

Presentation to the Portfolio Committee on Water and Sanitation on matters relating to Water Boards

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Designation: Director-General
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WATER IS LIFE - SANITATION IS DIGNITY



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



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Purpose

To brief the Portfolio Committee on the realignment of water boards and Water Boards Corporate Plans for the 2023/24 financial year.

PART A: RECONFIGURATION OF WATER BOARDS

Constitutional and Legislative Imperatives

- Section 10 of the Constitution provides that everyone has inherent dignity and the right to have their dignity respected and protected – this means that government has a duty to intervene where the provision of municipal water and sanitation services is resulting in people’s dignity not being respected and protected
- Section 27 (2) of the Constitution requires the government to take reasonable legislative and other measures within its available resources to achieve the progressive realization of the right to water
- Water Boards (WBs) are established by the Minister in terms of Section 28 of the Water Services Act. The Minister may disestablish WB after consultation with the respective province, WB and WSA
- In terms of section 29 of the Water Services Act, the primary activity of a water board is to provide water services (bulk and reticulation) to other water services institutions (water services authorities, water service providers and water service committees) within its service area. In other words, water boards support municipalities to deliver water services
- The Minister of Water and Sanitation is a shareholder and Executive Authority for Water Boards and has the mandate to appoint the Boards and provide oversight management.

Change drivers for review of Water Boards

- Municipal performance is generally weak and compromises effective and sustainable water services delivery. This means that services are not being effectively expanded to all households without, services being provided to existing households may not be sustainable, and that the quality of services is deteriorating.
- All geographical areas in need of services of Water Boards, should be serviced by Water Boards.
- Some areas are serviced by multiple water boards, resulting in a degree of institutional confusion (for example, Hammanskraal, where two Water Boards and the Tshwane Metro are all supplying water, resulting in confusion when there are disruptions in service delivery)
- In some instances, the relationships between water boards and municipalities are poor and not conducive to optimal outcomes for service delivery. Relationships with provincial governments need to be developed further, as part of improving relationships with municipalities
- The financial viability of some water boards is marginal. In some instances, this is related to underlying structural issues (geography and client base), in addition to challenges with billing and revenue collection at the municipal level and non-payment by municipalities to water boards.
- As far as possible, Water Boards should be financially sustainable and able to raise capital from the market for infrastructure projects.
- There have been and continue to be governance problems in some water boards.

Principles underlying the reconfiguration

- The DWS has reviewed Water Boards in terms of financial sustainability, servicing areas that are not currently serviced and institutional confusion caused by having multiple Water Boards serving the same province.
- The purpose of the review of the Water Boards is to:
 - (a) Strengthen the capacity and capability of the entity in the Province (leveraging on existing technical skills)
 - (b) Improve and enhance institutional efficiencies and rationalise the number of institutions in the water sector to ensure economies of scale
 - (c) Maintain financial viability and enhance the ability to raise capital from the market for infrastructure projects
 - (d) Enable Water Boards to better support Water Services Authorities (WSAs). All geographical areas to be serviced by Water Boards
 - (e) Ensure transformation and improved governance
 - (f) To align water board boundaries with Provincial boundaries
 - (g) Reconfiguration must not result in job losses

Reconfiguration of the Water Boards

- Before the recent reconfiguration of the Water Boards, there were nine Water Boards.
- Post the reconfiguration, seven Water Boards remain as summarised in the table below.

Before reconfiguration	Post reconfiguration	Areas Served
Umgeni Water	Umngeni- Uthukela Water	KwaZulu-Natal Province
Rand Water	Rand Water	Mpumalanga and Gauteng Provinces
Lepelle Northern Water	Lepelle Northern Water	Limpopo Province
Magalies Water	Magalies Water	North West Province
Bloem Water	Vaal Central Water	Free State and Northern Cape Provinces
Amatola Water	Amatola Water	Eastern Cape. Province
Overberg Water	Overberg Water	Western Cape Province
Sedibeng Water	Disestablished	
Mhlathuze Water	Merged in Umngeni-Uthukela Water	

Progress on the reconfiguration of the Water Boards (1)

Activity	Progress
Reconfiguration of Bloem Water	<ul style="list-style-type: none"> • Bloem Water will service the entire Free State and Northern Cape and has taken over the staff, assets, and liabilities from Sedibeng with effect from 01 Aug 2022. • Final Gazette was published in July 2023 to change the name of Bloem Water to Vaal Central Water Board • The new Board of Vaal Central Water was appointed effective from October 2023
Reconfiguration of Magalies Water and Rand Water	<ul style="list-style-type: none"> • Rand Water and Magalies have appointed Independent Consultants to conduct the Due Diligence and feasibility of rationalising the business operations and assets owned by both entities located in Tshwane, North West and Mpumalanga in order to align with the vision of one water board per province. <ol style="list-style-type: none"> 1. Vaalkop Water Supply - North West 2. Barnardsvlei - North West 3. Madibeng - North West 4. Cullinan WTP - Gauteng 5. Klipdrift WTP – Gauteng 6. Wallmannsthal WTP –Gauteng <ul style="list-style-type: none"> • Final due Diligence is due on 30 Nov 2023 • ***Detailed map in the next slide)

Progress on the reconfiguration of the Water Boards (2)

Activity	Progress
Reconfiguration of Magalies Water and Rand Water	<ul style="list-style-type: none">• Rand Water and Magalies have appointed Independent Consultants to conduct the Due Diligence and feasibility of rationalising the business operations and assets owned by both entities located in Tshwane, North West and Mpumalanga in order to align with the vision of one water board per province. <ol style="list-style-type: none">1. Vaalkop Water Supply - North West2. Barnardsvlei - North West3. Madibeng - North West4. Cullinan WTP - Gauteng5. Klipdrift WTP – Gauteng6. Wallmannsthal WTP –Gauteng <ul style="list-style-type: none">• Final due Diligence is due on 30 Nov 2023• ***Detailed map in the next slide)

Magalies Water and Rand Water Assets under consideration

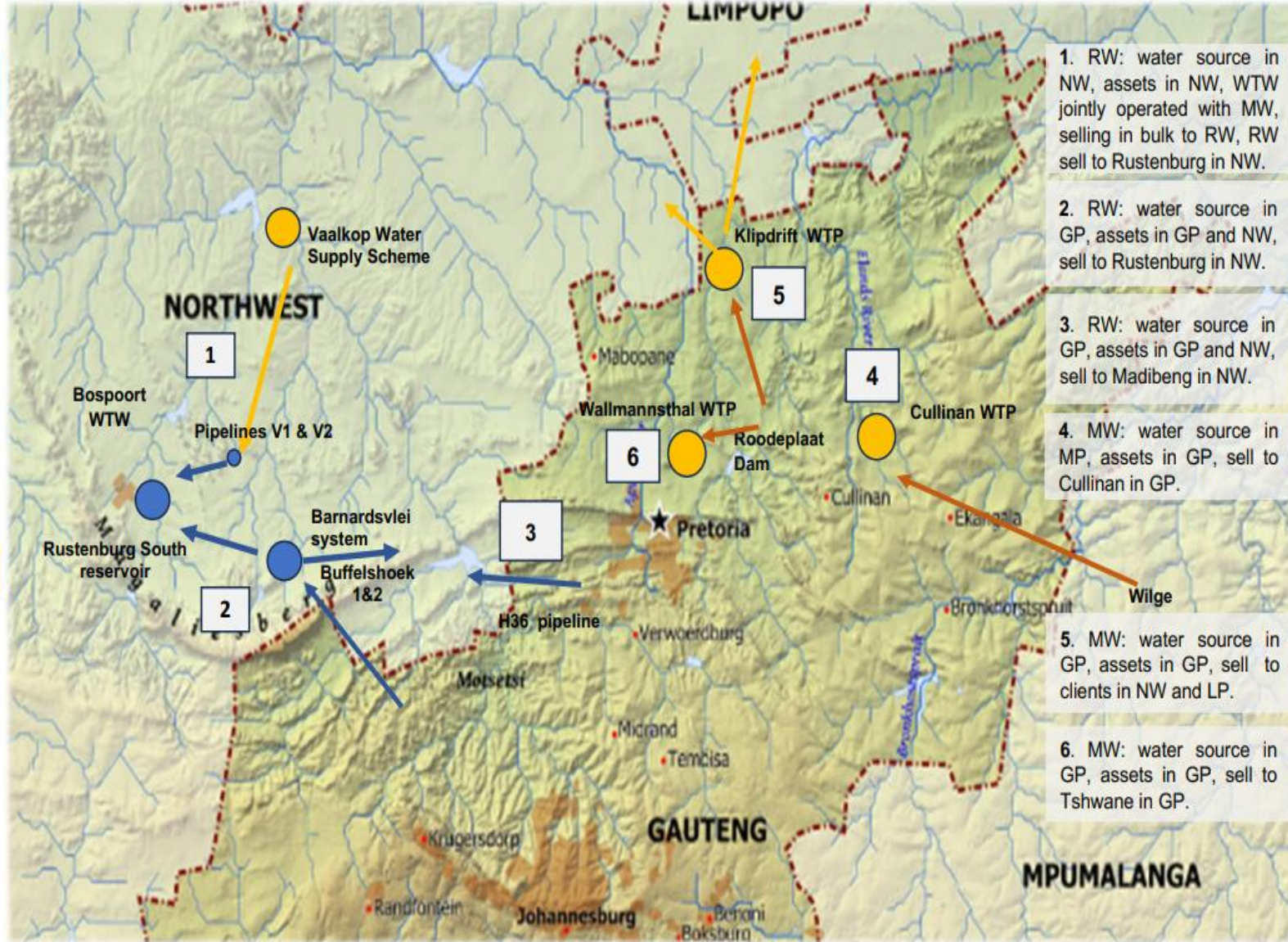
LEGEND

RAND WATER

- 1 Vaalkop South Water Scheme
Pipe lines V1 & V2
- 2 Randfontein-Barnardsvlei-Rustenburg Scheme
- 3 Madibeng H36 pipeline

MAGALIES WATER

- 4 Cullinan WTP
- 5 Klipdrift WTP
- 6 Wallmannsthal WTP



- 1. RW: water source in NW, assets in NW, WTW jointly operated with MW, selling in bulk to RW, RW sell to Rustenburg in NW.
- 2. RW: water source in GP, assets in GP and NW, sell to Rustenburg in NW.
- 3. RW: water source in GP, assets in GP and NW, sell to Madibeng in NW.
- 4. MW: water source in MP, assets in GP, sell to Cullinan in GP.
- 5. MW: water source in GP, assets in GP, sell to clients in NW and LP.
- 6. MW: water source in GP, assets in GP, sell to Tshwane in GP.

Summary of assets being affected by the reconfiguration

	Current Owner	Water Source	Locality of Plants	Locality of Pipelines	Customers	Est. Replacement Value	Staff	Volume
RBR Scheme	RW	Vaal System	Gauteng: Vaal	Gauteng North West	and North West: Rustenburg, Madibeng, Mines	R 679.6 million	TBD: dual responsibilities	112.5 Ml/d
VSWS V1, V2 pipelines	RW	North West, Vaalkop Dam	North West-Vaalkop	North West	North West: Rustenburg, Mines	R 518.7 million	15 Rustenburg Office	79.9 Ml/d
H36 pipeline	RW	Gauteng, Palmiet System	Gauteng: Vaal	Gauteng North West	and North West: Rustenburg, Madibeng	R 142.3 million	TBD: dual responsibilities	60.0 Ml/d
Cullinan System	MW	Mpumalanga: Mpumalanga Wilge Dam	Gauteng: at Cullinan	Gauteng	Gauteng: Cullinan, CDM, institutional and private	R 62.6 million	Joint maintenance team: 47 staff. Plant staff 12	10.5 Ml/d
Wallmannsthal system	MW	Gauteng-Roodeplaat Dam	Gauteng: Tshwane	Gauteng	Gauteng: SANDF Correctional Services, Pebble Rock estate, and various consumers .	R 334.6 million	Plant staff 13	11.4 Ml/d
Klipdrift system	MW	Gauteng-Roodeplaat Dam	Gauteng: North Gauteng	Gauteng & Limpopo & North-West	Gauteng & Limpopo & North-West	R 710.9 million	Plant staff 15	34.8 Ml/d

Disestablishment of Sedibeng Water (incorporation into Magalies and Vaal Central Water)

Activity	Progress
Disestablishment of Sedibeng Water and incorporation into Magalies and former Bloem now Vaal Central Water.	<ul style="list-style-type: none"> • Final Gazette published on 26 July 2022 • Staff Transfer Agreement – Signed in December 2022 • Delisting of Sedibeng Water as a schedule 3B of the Public Finance Management Act, 1999 completed (28 March 2023) • 2021/22 Annual Report – To be released and ready for tabling in Parliament by November 2023 • (***Split of former Sedibeng Water: Assets, Liabilities and Revenue to the receiving entities

Split of former Sedibeng Water Assets and Liabilities

Split of former Sedibeng Water Statement of Financial Position and Performance

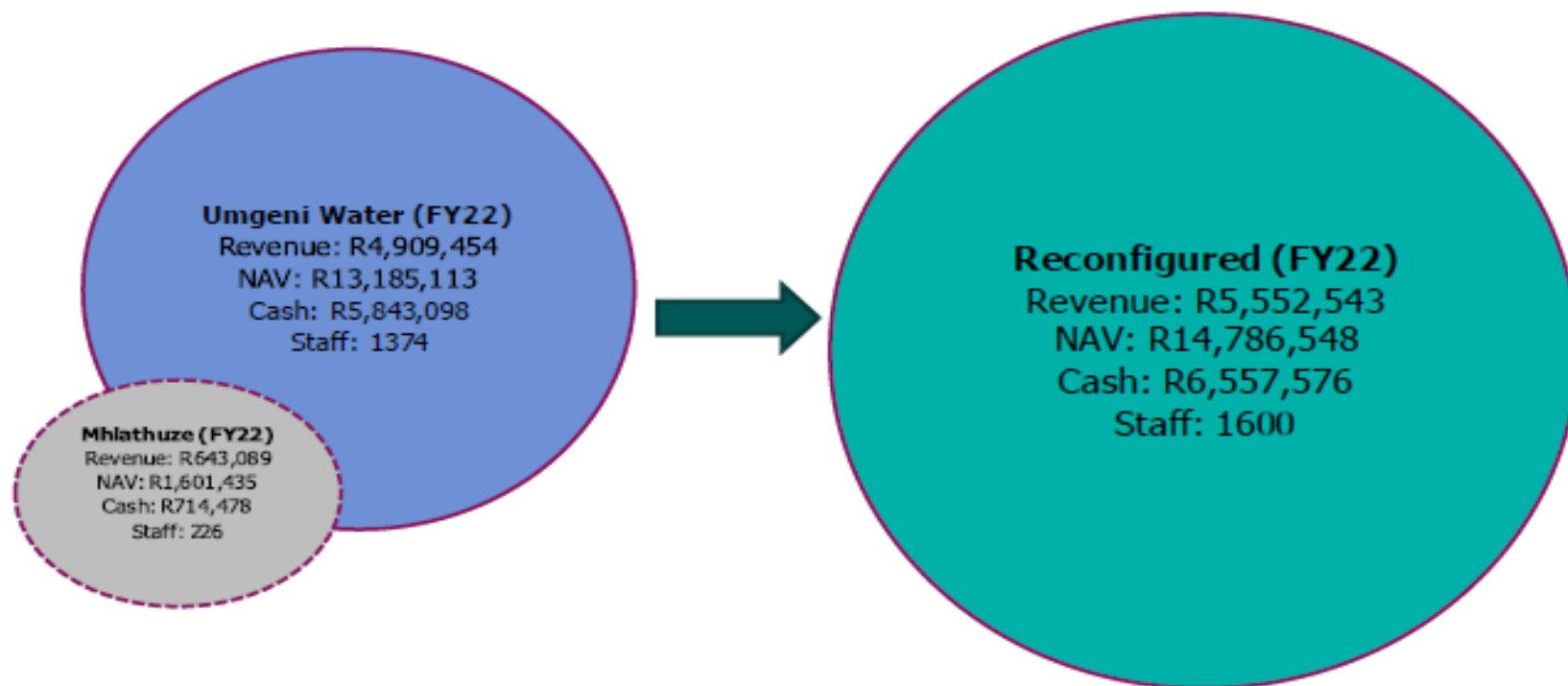
	Vaal Central Water	Vaal Central Water	Magalies Water	Magalies Water
	<u>30 June 2022"</u>	<u>30 June 2021"</u>	<u>30 June 2022"</u>	<u>30 June 2021"</u>
	<u>R000"</u>	<u>R000"</u>	<u>R000"</u>	<u>R000"</u>
Total Assets	10 934 459	8 982 252	1 670 243	1 535 100
Total Liabilities	-5 134 697	-4 248 286	-1 670 243	-1 452 965
Total Reserves	5 799 762	4 733 966	4 938	82,135
	Vaal Central Water	Vaal Central Water	Magalies Water	Magalies Water
	<u>30 June 2022"</u>	<u>30 June 2021"</u>	<u>30 June 2022"</u>	<u>30 June 2021"</u>
	<u>R000"</u>	<u>R000"</u>	<u>R000"</u>	<u>R000"</u>
Total Revenue	1 566 080	1 499 706	411 780	459 233
Total Expenditure	-1 648 349	-1 501 557	-489 402	-421 506
Net Surplus for the Year	-82 269	-1 851	-77 622	37 727
Staff numbers split	434		400	
Total Employees Transferred	834			

- Magalies Water received a huge number of employees and less number of assets whereas Vaal Central Water received more assets with almost the same staff number as Magalies Water. The impact is the same as on the revenue collected versus the operational expenditure of these entities.
- Liabilities will be reviewed as the DWS will be writing off the entire debt of raw water purchase, then the impact may be less.

Disestablishment of Mhlathuze Water and Name change of Umgeni Water to uMngeni-uThukela Water

Activity	Progress
<p>Disestablishment of Mhlathuze Water and Name change of Umgeni Water to uMngeni-uThukela Water</p>	<ul style="list-style-type: none"> • Extension of the boundary of Umgeni Water to include Mhlathuze Water to form a single Water Board in the KwaZulu-Natal Province was effective from 01 July 2023. • Name change of Umgeni Water to uMngeni-uThukela Water, effective from 01 July 2023. • The disestablishment of Mhlathuze Water was effective from 30 June 2023, transfer of staff, assets, and liabilities of the former Mhlathuze Water to uMngeni-uThukela Water, effective 01 July 2023. • Staff Transfer Agreement was finalised by the end of June 2023 • New Board of uMngeni - uThukela Water was appointed effective from October 2023 • To be completed by the end of December 2023: <ul style="list-style-type: none"> ✓ Delisting of Mhlathuze Water as a schedule 3B of the Public Finance Management Act, 1999 (Act No 1 of 1999) (PFMA) ✓ Preparing 2022/23 audits, AFS's and annual reports • (***Financial impact on reconfiguration in the next slide)

Financial impact on the reconfiguration of Umgeni Water and Mhlathuze Water



(R000's)	Mhlathuze Water	% of total	Umgeni Water	% of total	Consolidated	Total
Revenue	R643 089	11.6%	R4 909 454	88.4%	R5 552 543	100.0%
Net Asset Value	R1 601 435	10.8%	R13 185 113	89.2%	R14 786 548	100.0%
Cash & Cash Equivalents	R714 478	10.9%	R5 843 098	89.1%	R6 557 576	100.0%
Staff Complement	226	14.1%	1 374	85.9%	1 600	100.0%

Consolidated debt and borrowing limits

Financial Year	Total Debt
FY24	R1 234 742
FY25	R2 115 092
FY26	R2 465 613
FY27	R3 656 308
FY28	R4 747 003
FY29	R6 367 149
FY30	R8 573 715
FY31	R11 372 248
FY32	R11 377 782
FY33	R8 560 801

Borrowing Limit	FY 22	FY 23	FY 24
Umgeni Water	R1 400 000	R2 017 000	R3 325 000
Mhlathuze Water	R136 610	R216 265	R265 920
Combined	R1 536 610	R2 233 265	R3 590 920

- Currently, the combined debt levels of the individual entities are within the set borrowing limits as approved by the National Treasury.
- Given the planned borrowing level envisaged in the ten-year forecast, the reconfigured entity will exceed its current borrowing limit in 2027.
- In order to realise the borrowing plan as set out above, approval will have to be sought from the National Treasury to increase the borrowing limit to the required levels.

Progress on the reconfiguration of the Water Boards

Activity	Progress
Reconfiguration of Rand Water	<ul style="list-style-type: none">• Rand Water boundary will be extended to cover Mpumalanga and Gauteng Province.• The Minister published a Gazette Notice on 28 November 2022 in terms of Section 28(1) of the WSA for sixty (60) days outlining his intentions to extend the service area of Rand Water to Provide Bulk Water Services to the entire Mpumalanga Province• Political consultation ongoing.• Final due Diligence is due on 30 Dec 2023
Reconfiguration of Lepelle Water	<ul style="list-style-type: none">• Lepelle boundary will be extended to cover the entire Limpopo Province.• Technical discussions initiated between Lepelle and Magalies on asset transfers.• High-level desktop due diligence analysis is due by the end of Dec 2023.

Progress on the reconfiguration of the Water Boards

Activity	Progress
Reconfiguration of Amatola Water	<ul style="list-style-type: none"> • Amatola Water Board will be responsible for the Eastern Cape Province. • The Minister published a Gazette Notice on 14 November 2022 in terms of Section 28(1) of the WSA for sixty (60) days outlining intentions to extend the service area of Amatola Water to cover the entire Eastern Cape Province. • High-level desktop due diligence analysis is due by the end of November 2023
Reconfiguration of Overberg Water	<ul style="list-style-type: none"> • Overberg Water Board will be responsible for the whole Western Cape Province • The Minister published a Gazette Notice on 3 November 2022 in terms of Section 28(1) of the WSA for sixty (60) days outlining intentions to extend the service area of Overberg Water to cover the entire Western Cape Province. • High-level desktop due diligence analysis is due by end of December 2023

PART B: WATER BOARDS CORPORATE PLANS FOR THE 2023/24 FINANCIAL YEAR

Legislative framework

- Water Boards are public entities established through the Water Services Act, 1997 (Act No. 108 of 1997) and they are listed as Schedule 3B entities under the Public Finance Management Act, 1999 (Act No. 1 of 1999).
- The Minister of Water and Sanitation is a Shareholder and Executive Authority for Water Boards and is mandated to According to Section 52(a) and (b) of the PFMA, read with item 29.1 of the Treasury Regulations, the Accounting Authority for a public entity listed in 3B must submit to the Accounting Officer of a Department designated by the Executive Authority responsible for that public entity:
 - A projection of revenue, expenditure and borrowings for that financial year in the prescribed format at least one (1) month before the start of its financial year and;
 - A Corporate Plan in the prescribed format covering the affairs of that public entity for the following three (3) financial years.
- In terms of Treasury Regulation 29.2.1 the Accounting Authority of a public entity listed in Schedule 3B of the PFMA must, in consultation with its Executive Authority, annually conclude a **Shareholder's Compact**.

Governance protocol for entities

Strategic intent statement / DWS strategic plan

- Minister meets with Chairpersons of entities to outline the Strategic Intent which is used to articulate his vision and his expectations of the entities.
- The DWS Strategic Plan is a guide to entities in terms of vision and strategic direction

Shareholder compact

- Minister and the Boards conclude a shareholder compact annually (Treasury Regulation 29.2) .
- Documents the mandated key performance measures and indicators to be attained by the entity in delivering the desired outcomes and objectives as agreed between the entity Board and the Minister

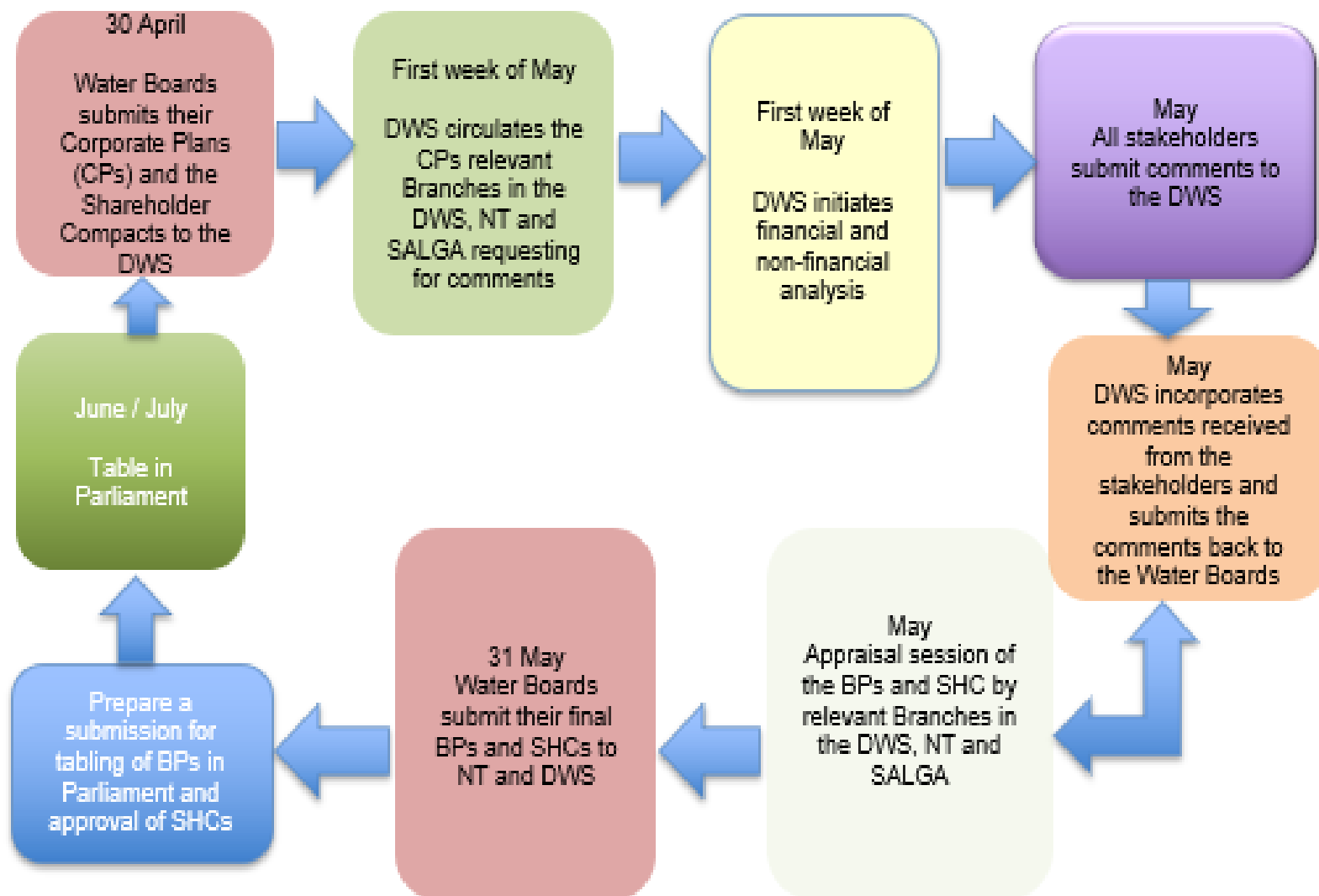
Corporate plan

- Entities submit corporate plans and budgets annually to Minister and National Treasury at least one month before the start of financial year (PFMA Sec 52).
- Entities corporate plan must contain implementation details to attain the key performance measures and indicators outlined in shareholder compact and desired outcomes and objectives outlined in the strategic intent statement.

Performance monitoring & evaluation

- Quarterly reporting
- Annual Reports including financial statements submitted by end of November every year.
- Tariff Submissions to Parliament by 15 March every year.
- Reporting to Portfolio Committee –once a year .

Business process flow of Water Boards' Corporate Plans and Shareholder Compacts (1)



Business process flow of water boards' corporate plans and shareholder compacts (2)

- The Water Boards submitted their Corporate Plans and Shareholder Compact to the Department on 30 April 2023.
- The appraisal sessions were held on 23-24 May 2023.
- The final Corporate Plans and Shareholder Compacts were submitted to the DWS and National Treasury on 31 May 2023.
- The Corporate Plans were tabled in Parliament on Thursday, 6 July 2023.

Strategic objectives in shareholder compact

- In terms of regulation 29 of the Treasury Regulations issued in terms of the Public Finance Management Act, 1999 Act No. 1 of 1999)(as amended) (“the PFMA”), the accounting authority for a public entity listed in Schedule 3b provides that the Minister annually concludes a Shareholder Compact with all the Water Boards.
- The Shareholder Compact includes the following performance objectives:
 - Ensure viability and sustainability
 - Stakeholder engagement
 - Appropriate planning for adequate water resources
 - Water demand management
 - To ensure sustainable growth
 - Effective and efficient communications
 - Ensure compliance with legislative prescripts and policies
 - Financial sustainability

Shareholders Compact

The Department of Water and Sanitation (DWS) is in the process of Aligning Water Boards Key Performance Indicators'(KPIs) in the Shareholder's compact.

In doing so, DWS revised the Shareholder's Compact Template and redefined some KPIs.

The following KPIs were redefined:

<p>Bulk potable water quality compliance</p> <p>Test results, SANS 241</p> <p>The following five (5) compliance categories should be reported</p> <ul style="list-style-type: none">• Acute health microbiological compliance• Acute health chemical compliance• Chronic health chemical compliance• Operational compliance• Aesthetic compliance	<p>Manage avoidable water losses</p> <p>Avoidable water lost as a percentage of water produced at the treatment and distribution systems</p>	<p>Reliability of supply</p> <p>Number of days of unplanned supply interrupted</p>	<p>Increased access to Services</p> <p>Actual CAPEX spend on expansion related projects (initiatives by the Minister)</p> <p>as % of budget</p>
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Selected objectives and Indicators for Water Boards (1)

Performance Objective	Outcomes /Impact	Indicators	Measure
1. Water Quality Compliance	Water quality standards met	Test results, SANS 241	% compliance
2. Non-Revenue Water	Reduced levels of unaccounted for water (UAW)	Water lost as a % of total water produced	%
3. Reliability of supply	No unplanned interruptions to supply exceeding 24 hours	number of days supply disrupted divided by total number of possible supply days	Number
4. Financial Reporting Compliance	unqualified audit report	Annual external audit	Qualified/ Unqualified
5. Increased Access to Services	Contribution to national objectives	CAPEX spend /projects	CAPEX spend or number of expansion projects
6. Governance	Improved controls and risk mitigation	Compliance to the approved framework	Number

Selected objectives and Indicators for Water Boards (2)

Performance Objective	Outcomes /Impact	Indicators	Measure
7. Bulk supply agreements concluded with municipalities/other customers	Statutory and Service Level Agreements in place	Municipalities/Other Customers with bulk supply agreements results	%
8. Engagement in secondary activities	Growth in turnover from secondary (other activities)	% of total turnover	%
9. Training and Skills Development	Skills and capacity building	Learnerships Bursaries employees Graduate Programmes	Number
10. Jobs Created	Permanent and contract (direct) Temporary (indirect)	Total number	Number
11. Corporate Social Responsibility Initiatives	Good corporate citizenship	Number of initiatives undertaken	Number

Evaluation summary

Documents	Submission as per DWS due date (30 April 2023)		Signed		Comments
	Yes	No	Yes	No	
All Water Boards					
Shareholders Compact	😊		😊		All water boards complied with the due date and have accurately covered the Mandate, Vision and Mission, Strategic intent/Business objectives, the Alignment with DWS mandate and MTSF, the Roles and Responsibilities of the Shareholder and a water board as well as key performance indicators and targets.
Corporate Plan	😊		😊		The DWS evaluated the corporate plans of the water boards based on their strategic objectives, Primary Activities (Section 29) and secondary activities (Section 30), Governance Structures, Financial Plan, Capital Expenditure Plan, Risk Management Plan, Human Resources Plan, Environmental Management Plan, Water Conservation Demand and Water Loss Management Plan, Marketing Plan, Communication Plan as well as their Corporate social responsibility. Further engagements were held at the appraisal session to address the comments that were raised.

Conclusion

- Generally, all Water Boards made considerable effort to comply with the Departmental Corporate plan and Shareholder compact format.
- The Department is in the process of developing an improved oversight model to strengthen governance financial performance and service delivery for all entities reporting to the Minister.
- This will ensure that Shareholder Compacts entered between the Minister as an Executive Authority and Boards are monitored and well-regulated with clear Key Performance Indicators.
- An external specialist will be assisting the Department to develop this model. The outcome of this process will be improved governance, financial viability, and technical resilient infrastructure systems.

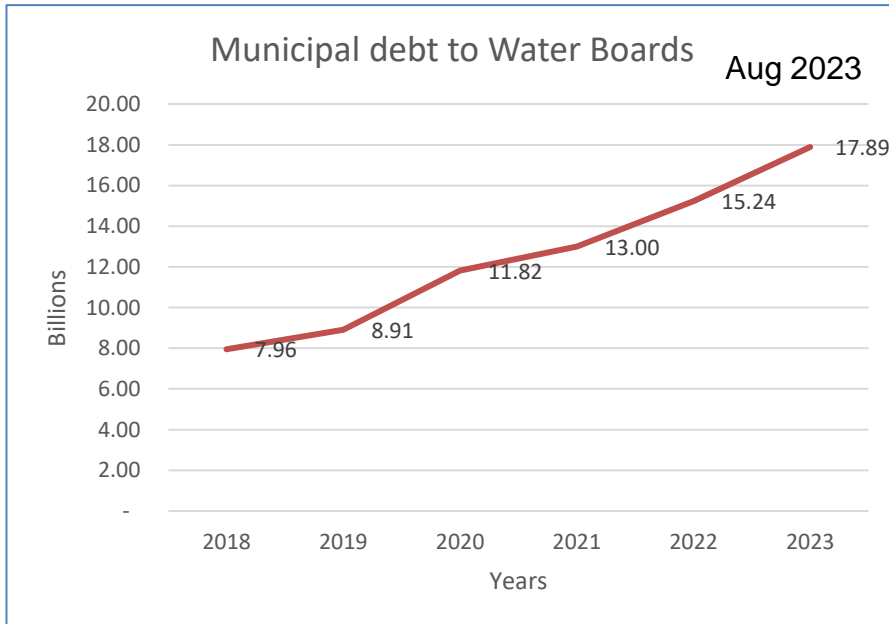
PART C: OVERVIEW OF WATER BOARD BUDGET OVER THE MTEF AND FINANCIAL SUSTAINABILITY

OVERVIEW OF WATER BOARDS BUDGET & CAPEX

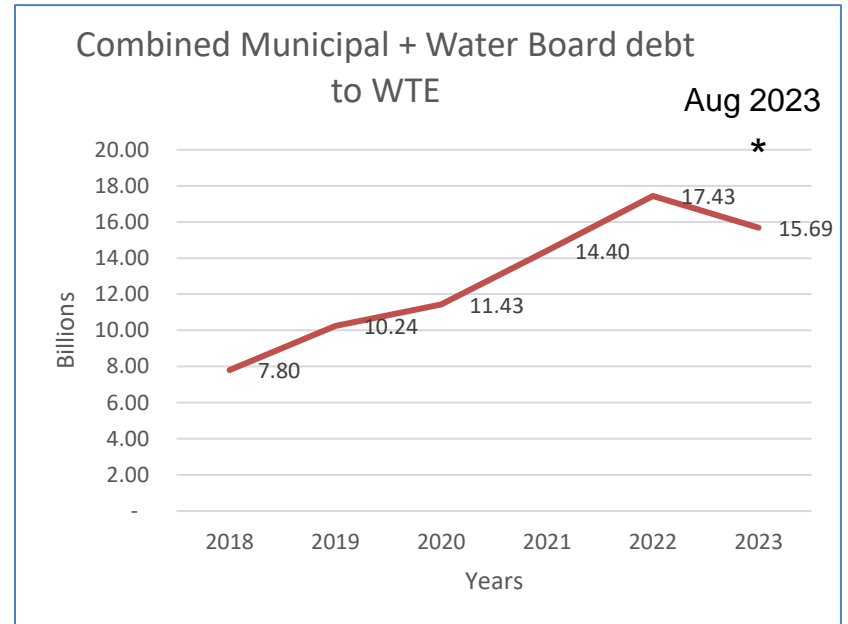
WATER BOARDS	REVENUE PROJECTIONS OVER MTEF (R'000)				CAPEX PROJECTIONS OVER MTEF (R'000)			
	2023/24	2024/25	2025/26	Total FY 2023- 2026	2023/24	2024/25	2025/26	Total FY 2023- 2026
Amatola Water	593	736	859	2 188	60	49	40	149
Vaal Central Water	2 390	2 608	2 847	7 845	245	33	37	314
Lepelle N Water	1 051	1 173	1 289	3 513	184	393	123	700
Magalies Water	1 141	1 221	1 307	3 670	449	415	445	1 309
Overberg Water	73	78	85	236	6	2	4	11
Rand Water	21 049	21 914	24 248	67 211	3 620	7 638	8 399	19 657
Umgeni- Uthukela Water	5 928	6 480	6 972	19 380	2 481	2 693	3 527	8 701
TOTAL	32 225	34 211	37 607	104 044	7 045	11 223	12 574	30 842

Growth of water sector debt

Money owed to Water Boards
by municipalities is growing rapidly
and unsustainable



Money owed to WTE by municipalities and
water boards is growing and unsustainable



* R2,1 billion of debt written off in 2023

Impact of growing debt on water boards

- A **consultation process** with all relevant parties was then undertaken through written correspondence of letters on the above matter to the water sector stakeholders.
- These stakeholders included **144 Water Services Authorities (WSA's)**, 9 Members of Executive Councils (MEC's) responsible for Corporate Governance and Traditional Affairs, South African Local Government Association (SALGA) and the Department of Cooperative Governance and Traditional Affairs (COGTA).
- The outstanding Municipalities debt which is growing year on year poses a **threat to the financial and operational sustainability** of all the Water Boards (WB's).
- The Auditor General (AG) has raised concerns about whether some of the Water Boards can be considered to be **going concerns** due to the non-recoverability of the Municipal debt.
- Should AG come to the conclusion that some of the Water Boards are not going concerns these WB's will **not be able to raise any funding** for their projects as the banks will consider the risk of lending too high.
- DWS could also get **negative audit findings** for not implementing effective credit control measures
- Water Board most at financial risk is Vaal Central Water, with R7.6 billion of debt owed by the municipalities to which it provides services. R5.5 billion of this R7.6 billion is owed by Matjhabeng Local Municipality.

PROPOSALS FOR STRENGTHENING CREDIT CONTROL

Proposals for strengthening credit control

- DWS has been engaging with the National Treasury, the Water Boards and SALGA to identify appropriate measures to address the debt owed by municipalities to the Water Boards:
 - a) DWS has developed standardised credit control processes across the Water Boards. The standard operating procedures were developed in consultation with the National Treasury and SALGA and a consultation process with all relevant parties including all the Water Service Authorities has been concluded. The DWS Minister will consult with the various Boards of the seven Water Boards after which it will be adopted.
 - b) The standard operating procedures include consistent enforcement of water restrictions on non-paying municipalities and legal processes to attach municipal bank accounts where necessary.
 - c) It has been agreed that DWS will collaborate with the National Treasury to ensure that equitable share allocations are withheld for municipalities not paying their current Water Board invoices.
 - d) Bulk prepaid meters will be installed by water boards in municipalities with a poor payment record, if possible.

PART D : GOVERNANCE STATUS

GOVERNANCE STATUS OF WATER BOARDS

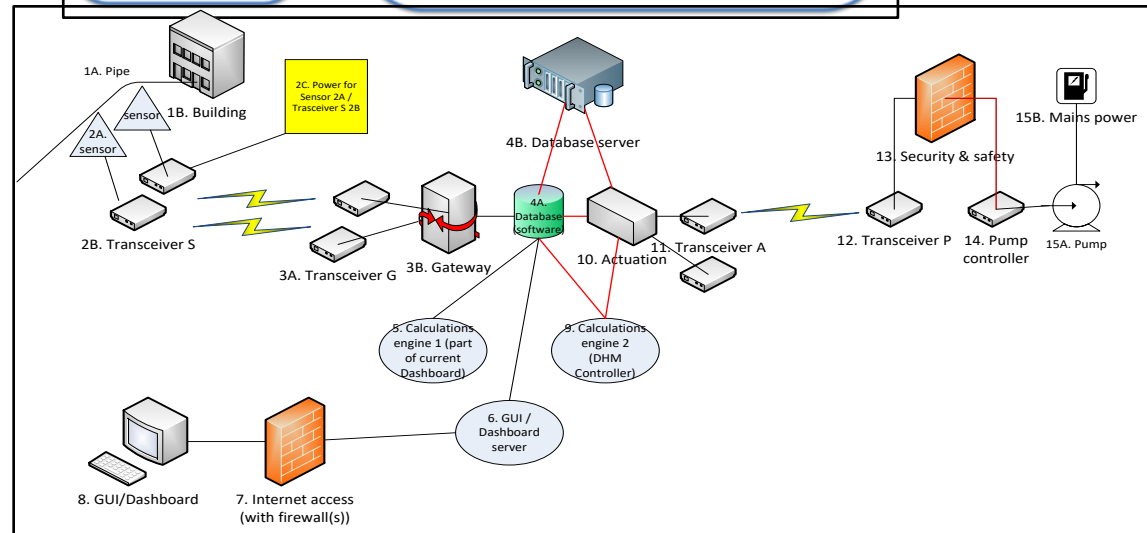
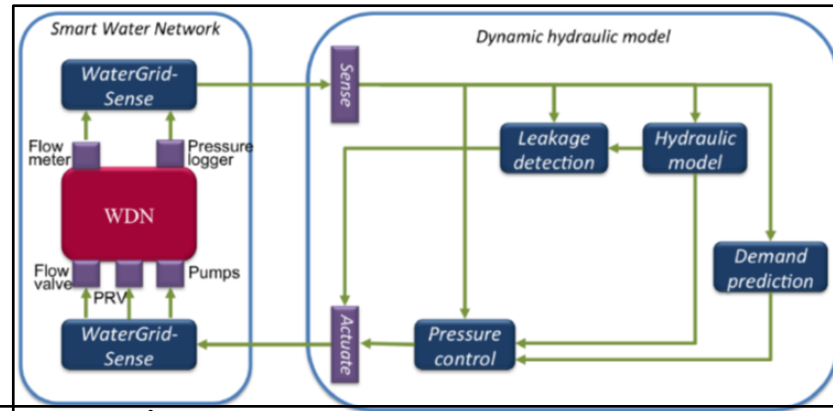
	Amatola Water	Vaal Central Water	Lepelle N Water	Magalies Water	Overberg Water	Rand Water	uMngeni-uThukela Water
Board	Interim Board. The process of appointing a new Board has commenced.	New Board appointed on 13 Sept 2023	Aug-25	Dec-26	New Board appointed on 13 Sept 2023	Sep-26	New Board appointed on 13 Sept 2023
No. of Board vacancies	None	None	None	None		None	None
CEO	Acting. CEO	Acting. CEO	5 Year Contract ends July 2027	5 years. Contract ends June 2028	5-year contract. Contract ends 31 Dec 2027	5-year contract. Contract ends 31 March 2024	Acting CEO.
CFO	5 years contract	Acting CFO	5 years contract	5 years contract	5-year contract	5 year contract	5 year contract
2023/24 Corporate Plan submitted on time	Yes	Yes	Yes	Yes	Yes	Yes	Corporate Plans for separate entities.
2019/20 Audit Outcomes	Qualified finding	Unqualified with findings	Unqualified with findings	Clean audit	Unqualified with findings	Unqualified with findings	Unqualified with findings
2020/2021 Audit Outcomes	Qualified finding	Unqualified with findings	Unqualified with findings	Clean audit	Clean Audit	Unqualified with findings	Unqualified with findings
2021/2022 Outcomes	Qualified findings	Unqualified with findings	Unqualified with findings	Clean audit	Unqualified with findings	Unqualified with findings	Unqualified with findings

Red = no board members in place, or no CE in place; Purple = qualified audit report; Yellow = acting or unqualified with findings; Green = good governance in place

PART E: INNOVATION BY WATER BOARDS

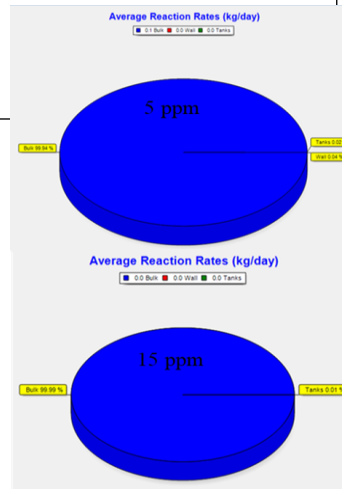
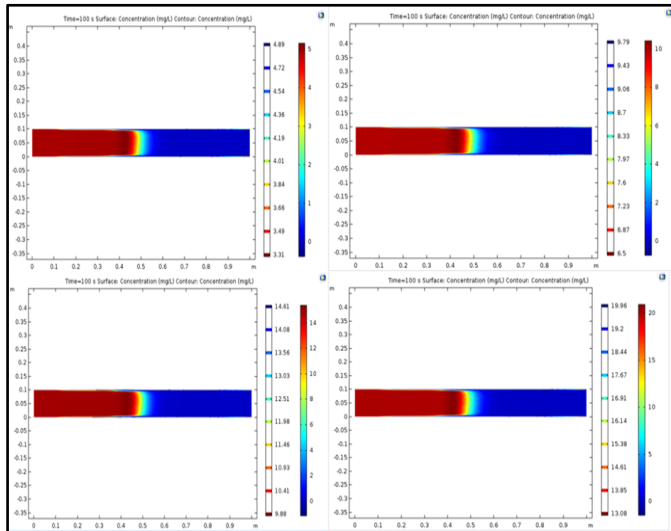
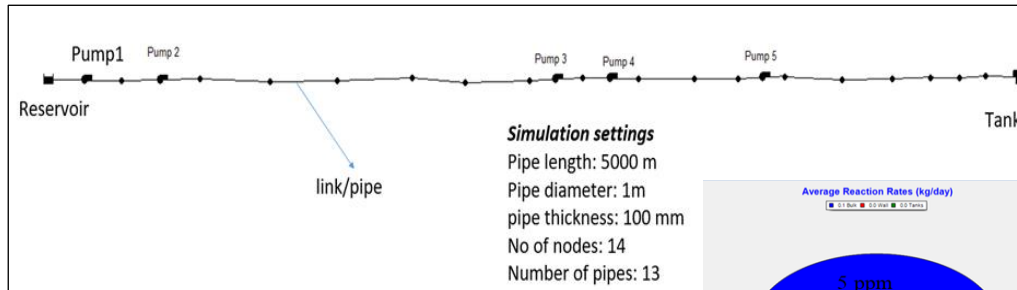
Accounting for Non-Revenue Water (NRW)

- **Magalies Water** seeks to adopt a novel way to account for NRW and enact timeous response to water leakages in distribution system and nodes.
- In 2022, alarming levels of NRW have been reported by DWS, and they amount to 46%.
- This basically threatens financial sustainability of any WSP.
- This technology allows for:
 - ✓ Real time detection of leakages.
 - ✓ Demand management and prioritisation (VSD)
 - ✓ Maximisation of revenue collection and minimisation of ecological footprints.
 - ✓ Enhancement of precision in metering.
 - ✓ Digitisation of systems in-line with 4IR.
 - ✓ Acquisitions of real time and digital data on water quality, delivery rates, and peak hours.
 - ✓ Improvement in pressure management

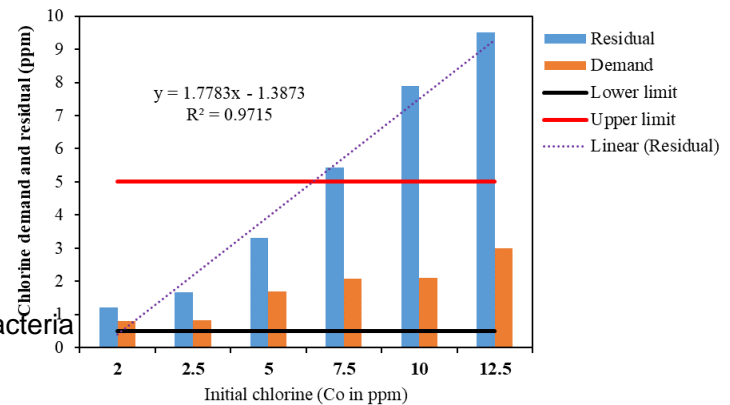
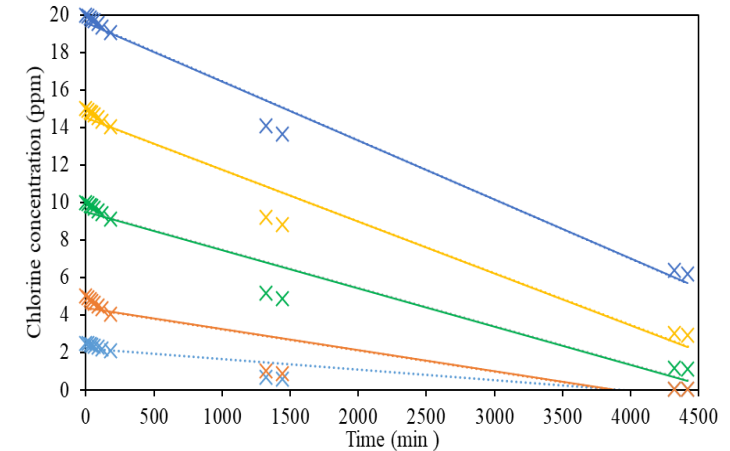


Installation of Chlorine Booster Stations on furthest distribution terminals using in-situ chemicals

Experimental and numerical modelling of chlorine demand and decay in the Vaalkop Water Treatment system: complementing experimental results with modelling estimates.



- Sterilize the water.
- Kill pathogens
- Kill emerging and novel bacteria



Remediation of Hartbeespoort Dam using nanobubble technology

Containerised Moleaer NBG 6 nanobubble generator

Nanobubble Generator Options:

MODELS	NBG 3	NBG 4	NBG 6	NBG 8
Liquid Flow Rates, GPM (m ³ /hr)	300 - 550 (68 - 125)	600 - 1100 (135 - 250)	1300 - 2600 (295 - 590)	2600 - 4700 (590 - 1065)
Maximum Liquid Temperature, °F (°C)	175 °F (80 °C)			
Max Operating Liquid Pressure, psi (bar)	100 (7)			
Pipe Material	304 L SS			
Pump Motor Power, HP* (kW)	10 - 15 (7.5 - 11.2)	20 - 30 (15 - 22.4)	30 - 40 (22.4 - 30)	100 - 125 (75 - 93.2)

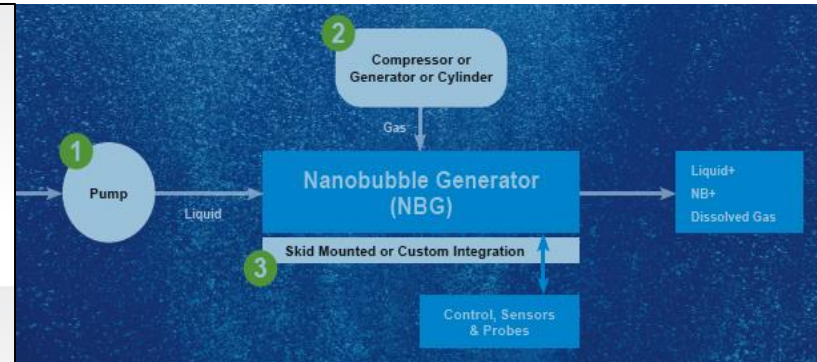
*Indicative sizing. Dependent of site location and conditions

Gas Source:**

AIR	NBG 3	NBG 4	NBG 6	NBG 8
Recommended Flow at 60 PSIG (4 barg), SCFH (SLPM)*	150 (75)	300 (140)	550 (260)	825 (390)
Anticipated Compressor Power, HP (kW)	0.5 (0.4)	1.0 (0.7)	1.5 (1.1)	2.0 (1.5)
OXYGEN	NBG 3	NBG 4	NBG 6	NBG 8
Applied Oxygen, kg / hr	4.6	10.1	18.6	27.9
Anticipated Compressor Power, HP (kW)	15 (11.2)	20 (15)	30 (22.4)	40 (30)

** Under Standard Conditions of 36% relative humidity (RH), 68°F (20°C), and 14.7 psia (1.013 bar)

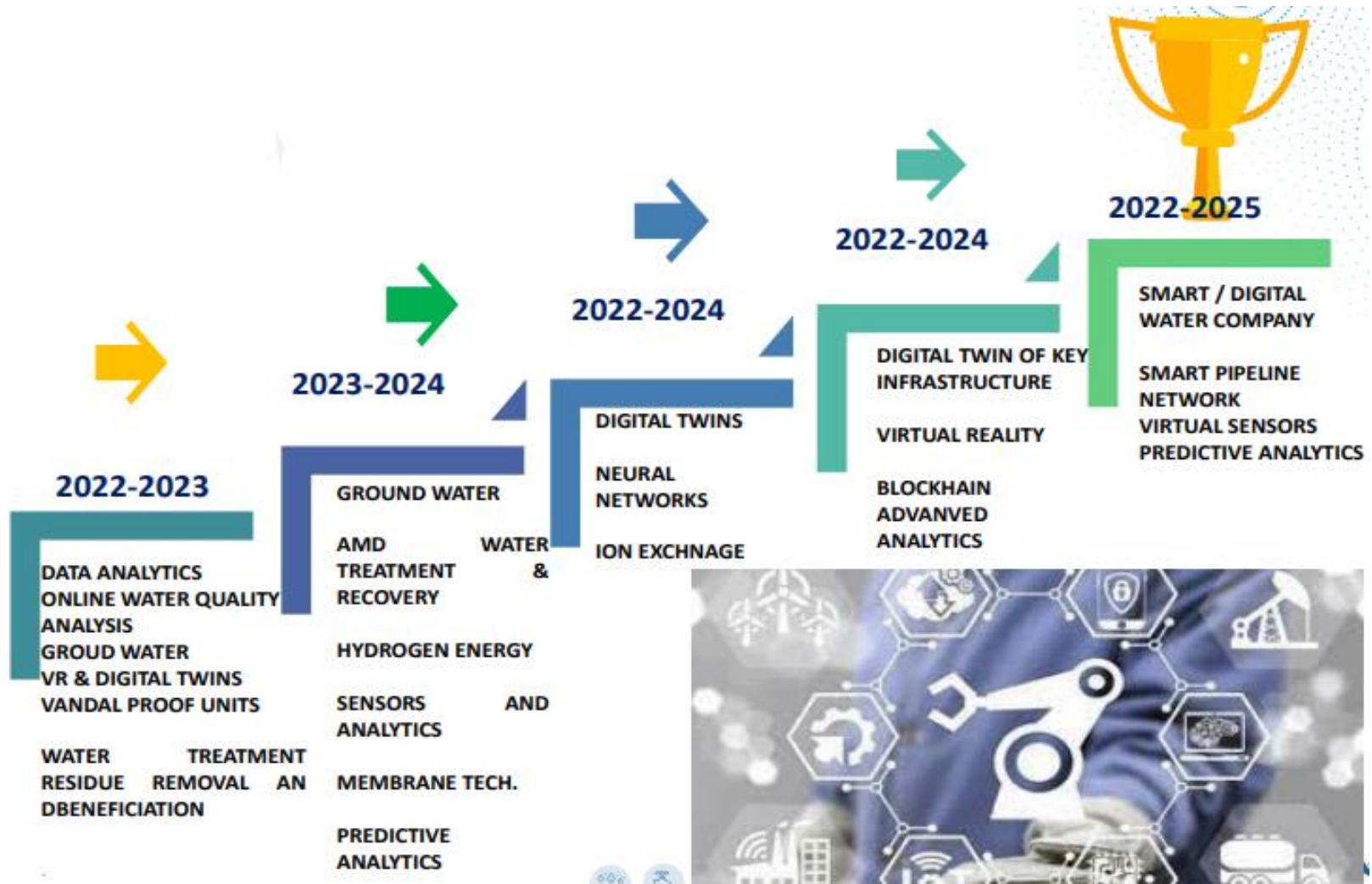
	Flow Rate (m ³ /hr)	Daily Flow Volume (m ³)	Air Flow (SLPM)	Daily Air NB (SLPD)	Motor (kW)
Moleaer NBG 6	500	12 000	250	360 000	20
Compressor	Hydrovane oil free or similar with air vessel and regulator				1.5



Turnkey Containerised Moleaer Nano Bubble Generation Plant consisting of:

- NBG 6 with 500m³/hr Pump
- Hydrovane Oil Free Compressor
- Electrical Distribution Board and Lighting

Key initiatives by Rand Water



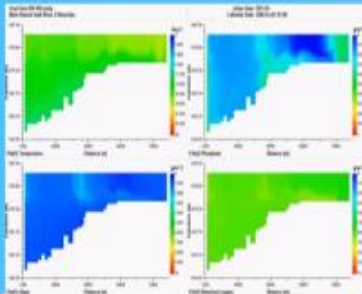
Examples of Innovation Projects Completed

1. PREDECITIVE ANALYSIS

DEVELOPMENT OF A PREDICTIVE CATCHMENT WATER QUALITY MODEL

Visualisation of the following over simulation period:

- Water temperature
- Total Dissolved Solids (TDS)
- Nitrate Nitrogen (NO₃-N)
- Phosphate (PO₄-P)
- Ammonia (NH₄-N)



2. ONLINE DETECTION

ONLINE BACTERIAL DETECTION METHODOLOGY: PROCESS FLOW OF DATA COLLECTION

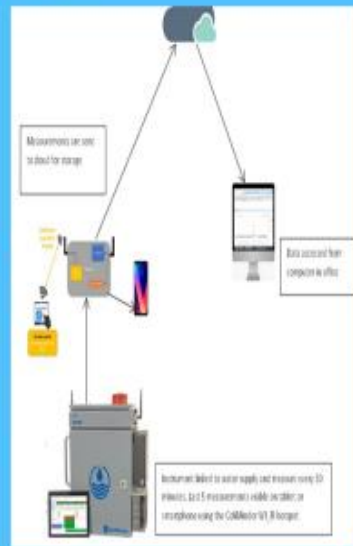
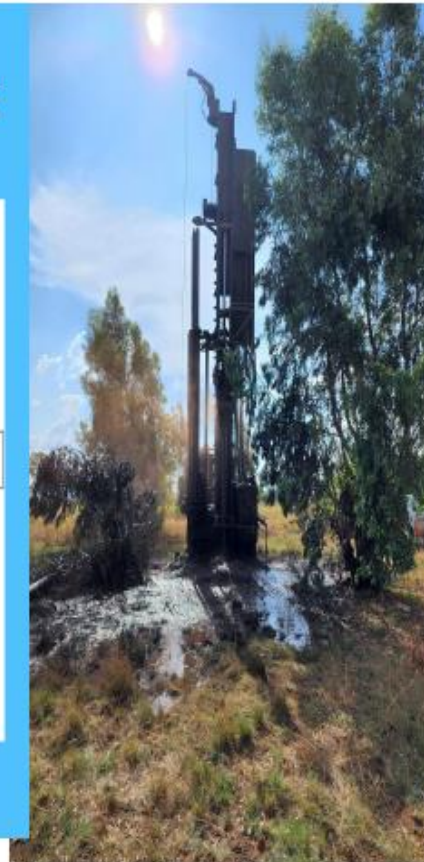


Figure 2: Process flow of data collection

3. GROUND WATER INNOVATION USING HYPERSPECTRAL SATELLITE IMAGE ANALYSIS



4. 3D SCANNING & VIRTUAL REALITY PILOT PROJECT

KEY COMPLETED MILESTONES TO DATE:

- Zuikerbosch Engine Room 2 has been scanned using GEOSLAM technology; 2D As-Built drawings can now be produced of the scanned rooms;
- The 3D Model is complete as per Figure 1 below;
- Code Development, Graphic Designs and Testing of the Virtual Reality model is completed and the VR model has been finalized and developed (end of October 2022).

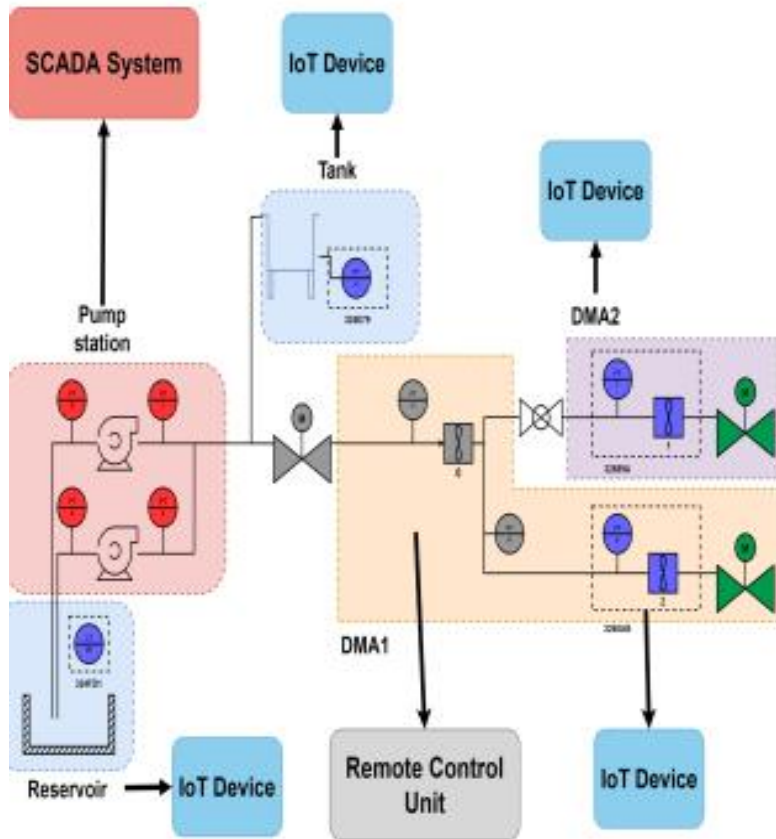


3D Isometric model view of Zuikerbosch Engine Room 2, showing internal layout with engine bays, engines, walkways and stairways

25

Examples of Innovation Projects Completed

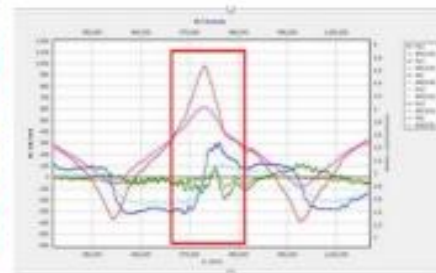
5. DIGITAL WATER / SMART WATER



Pipeline location.



Inspection of the pipeline using MMM Technology.



Compiling and interpretation of data collected from the inspection of the pipeline



Delivery and Presentation of the finding and recommendations

uMngeni-uThukela Water

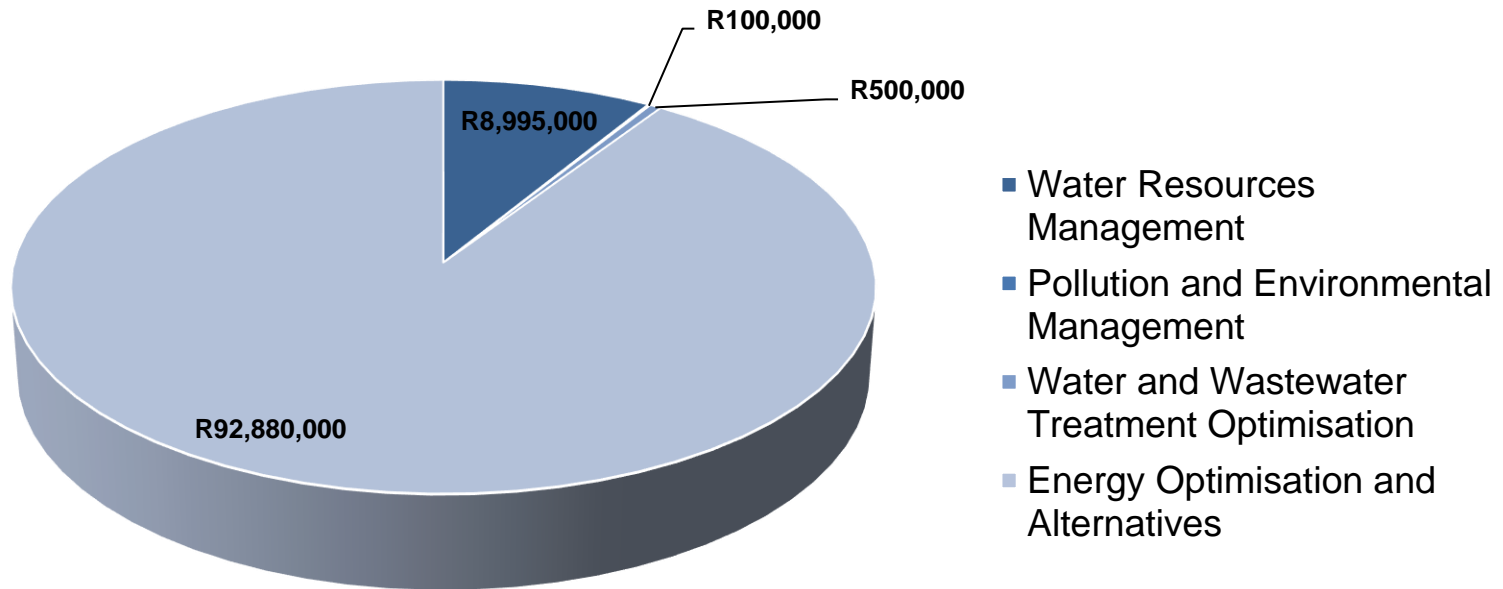
- uMngeni-uThukela Water Research, Technology, Development, and Innovation (RTDI) Plan provides the organisation with a disciplined framework to help guide the organisation's RDTI efforts in addressing current and future challenges in the water sector.

uMngeni-uThukela Water Research, Technology, Development, and Innovation (RTDI)

Focus Area	Intended Result	No of Projects	F24 Budget Allocation
Water Resources Management	Promote effective water governance & collaboration among stakeholders, ensuring sustainable water allocation & management practice	8	R8.995 million
Pollution & Environmental Management	To mitigate and prevent pollution of water sources, protect ecosystems, & promote sustainable environmental practices through robust monitoring, enforcement & stakeholder engagement, ensuring the provision of clean & safe water for all consumers	1	R100 000
Water & Wastewater Treatment Optimization	To optimize water & wastewater treatment processes through advanced technologies, innovative approaches, & continuous improvement, ensuring the delivery of high-quality treated water & maximizing operational efficiency	2	R500 000
Energy Optimisation & Alternatives	To adopt sustainable energy alternatives, like renewable sources and energy-efficient technologies, for eco-friendly water treatment and distribution, reducing carbon footprint and enhancing energy self-sufficiency.	4	R 92 880 million

uMngeni-uThukela Water RDTI Budget Distribution 2023/2024

Pollution & Environmental



PART E: STRATEGIC INFRASTRUCTURE PROJECTS (SIP-19) FOR THE 2023-24 FINANCIAL YEAR

Strategic Integrated Projects

- Water Boards are also implementing Strategic Integrated projects (SIP-19) that are being coordinated by TCTA and monitored by the Presidency between monthly and quarterly basis.
- The nature of these projects which are key to the water infrastructure and economic, social development including the employment creation.
- Most of these projects are registered under Infrastructure South Africa (ISA) in order to unlock either fiscal allocation and implementation challenges. In some other key infrastructure projects ISA supports their feasibility studies and project preparation and packaging through the infrastructure Fund (IF)
- The funding of these projects is hybrid with various sources of funding including Water Boards internal funding, IF, RBIG(fiscal) or through Public Private Partnerships.
- The total investment over the 10-year period is more than R32 billion whereas the current annual budget its almost R1 billion.
- Details on projects under implementation are indicated in the slides below.

Strategic Integrated Projects

Water Board	SIP Project Under implementation	Annual Budget	Total cost of the project	Status of the project	Province
Magalies Water	Mafenya to Phokeng/tlhabane pipeline and pump station (Rustenburg local municipality) Pilanesberg phase 2 project – component 1 - part 1 and 2	R607m	R1,5bn	Construction	North West
	Pilanesberg Phase 2 : Padda Junction to Thabazimbi	R0	R636m	Feasibility	North West
	Component 3 Pilanesberg Phase 2 :La Patrie to Moruleng pipeline capacity improvement	R0	R427m	Feasibility	North West
	Component 4 Pilanesberg Phase 2 : La Patrie to Sandfontein pipeline capacity improvement	R0	R156m	Feasibility	North West
	Moretele North Bulk Water Supply System	R0	R692m	Feasibility	North West

Strategic Integrated Projects

Water Board	SIP Project Under implementation	Annual Budget	Total cost of the project	Status of the project	Province
Vaal Central Water	Rustfontein Water Treatment Works Extension- feasibility phase	R0	R500m	Feasibility funding request through ISA	Free State
	The Vaal Gamagara Regional Water Supply Scheme Phase 2- Design	R0	R8,7bn	Design stage	Northern Cape
Lepelle Northern Water	Upgrade of the Olifantspoort and Ebenezer water supply schemes- procurement phase	R180m	R1,4bn	Procurement stage for phase 1	Limpopo
Rand Water	Construction of the Station 5A pump station and associated purification works with the capacity of 600Ml/d at Zuikerbosch pumping station- construction phase	R152m	R4,8bn	Construction phase. However Phase 1 of the projects of 150 Ml/day was commissioned in September 2023	Gauteng

Strategic Integrated Projects

Water Board	SIP Project Under implementation	Annual Budget	Total cost of the project	Status of the project	Province
Rand Water	Pipeline B16 from Zuikerbosch pumping station to Slangfontein to increase the capacity in the Mapleton system with 300ml/d	R70m	R1,5bn	Construction	Gauteng
	New Engine Room 3 at Mapleton	R116m	R788m	Construction	Gauteng
	Kensington Pumpstation and o7 pipeline- procurement phase	R4m	R1bn	Prcurement	Gauteng
	Vlakfontein Reservoir	R15m	R690	Construction	Gauteng
Umgeni-Uthukela Water	Lower Thukela Bulk Water Supply Scheme Phase 2	R2,3m	R1,4bn	Design	KZN
	Umkhomazi Water Project-feasibility	R2m	R7,6bn	Feasibility	KZN

THANK YOU