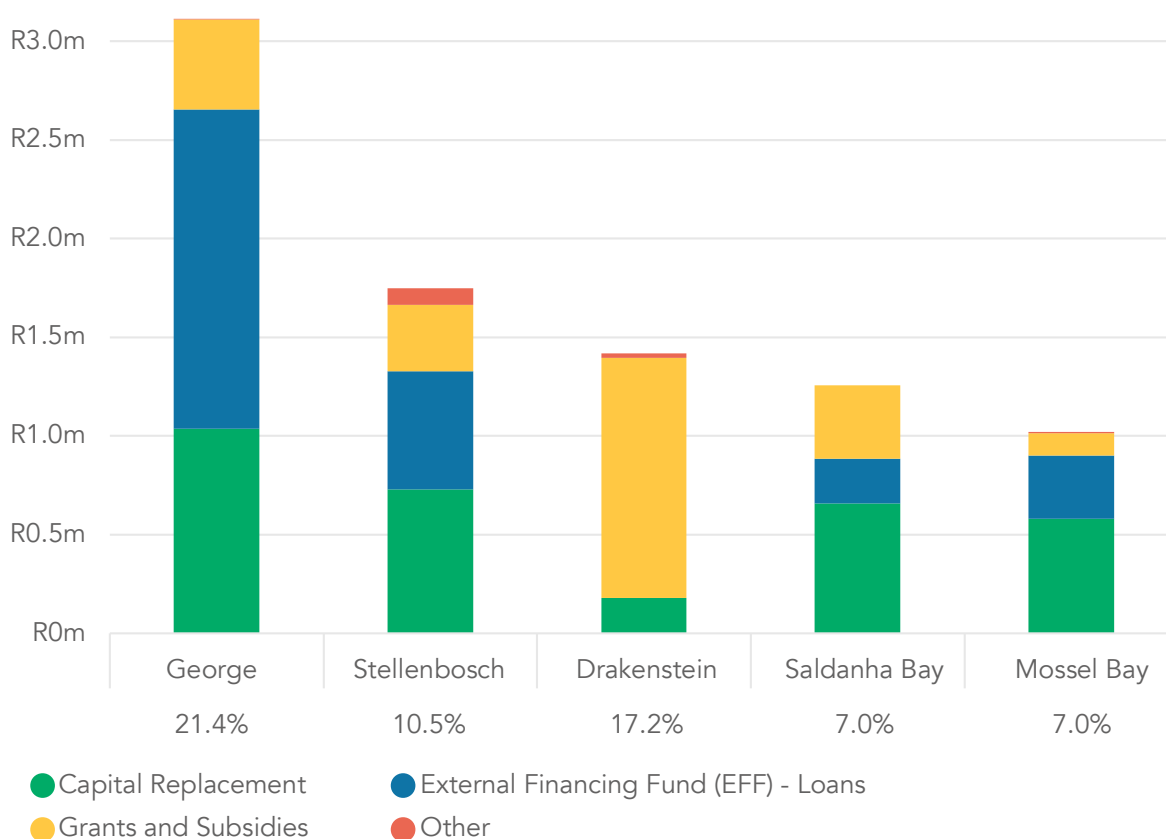


Figure 15: Capital revenue streams⁵² for five WC municipalities for the next three years (2024 – 2027) also indicating percentage of total planned capital spend for all non-metro local municipalities in the WC

Source: National Treasury – Municipal Documentation Portal⁵³ and GreenCape analysis

⁵² Note these revenue streams encapsulates the total capital value detailed in the respective MTREFs of the municipality and is not specific to only water infrastructure capital.

⁵³ https://lq.treasury.gov.za/ibi_apps/portal/Municipal_Documentation

Overall, these five municipalities represent 63% of the planned capital spend on water infrastructure projects within the province over the next three years (excluding the CCT), with the numbers below the names of the municipalities indicating their percentage of the total planned capital spend for the specific municipality.

Grant funding constraints in the WC are also highlighted when considering the conditional grant allocations (WSIG and RBIG) for the next three years (2024 – 2027), typically earmarked for capital financing, as presented in [Figure 17](#). This demonstrates that should municipalities not have enough capital reserves for infrastructure projects (which is most often the case), grant funding and allocations for infrastructure projects will fall well-short of the planned projects estimates, especially at local municipal level and forces municipalities to take up external loans to realise these projects.

The DWS conducts comprehensive planning along with the municipalities prior to the implementation of RBIG and WSIG funded projects, however many challenges arise during the implementation which result in project delays. Some of these challenges include:

- The inability of the municipality to contribute their share of funding for water and sanitation projects that should be co-funded by the DWS RBIG Grant. This is also evident from [Figure 13](#) where a small portion of the capital spend is allocated to asset renewals.
- Supply chain management challenges in municipalities that often result in delays in procurement of the required professional services and resulting project commencement;
- Poor performance by contractors coupled with inadequate project management capacity at municipalities. This often leads to lengthy litigation processes which brings projects to a halt.
- Project implementation can be halted by communities demanding job opportunities or by extortion
- Non-payment of contractors by the municipalities or non-payment of workers by contractors.



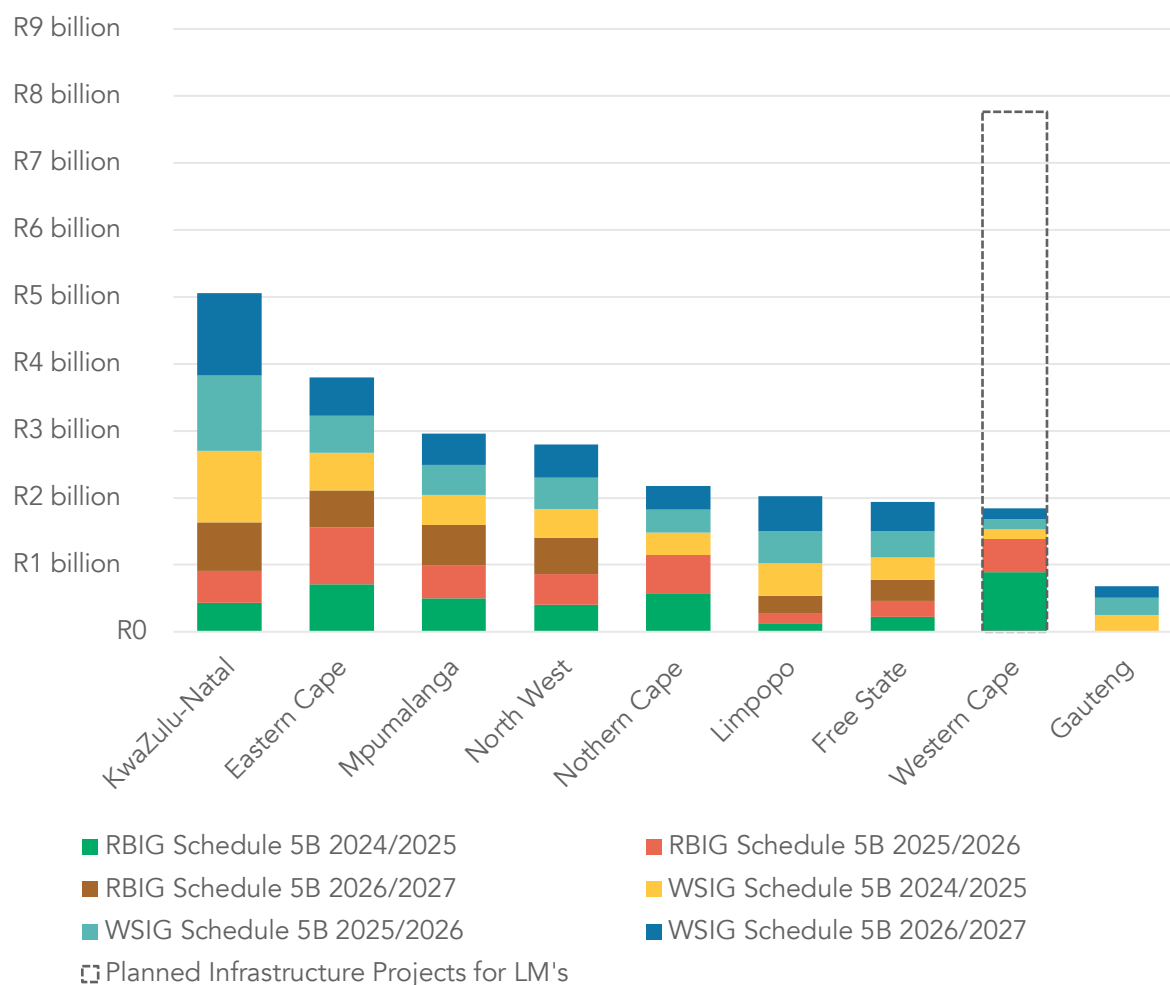


Figure 16: RBIG⁵⁴ and WSIG⁵⁵ allocations for the next three years (2024 – 2027) with the planned water infrastructure projects for local municipalities in the WC.

Data source: DWS 2024 and GreenCape analysis

The implementation of large infrastructure projects brings about risks. Municipalities as implementing agents of these projects are particularly risk adverse. Furthermore, the skills shortage and barriers to access finance delays the implementation of key infrastructure projects which in turn have severe social and economic impacts. The private sector is reluctant to invest in infrastructure projects where risks are significantly higher than the expected returns. Various financing mechanisms have been put in place to de-risk infrastructure investments and to make invest in public infrastructure projects more lucrative to potential private investors. The three most common de-risking measures include:

- **Blended finance:** The use of public and development finance to attract private sector participation by providing incentives, such as subsidies, revenue guarantees and capital grants;

54 The strategic goal of the RBIG is "to develop new, refurbish, upgrade and replace ageing bulk water and sanitation infrastructure of regional significance that connects water resources to infrastructure serving extensive areas across municipal boundaries or large regional bulk infrastructure serving numerous communities over a large area within a municipality; to implement bulk infrastructure with a potential of addressing water conservation and water demand management projects or facilitate and contribute to the implementation of local water conservation and water demand management projects that will directly impact on bulk infrastructure requirements." (DWS, 2024)

55 The strategic goal of the WSIG is to "facilitate the planning and implementation of various water and sanitation projects to accelerate backlog reduction and enhance the sustainability of services especially in rural municipalities; provide basic and intermittent water and sanitation supply that ensures provision of services to identified and prioritised communities, including spring protection and groundwater development; support municipalities in implementing water conservation and water demand management projects; support the close-out of the existing Bucket Eradication Programme intervention in formal residential areas; support drought relief projects." (DWS, 2024)

- **Converting infrastructure into an asset class:** A process where infrastructure becomes a new asset class through which funds invested in these projects, like loans, will be repackaged into financial instruments to be traded in the financial market, and;
- **Public-Private Partnerships (PPPs):** This involves long-term contracts between government and private partners.

Some innovative financing models which have been implemented in the water sector are detailed below, and listed in **Table 11**. These are models and programmes that are actively financing water infrastructure projects and serve as vehicles that DFIs can use to invest in the water sector, or use as inspiration to develop an innovative financing model.

In the WC, the WPG is developing a project preparation support for catalytic municipal infrastructure projects through the **SIDAFF**. The Programme aims to increase bankable municipalities' access to loan financing for infrastructure projects in order to address the decreasing availability of grant funding⁵⁶.

The [National Water Reuse Programme \(NWRP\)](#) received approved funding of \$235 million from the Green Climate Fund in 2023. The NWRP is a nationwide initiative that is specifically designed to support the development, implementation and expansion of water reuse projects in municipalities. As a pioneering initiative in the sector, it serves as a key demonstration of innovative, sustainable and climate resilient solutions for climate infrastructure in SA. The NWRP employs a blended finance approach, bringing together both private and public sector stakeholders. Its structure is specifically designed to attract funding from a range of sources, including commercial banks, asset managers, pension funds, and other institutional investors, as well as development finance institutions (DFIs), concessional financing and grant funding.

The **Sustainable Infrastructure Development Symposium of South Africa (SIDSSA)** held in March 2024, launched the first iteration of the construction book to showcase infrastructure projects from government and state-owned companies that will be procured during the 2024/2025 fiscal year. **Three water projects to the value of R32.10 billion have been included:** (1) the uMkhomazi Water Scheme, (2) the Magalies Water Board Capital Infrastructure Programme: Klipvou Bulk Water Supply Scheme and (3) the Pilanesberg Bulk Water Supply Scheme (Phase 2). The projected income from these projects is estimated at R20 billion and it is anticipated that 120 679 jobs will be created.

The newly established WPO implemented by the Development Bank of South Africa (DBSA) and in collaboration with SALGA is mandated to develop standardised national programmes for private sector participation in municipal water and sanitation services. The aim is to streamline and enable municipalities and water boards to enter into partnerships with the private sector without making the process onerous for the municipalities. Furthermore, the WPO aims to support municipalities and water boards to participate in funding programmes and prepare bankable projects, specifically where municipalities are lacking in capacity and skill to undertake feasibility studies and manage the financial structuring. Finally, the WPO facilitates blended financing which includes the participation of DFIs (WPO, 2024).

⁵⁶ Contact the WCG Department of Local Government or GreenCape for further information on SIDAFF.

The newly established WPO launched their **Non-Revenue Water Programme**⁵⁷ in early 2024 at a (Government Technical Advisory Centre) GTAC webinar. The programme is centred around performance-based contracts which have been demonstrated to be 68% more effective in achieving NRW reductions as they provide financial incentives that motivate contractors to achieved reductions by implementing output based remuneration or financial penalties thereby transferring risk from the municipality to the contractor.

Alongside these innovative financing mechanisms, an international renewed drive towards achieving the SDGs by 2030 has resulted in the publication of an SDG accelerated implementation framework⁵⁸ and an **increase in available development finance**. The Department of Mineral Resources and Energy (DMRE)⁵⁹ is running a 3 year programme with municipalities in SA to **support and fund the implementation of energy efficiency projects for municipal infrastructure including pump stations and WWTWs**⁶⁰. Interventions include aerators, pumps, blowers, motors etc. The programme is being run by South-African German Energy Programme (SAGEN), with the DMRE, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and the Water Group as partner stakeholders. Grant funding and technical support is provided to the municipalities to do feasibility studies.

Table 11: Financial drivers and support initiatives for the public water and wastewater market⁶¹

Name	Function	Implementing Agent
Sustainable Infrastructure Development Symposium (SIDSSA) ⁶²	SIDSSA is the annual flagship event organised by the IIO within The Presidency. It is a platform that brings together critical active role players in the public and private infrastructure investment space, to accelerate an infrastructure centred economic recovery and achieving SDGs and National Development Plan (NDP). Furthermore, the symposium is intended to pave an enabling environment for infrastructure investment through regulatory and policy reforms, and innovative funding models.	IIO
Government Technical Advisory Centre (GTAC)	GTAC was appointed as a Transaction Advisor for the assessment of the financial viability and mechanisms for the delivery of the envisaged City of Cape Town's permanent desalination infrastructure. Some of the key aspects to be considered are the means of financing, procuring and delivering this type and scale of infrastructure.	National Treasury
Viability and Validations of Innovations for Service Delivery Programme (VISDP)	VISDP, funded by the European Union and the National Treasury, seeks to demonstrate, pilot and evaluate the suitability and viability of technologies and innovations that can improve the delivery of basic services, improve performance and functioning of municipalities. The programme is designed to build partnerships between technology developers (both in public funded research institutions and the private sector) with municipalities.	Department of Science and Innovation, in collaboration with SALGA and CoGTA
National Water Reuse Program (NWRP)	The NWRP committee comprises of DBSA, WRC, COGTA, DWS and WISA amongst other stakeholders. The NWRP has been positioned as one of the programmes under the Infrastructure Fund. A centralised programme management office (PMO–Centre of Excellence) has been established to drive reuse project preparation, facilitate and mobilise funding and monitor project implementation. The PMO also assists municipalities with testing and vetting new technologies, project procurement and communication.	DBSA

57 <https://www.gtac.gov.za/wp-content/uploads/2024/03/National-Water-Partnerships-Programme-%E2%80%93-showcasing-the-NRW-Programme-GTAC-webinar-010324.pdf>

58 <https://www.unwater.org/publications/the-sdg-6-global-acceleration-framework/>

59 President Ramaphosa has separated the Department of Mineral Resources and Energy (DMRE) into the Department of Mineral and Petroleum Resources (DMPR) and the Department of Electricity and Energy (DEE). As of August 2024 it was reported that DMRE will continue to exist until the legislation and relevant human and financial resources are transferred to the two subsequent departments. DMRE is to provide the required support to DEE for the remainder of the 2024/25 financial year (<https://www.engineeringnews.co.za/article/presidency-transfers-legislation-as-part-of-steps-to-split-mineral-resources-energy-portfolios-2024-08-28>).

60 <http://www.energy.gov.za/EEE/Projects/EEDSM/RFP-for-Implementation-of-EEDSM-2022-23to2024-25.pdf>

61 AFD–Agence Française de Développement, CoGTA–Department of Cooperative Governance and Traditional Affairs, IIO–Investment and Infrastructure Office, SALGA–South African Local Government Association, SECO–Swiss State Secretariat of Economic Affairs, WISA–Water Institute of Southern Africa, WRC–Water Research Commission,

62 <https://sidssa.org.za/about-2/>

Name	Function	Implementing Agent
Municipal Innovation Maturity Index (MIMI) ⁶³	MIMI is a platform for enhancing municipalities' innovation capabilities in order to improve service delivery, accelerate social transformation, and alleviate poverty in keeping with the ideals of a developmental state. The tool benchmarks the Science, Technology and Innovations (STIs) readiness level of the municipalities (employees and operations) and determines innovation maturity levels of a municipality. The tool provides insights for municipalities to plan for innovation and to migrate to higher levels of innovation maturity.	Department of Science, Technology and Innovation (DSTI)
Critical Infrastructure Programme (CIP) ⁶⁴	CIP is a cash grant of between 10% and 30% on qualifying infrastructure projects, capped at R50 million. The grant is now open to a larger range of infrastructure projects, including public and private water and sanitation infrastructure, feasibility studies and agro-processing sector infrastructure.	DTIC
INCA Municipal Debt Fund (IMDF) ⁶⁵	The R3 billion IMDF was established to improve the supply of urban infrastructure in intermediate cities. The project aims to fill a market gap, enabling secondary municipalities with good credit quality to access financial resources, as well as catalyse the participation of local private investors absent from the secondary municipalities' financing segment.	INCA Portfolio Manager in partnership with French Development Agency (AFD) and SECO
Sustainable Infrastructure Development and Financial Facility (SIDAFF) ⁶⁶	The SIDAFF Programme is under development to provide project preparation support for catalytic municipal infrastructure projects. The Programme aims to increase bankable municipalities' access to loan financing for infrastructure projects in order to address the decreasing availability of grant funding.	GreenCape
Climate Finance Accelerator (CFA) ⁶⁷	The CFA is a global technical assistance programme, funded by the UK Government's International Climate Finance. It directly responds to the urgency and scale of the climate crisis by supporting highly promising climate projects to become more bankable and appealing to investors, so that they can secure funding more readily. The CFA approach addresses the fact that there is money available for climate finance, but it is often difficult for it to flow to the places where it is needed.	National Business Initiative in partnership with GreenCape
Water Partnerships Office (WPO)	The WPO was established by the Department of Water and Sanitation (DWS) as a ring-fenced national water and sanitation implementing office, which aims to accelerate water and sanitation infrastructure delivery across South Africa in line with the National Water Programme (NWP).	DBSA

During the international reuse conference hosted by the International Water Association and the Water Research Commission in March 2025, the WPO launched the Water Reuse Programme Expression of Interest and invited municipalities to submit their water reuse and reclamation projects. The WPO is offering project preparation and implementation support.

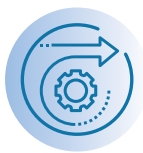
63 <https://www.mimi.org.za/>

64 <http://www.thedtic.gov.za/financial-and-non-financial-support/incentives/critical-infrastructure-programme/>

65 <https://www.afd.fr/en/support-municipalities-south-africa>

66 Contact the WCG Department of Local Government or GreenCape for further information.

67 <https://www.gov.uk/government/publications/climate-finance-accelerator/climate-finance-accelerator>



4.3.1 Drivers

The key drivers relating to development of innovative financing mechanisms are detailed below.

4.3.1.1 Pipeline of planned water and wastewater infrastructure projects in the public sector

Water security (future water supply deficits), as outlined in [Section 2](#), is a key driver of W&WW infrastructure projects in the public market. While some regions in South Africa have potential for new surface water projects, others like the WCWSS have limited further surface water potential. Furthermore, the historical backlogs in **accessing W&WW services** and **rapid urbanisation** are key drivers for new W&WW infrastructure in SA. The operational reality is that the existing **aging W&WW infrastructure** has been stretched due to significant underinvestment and delays in maintenance and renewal.

South African metropolitan municipalities are investing substantially in water, wastewater treatment, sanitation, and storm water infrastructure, providing key opportunities for businesses in these areas. The combined metro planned water and sanitation infrastructure spend over the medium term (2023/24 – 2025/26) is approximately R54.6 billion, of which R22.4 billion is planned by the CCT. Collectively, the other WC local municipalities are planning to invest ~R7.7 billion in water infrastructure over the same period. However, there exists a funding shortfall forcing municipalities to take up loans.

4.3.1.2 Limited grant and municipal funding

In areas where the majority of residents are indigent and not able to pay for basic services, thereby decreasing the capital reserve of the municipalities. Subsequently, municipalities rely on **the limited grant funding** for new infrastructure, renewal, refurbishment and/or maintenance as demonstrated in [Figure 17](#). However, due to funding shortfalls and decreasing grant funding the need exists for municipalities to be able to access alternative funding sources.

4.3.1.3 Changing and enabling environment in terms of legal, regulatory and institutional frameworks⁶⁸

Legislative updates such as the Public Procurement Act (2024), the National Water Resources Infrastructure Agency Act (2024) (NWRIA) and other policies and guidelines aim to streamline procurement processes, promote transparency, and involve the private sector more actively in water infrastructure projects.

⁶⁸ Key updates in the policy and legislative environment can be viewed in [Section 3](#).



4.3.2 Barriers

There are several barriers which hinder the implementation of innovative financing mechanisms within the water sector as set out below.

The **lack of revenue collection** leaves municipalities highly dependent on limited grant funding and may lead to their insolvency. As at 31 March 2024, all municipalities are owed an aggregated amount of R 347.6 billion by consumers, with metropolitan municipalities being owed R115 billion (National Treasury, 2024⁶⁹). The unreliability of revenue collection also bounds municipalities to **poor credit ratings and limits their ability to access loans**, which leaves them dependent on only their water services revenue and grant funding.

A **lack of technical skills in municipalities** to develop feasibility studies and structure appropriate contracts reduces the potential of accessing funding. Municipal expenditure on repairs and maintenance is lagging due to shortages in skills and capacity (NWSMP, 2019). Investors and banks are looking for projects to fund, but cannot risk supporting a poorly investigated project. However, successful infrastructure projects can be realised with the existing municipal capacity by starting with small, manageable steps, such as issuing tenders for installing monitoring devices and collecting data to develop an understanding of the status quo.

A barrier to the uptake of the infrastructure project opportunities is that the country currently faces a shortage of skilled and registered engineers to respond to these opportunities. The Engineering Council of South Africa (ECSA) conducted a study in 2023 highlighting that the country currently has one engineer per 3 100 people compared to 1:227 for Brazil and 1:543 for Malaysia (dtic, 2019). Building a skills pipeline in the public and private sector is key to realising large infrastructure projects. The South African Institution of Civil Engineering (SAICE) highlighted that some municipalities do not have registered professional engineers employed thus creating a skills vacuum as there is no skilled engineer to train the incoming young graduates.

Municipal finances. Municipalities together with water boards currently owe the DWS ~R25 billion⁷⁰. Municipal-scale projects are capital intensive, and an **inability to access funding** can be a major constraint. Although available grants and municipal funds for specific infrastructure projects are drivers, they are limited (**Section 2**). According to the 2022/2023 auditor general's report, irregular, fruitless, wasteful, and unauthorised expenditure totalled R7.62 billion across all municipalities. Only a small number of municipalities have the capacity and financial standing to access private sector financing or procure infrastructure projects using PPPs. To attract investors and providers of innovative financing models, it is important for municipal authorities to have robust and audited financials; strong corporate governance and accountability; obtain a credit rating and seek financial advice on how to restructure their balance sheets.

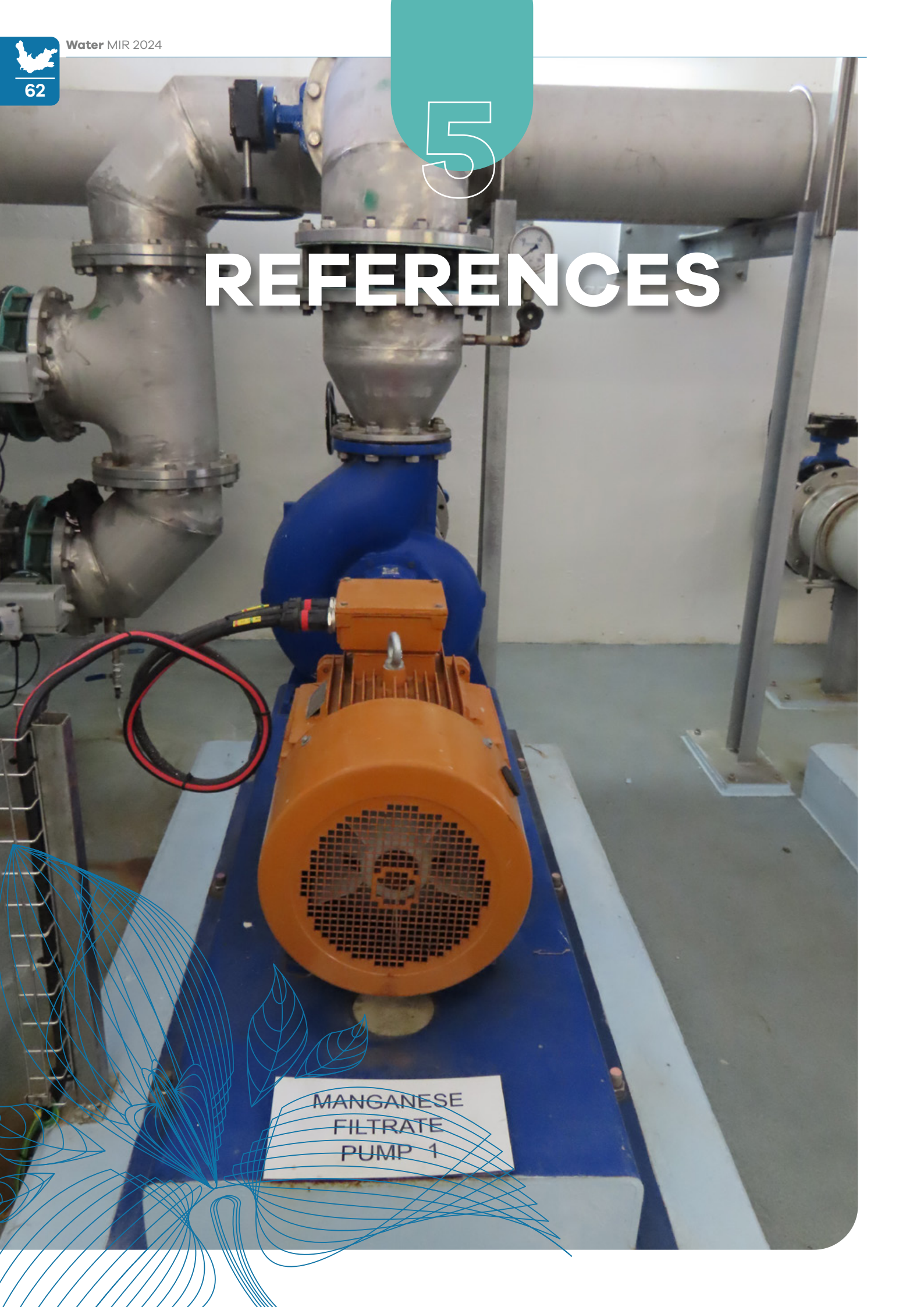
⁶⁹ <https://www.gov.za/news/media-statements/national-treasury-releases-local-government-revenue-and-expenditure-report-1>

⁷⁰ <https://m.engineeringnews.co.za/print-version/more-than-r25-billion-is-due-to-the-department-of-water-and-sanitation-for-water-2024-08-15>



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