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Please keep your mobile phone on silent/vibrate

Designated smoking area in the courtyard

There will be a Q&A session at the end

Please fill in a feedback form after the session

ENERGY WATER WASTE FORUM

A PARTNERSHIP FOR THE CAPE TOWN COMMERCIAL SECTOR

From feasibility to financing: Securing our water future

Water and Sanitation Directorate | 20 November 2025

Making progress possible. Together.

Master of Ceremonies

Aatifah Latief

Professional Officer: Communications, Training and Education, CCT.

Aatifah Latief holds a BTech in Environmental Management from CPUT, specializing in Environmental Resources. She is a highly adaptable communications and project management professional with over 8 years of experience in environmental education and sustainability. As a Professional Officer at the City of Cape Town, she specializes in energy efficiency and public engagement initiatives. Aatifah is the Project Lead for the Energy Water Waste Forum and manages projects like the Cape Town Future Energy Festival. Her work is defined by proven success in behaviour change communication and building strong public, private, and community partnerships.

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Bloemhof Head Quarters Emergency Management Plan – Brief

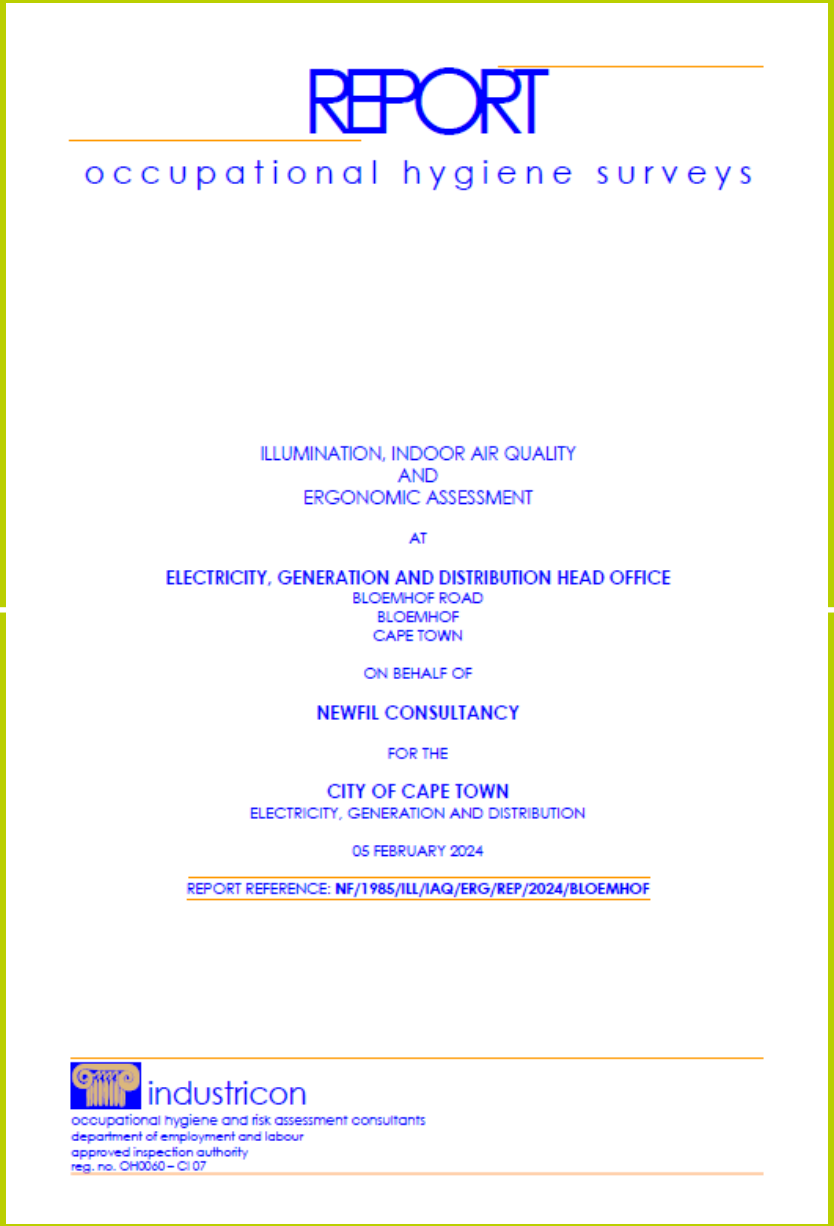
Energy: Electricity Generation and Distribution

Making progress possible. Together.

Safety and Security

- Onsite Security guards X 10 to over see staff, visitors and building safety.
- CCTV Cameras monitoring every move
- Access Control procedures and protocol.
- Ensure your name is in the visitor register. It will be used for the roll call in case of an emergency.

Occupation Hygiene Report - Satisfactory



REPORT

occupational hygiene surveys

ILLUMINATION, INDOOR AIR QUALITY
AND
ERGONOMIC ASSESSMENT

AT

ELECTRICITY, GENERATION AND DISTRIBUTION HEAD OFFICE
BLOEMHOF ROAD
BLOEMHOF
CAPE TOWN

ON BEHALF OF

NEWFIL CONSULTANCY

FOR THE

CITY OF CAPE TOWN
ELECTRICITY, GENERATION AND DISTRIBUTION

05 FEBRUARY 2024

REPORT REFERENCE: **NF/1985/ILL/IAQ/ERG/REP/2024/BLOEMHOF**

industricon
occupational hygiene and risk assessment consultants
department of employment and labour
approved inspection authority
reg. no. OH0060 – CI 07

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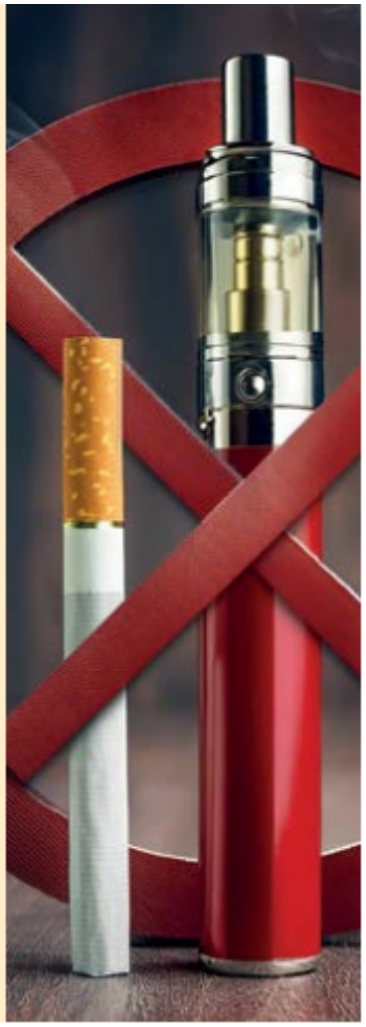
Smoking

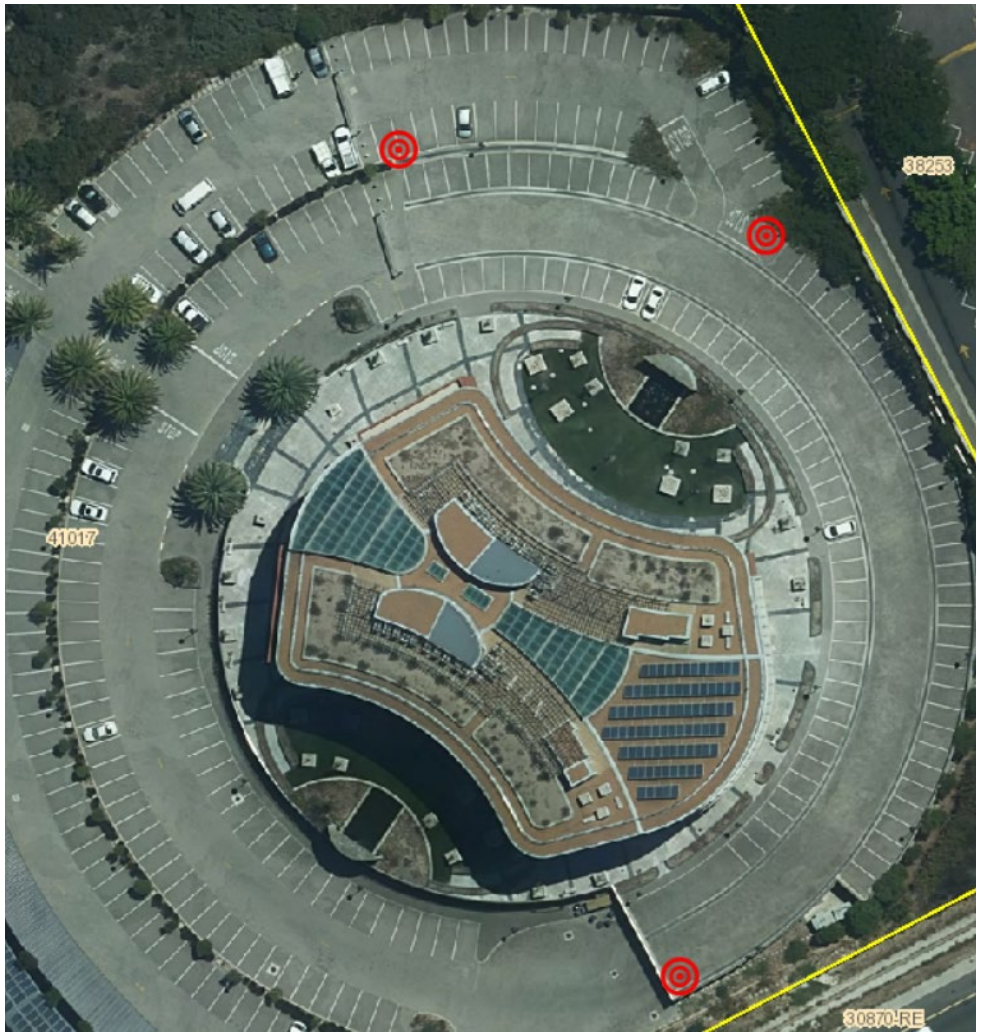
Still no smoking

The City has had a no-smoking policy in the workplace since May 2022. No smoking is allowed in any City building or at any City event, and tobacco and e-cigarette sales are prohibited at all our facilities.

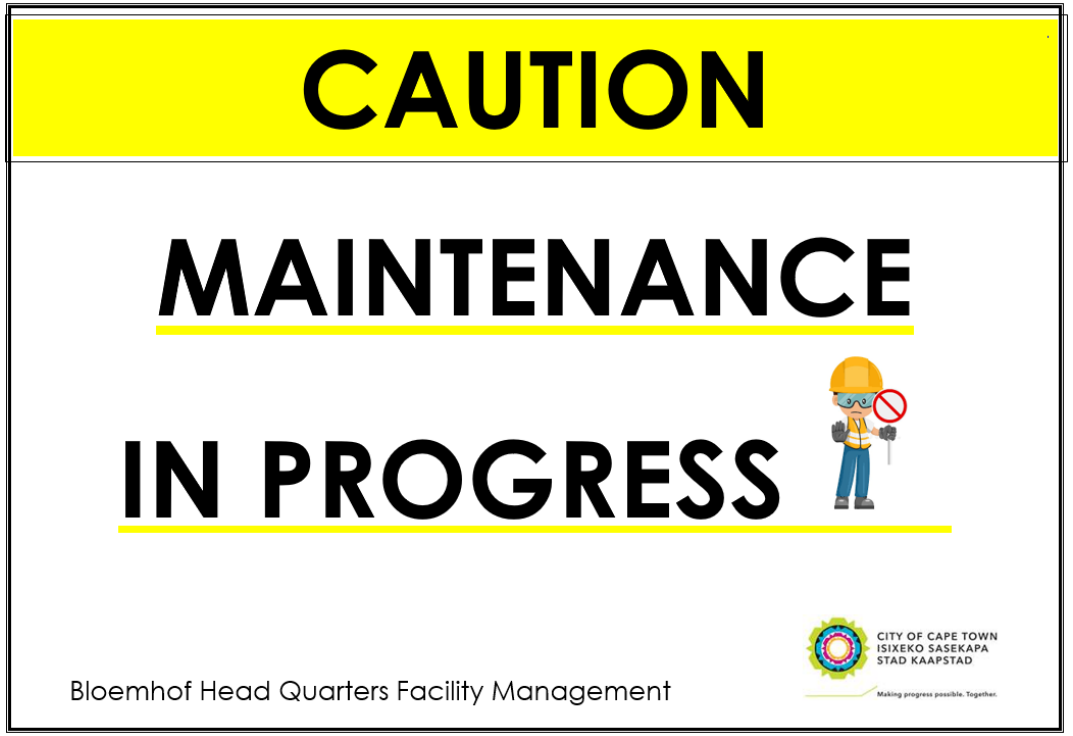
Further keep in mind that smoking within 20 m of City building entrances is prohibited, while lighting up in the emergency stairwell and tampering with a building's fire detection system to disable the smoke alarm are criminal offences.

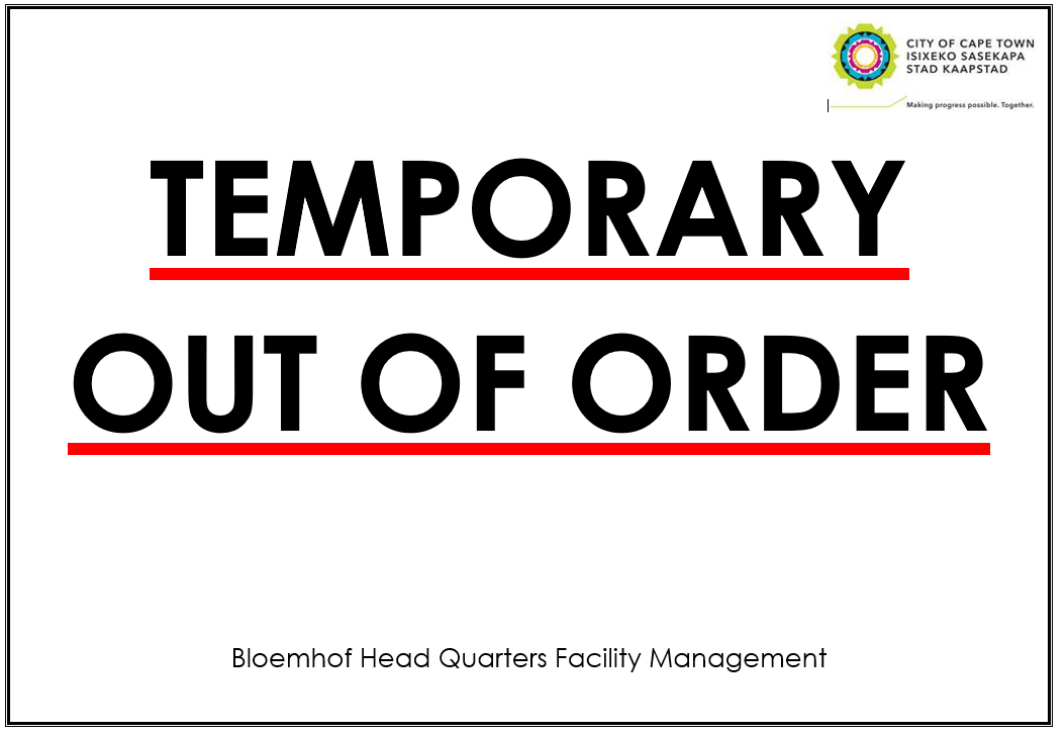
** If you notice an issue with the fire detection system, please alert the security staff or the resident facility manager. Alternatively, report any infringements or non-functioning alarm signals to FM.Servicedesk@capetown.gov.za.*





Known Risks.





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1. Cleaning services – Maqz Empire
2. Access control (Regend)
3. Bloemhof Electrical (HVAC and light repairs)
4. Construction – Abil services

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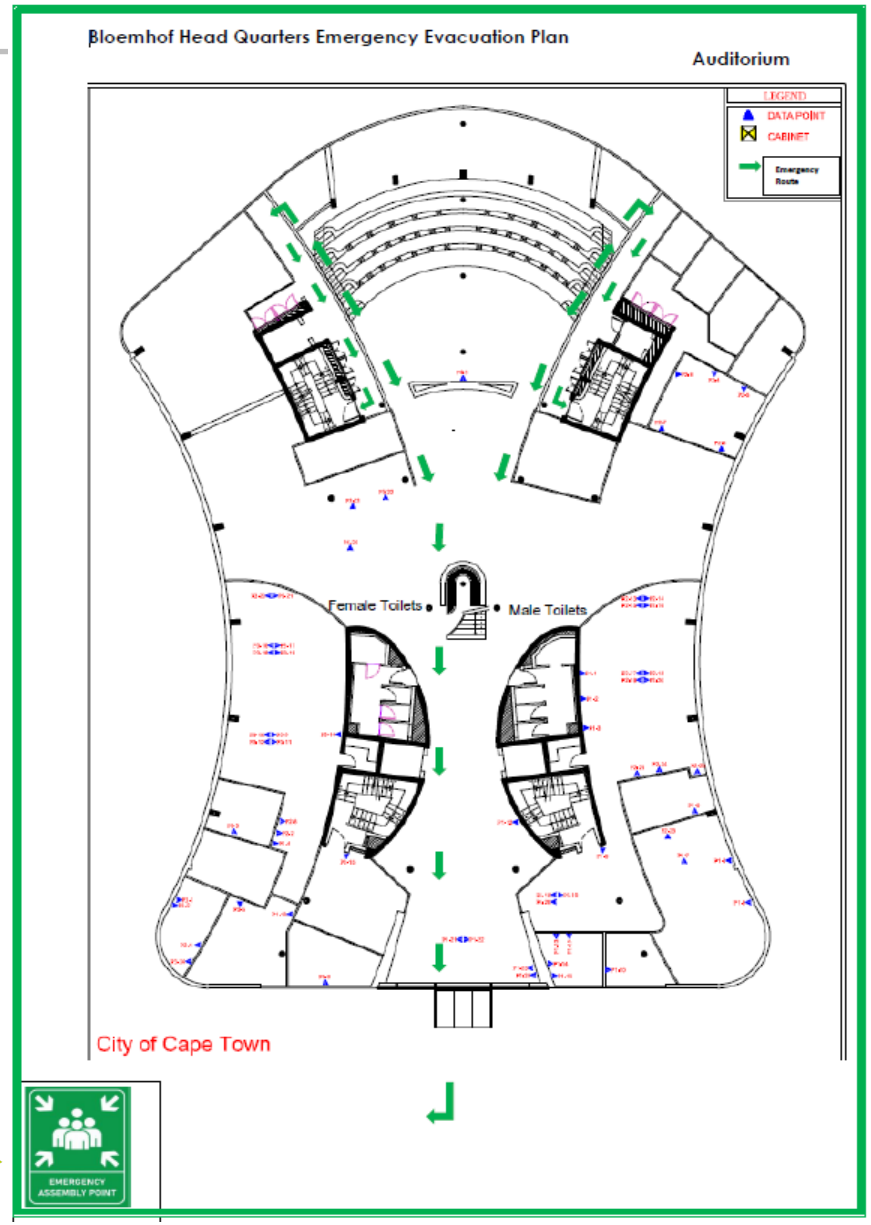
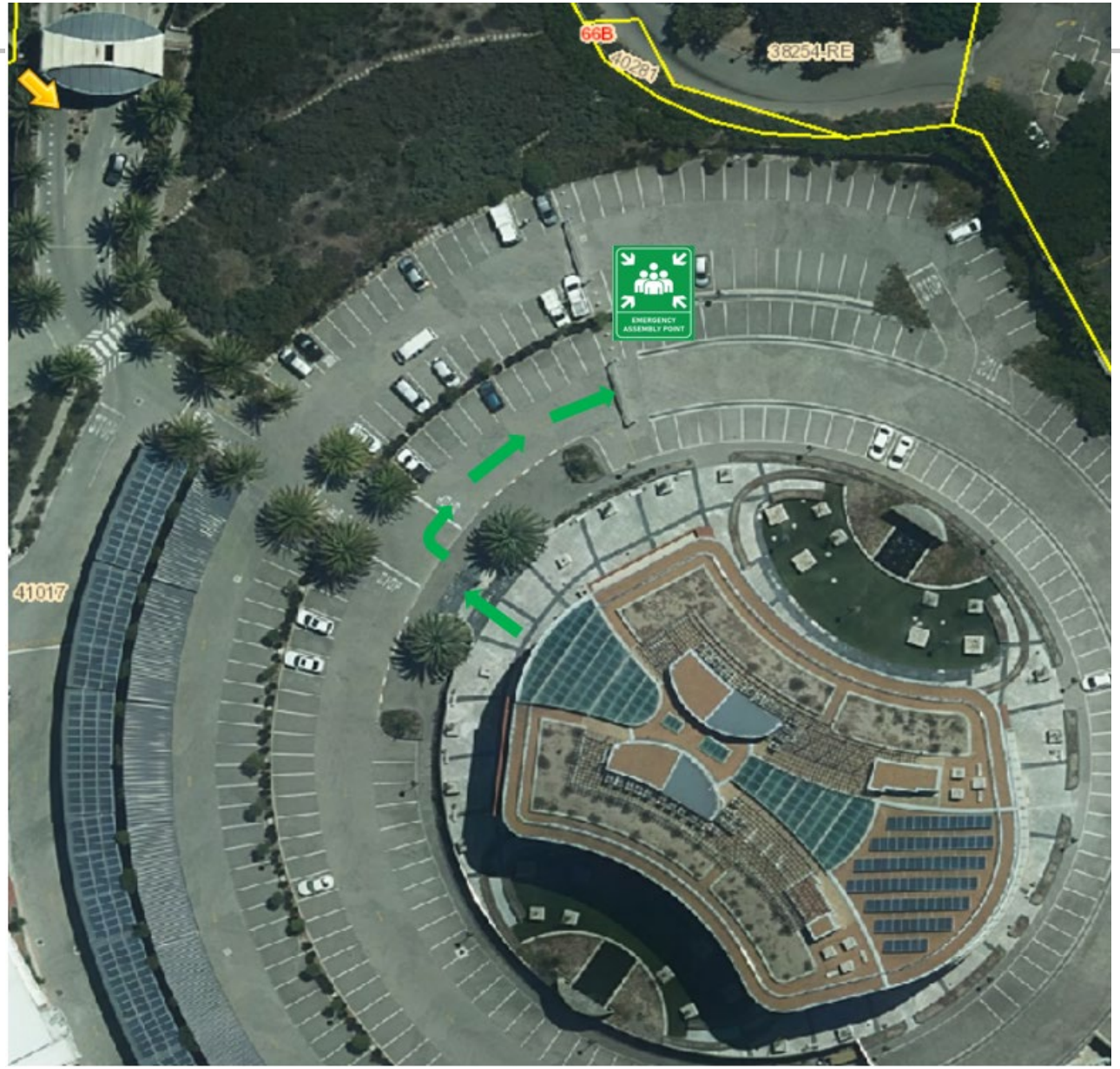
Bloemhof Head Quarters EMP - Auditorium





Emergency Evacuation Plan – Role Players

Responsibility	Name And Surname	Telephone Contact Details
Emergency Co-ordinator	Godwin Blignaut	021 444 9644 / 083 692 2105
First Aider	See List	
Fire Marshall	See List	
Facility Management	Godwin Blignaut	083 692 2105 / 021 444 9644
Safety and Security Service Provider (Imvula)	Bazier Jacobs	084 457 1667
South African Police Services	Bellville Police Station	10111
City of Cape Town Emergency number	Fire Services, Law Enforcement, Medical	http://cityweb.capetown.gov.za/en/Videos/1435_CofCT_Emergency_Numbers_640.mp4
Fire Rescue Department	Bellville	
Hospitals	Net care- Tygervalley : 021 943 3500 and Email: tygervalley@intercare.co.za. Karl Bremer : 021 918 1911 Tygerberg Hospital : 021 938 4911 Melomed –Bellville : 021 948 8131	

Simulation Drill completed: 28.02.2025

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Thank You

Making progress possible. Together.

Keynote Address

Alderman Ian Neilson

Chairperson: Water and Sanitation Portfolio Committee

Ald Neilson is a civil engineer by training and earned a BSc in Civil Engineering and an MSc in Engineering from the University of Cape Town. Before his full-time political career, he worked on large water-infrastructure projects, specialising in hydrology, pipeline design and network planning.

Cape Town's Water Outlook

Dr. Lloyd Fisher-Jeffes
Technical Services Manager: Bulk Water Operations, Water and Sanitation
City of Cape Town

Holding a Ph.D. from the University of Cape Town, Lloyd specializes in Integrated Water Resources Management. His career spans academia and the private sector, leading to his current role in the municipal environment. He has published several papers and guidelines and has worked on various water resource and flood management projects. A registered Professional Engineer with ECSA, he was recognized as the CESA Young Engineer of the Year in 2020.

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Water Outlook – June 2025

Water & Sanitation | Bulk Services | 02 October 2025

Making progress possible. Together.

Introduction to the ‘Water Outlook’

- Cape Town's Water Strategy was approved by Council in 2019 after the 2014 - 2018 drought.
- The Strategy commits the City to a collaborative approach by building trust through transparency and mutual accountability.
- The Cape Town Water Outlook is published in this spirit.
- The purpose is to make information available in an accessible way to stakeholders on the current status of Cape Town's water supply, progress being made to build resilience, and to provide an outlook on future water security.
- Eleven (11) previous Water Outlooks have been published

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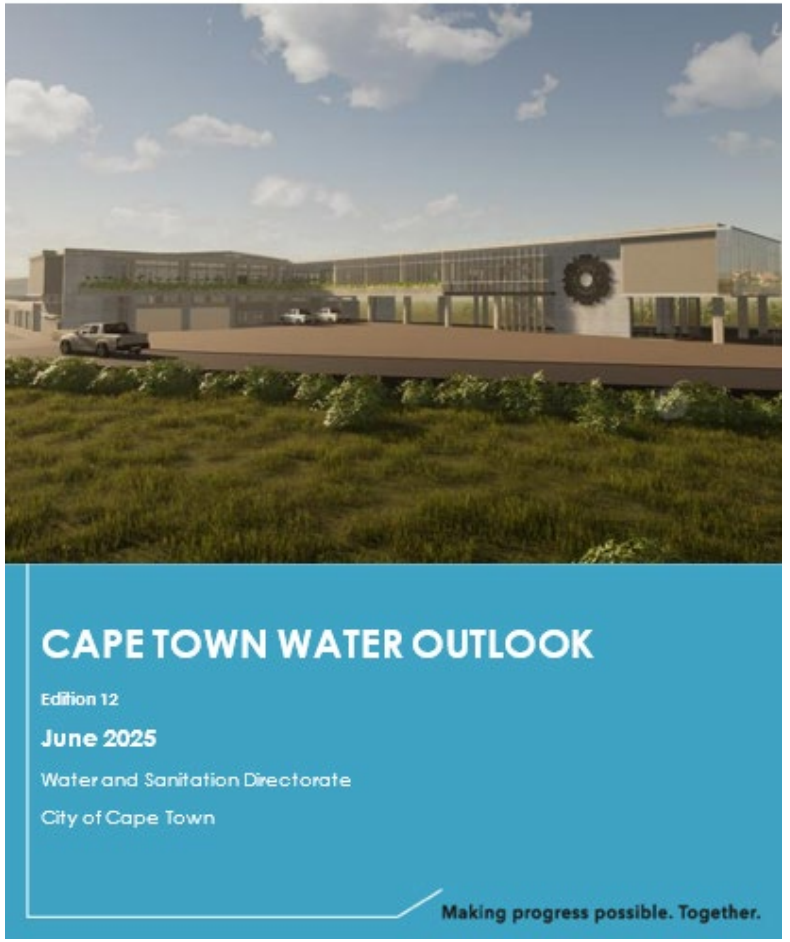

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The current status of Cape Town's water supply system

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Current Status

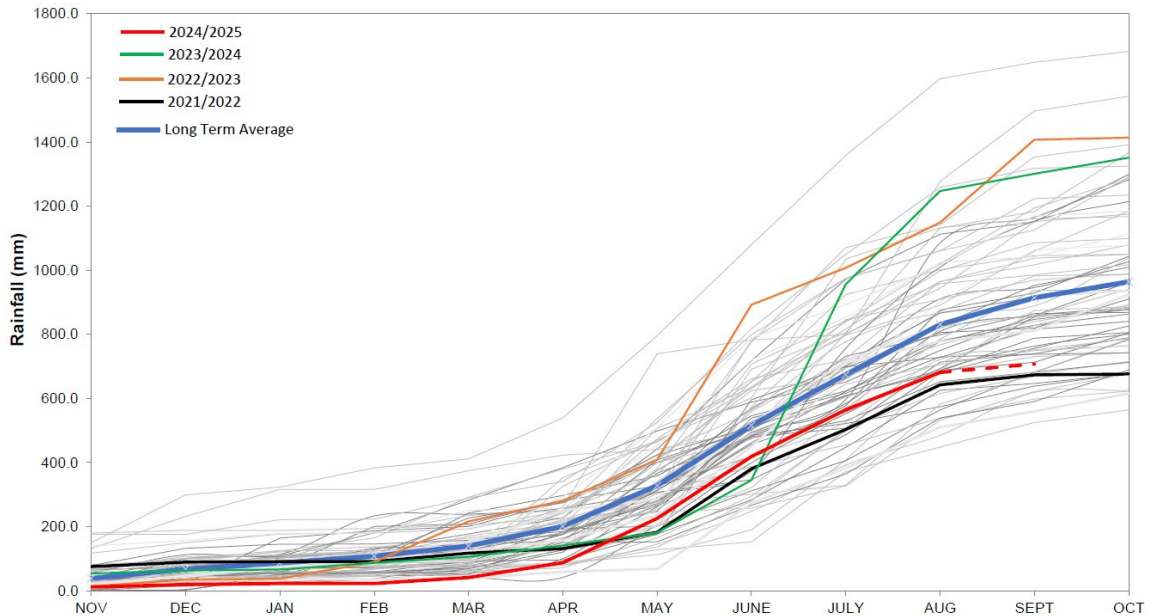
2025 rainfall resembled 2021 rainfall

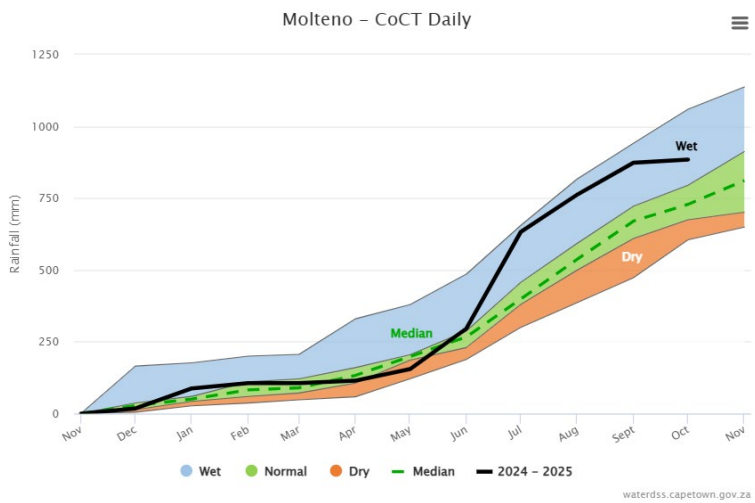
Rainfall has been:

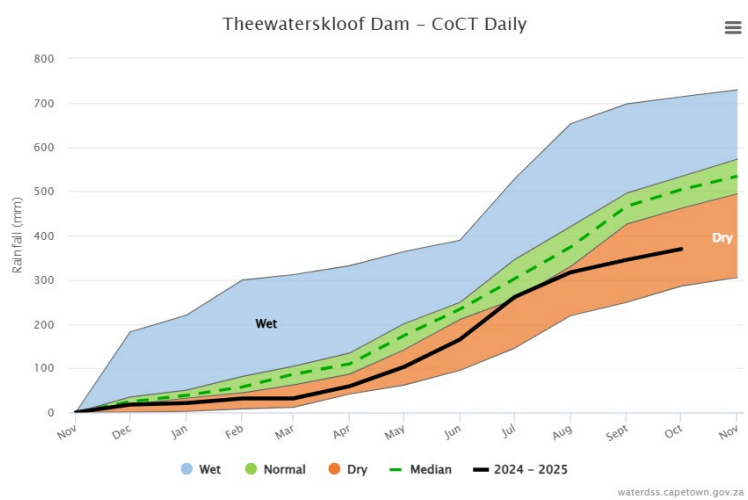
- Spatially variable
- Below average in critical catchments and resulted in the system not filling.

Low Rainfall has been compounded by infrastructural challenges faced by both DWS and CCT

In the WCWSS the status is typically evaluated annually, we do so continually.







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‘Drought Monitoring and Response Framework’

Alert Level	Meaning	Projected Storage 1 Nov	Recommended response to Alert Level	Possible Restrictions	Current Level
Water-Wise	There is no indication of significant risk of a drought cycle beginning	>95%	**Monitor Water Resources** • Maintain management plans • Maintain infrastructure • Maintain public awareness of the importance of water conservation • Develop and upgrade infrastructure	**Water-wise** No restrictions	
Early Drought Caution	There is clear evidence of a possible, but not confirmed, drought cycle developing	80% - 95%	**Keep updated and begin preliminary planning** • Initiate Water Restrictions Steering Committee • Prioritise repairs and maintenance • Ensure WCWSS is in balance • Engage with DWS around the operation of the WCWSS • Review drought mitigation and management planning • Maintain public awareness of the importance of water conservation	**Water-wise** No restrictions but with special measures as decided by the City's Water Restriction Steering Committee	X
Drought Response	There is confirmation that a drought has begun, or is in progress, and appropriate actions are required	70% - 80%	**Conserve available surface water resources** • Conserve available surface water resources • Maximise yield from alternative water resources • Consider bringing forward augmentation projects where possible • Implement drought response measures • Prioritise repairs and maintenance of infrastructure which ensured CCT's ability to optimise its use of water from the WCWSS • Continue implementing measures implemented under “Drought Watch”	**Level 1 Restrictions** Consultation with Water Restriction Steering Committee required	
Accelerated Drought Response	A drought is impacting the WCWSS requiring significant (20-30%) restrictions.	<70%	**Reduce Water Demand** • Implement drought management plans with a focus on reducing demand in alignment with restrictions imposed by DWS • Continue implementing measures implemented under “Drought Watch” and Drought Warning	**Level 2 & 3 Restrictions** Consultation with Water Restriction Steering Committee required	
Emergency Drought Response	A drought is impacting the WCWSS requiring significant (20-30%) restrictions and an emergency response	<50%			

Unless there is notable rainfall in mid to late October (currently not forecast) the dams are expected to be at +- 90% on the 1st of November 2025.

This equates to a “Early Drought Caution”

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Current status of Cape Town's Water Supply

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WEEKLY WATER DASHBOARD

19 November 2025

Headline Statistics

WCWSS DAM STORAGE (%)	WEEKLY DAM LEVEL CHANGE (%)	AVERAGE TOTAL DAILY WATER USE (MLD)
82.8	-1.90	992

Water Resource Status

WATER RESOURCE STATUS	MEANING OF CURRENT STATUS
Early Drought Caution	**'Continued water wise use encouraged due to lower than anticipated dams level, cautioning possible start of a drought cycle'** The main dams supplying the City are approximately 10% lower than last year - as shown on Page 3. While there is no immediate reason for concern and no expected restrictions for the next year, this updated drought risk status is part of the City's proactive approach to monitoring for and managing future droughts. This status and the corresponding actions are discussed in the Water Outlook 2022. The Water Resource Status will be updated again in December 2025.

Water Production from Different Sources

MAJOR DAMS (MLD)	MINOR DAMS (MLD)	GROUND WATER AND SPRINGS (MLD)
969	16	7

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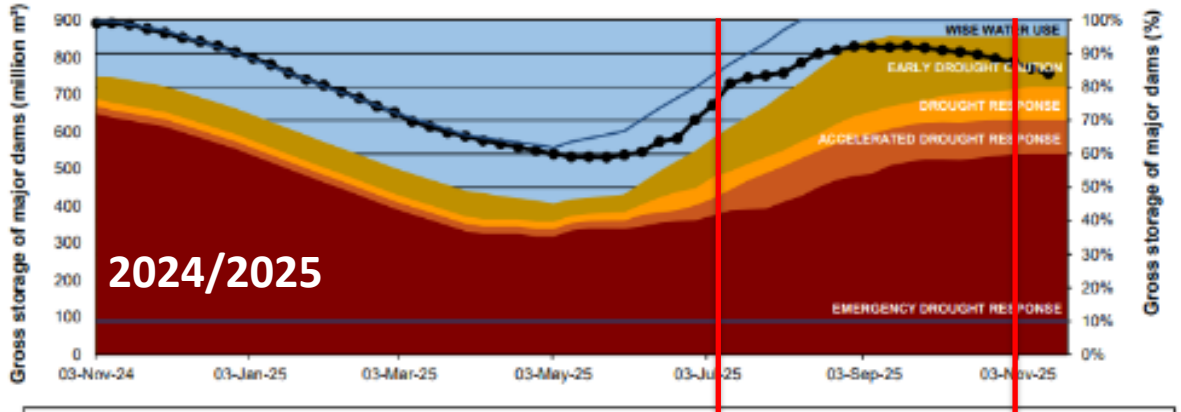

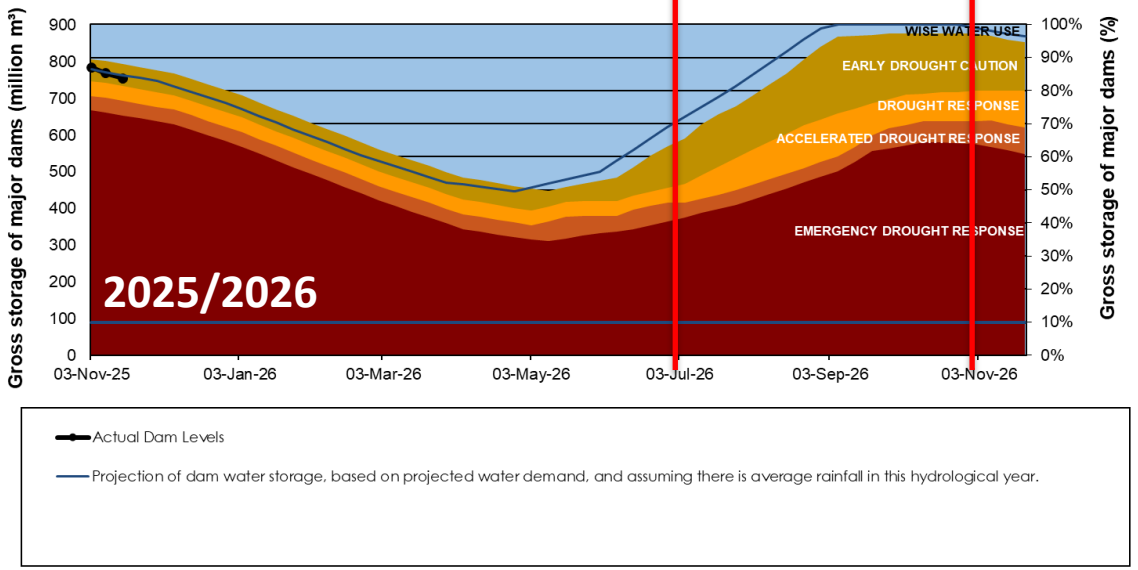

Cape Town's current and future water demand

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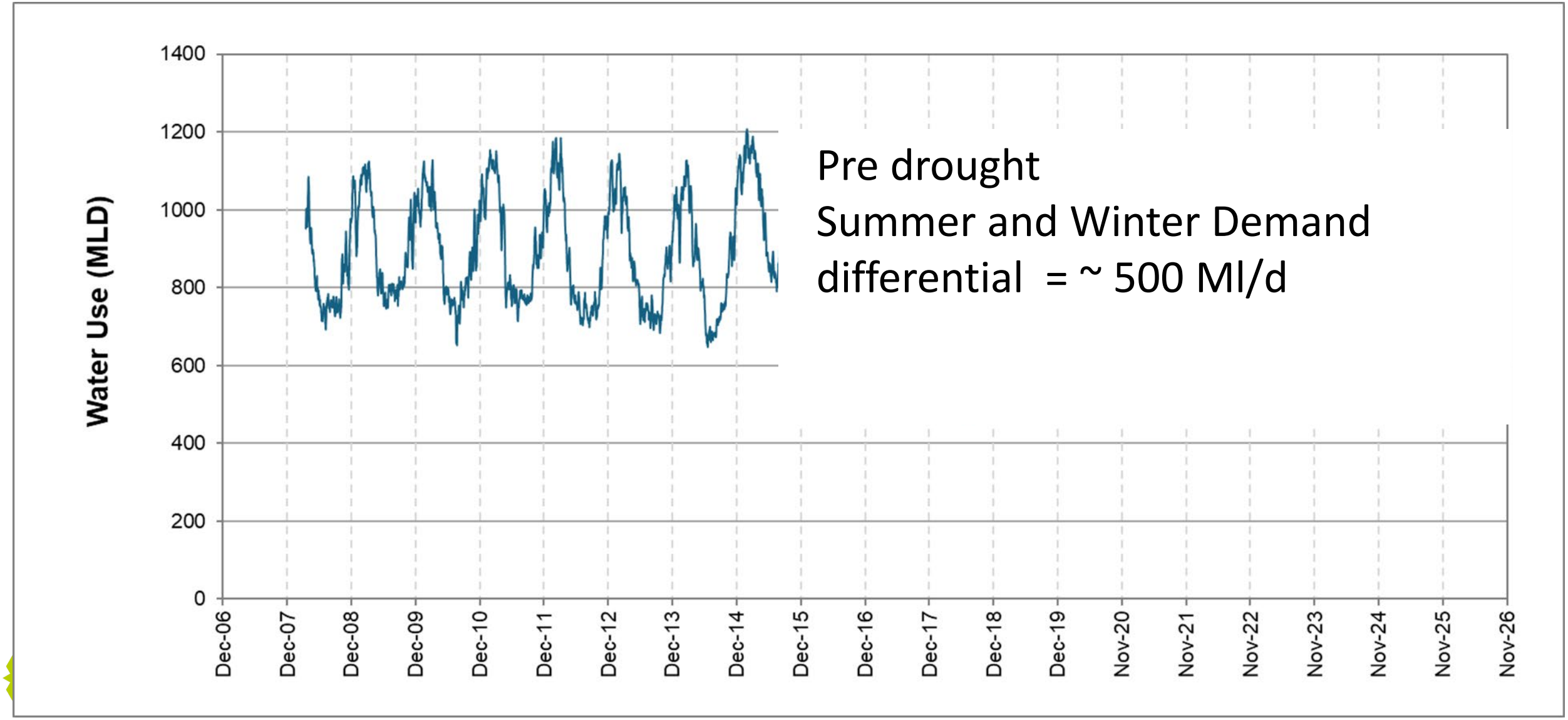
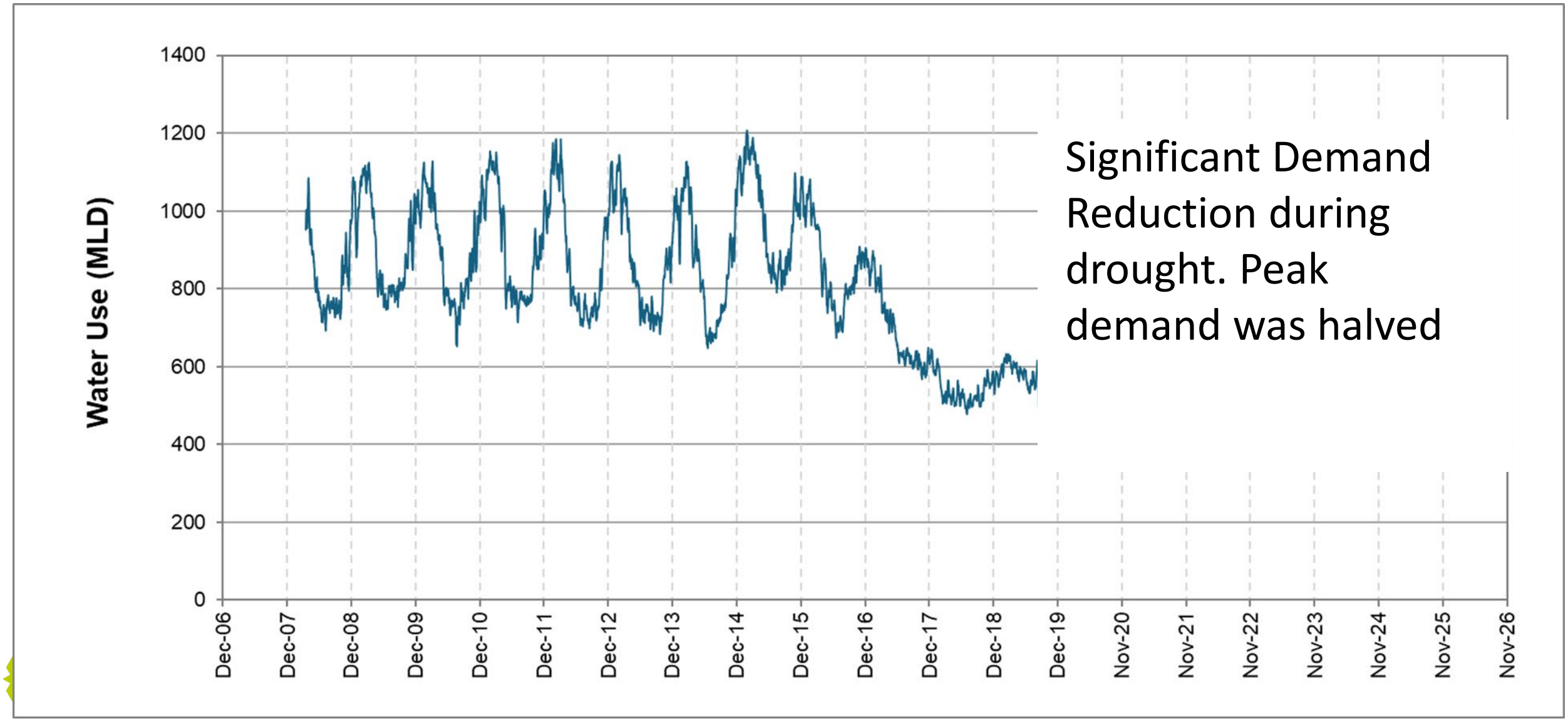
Changing Water Demand



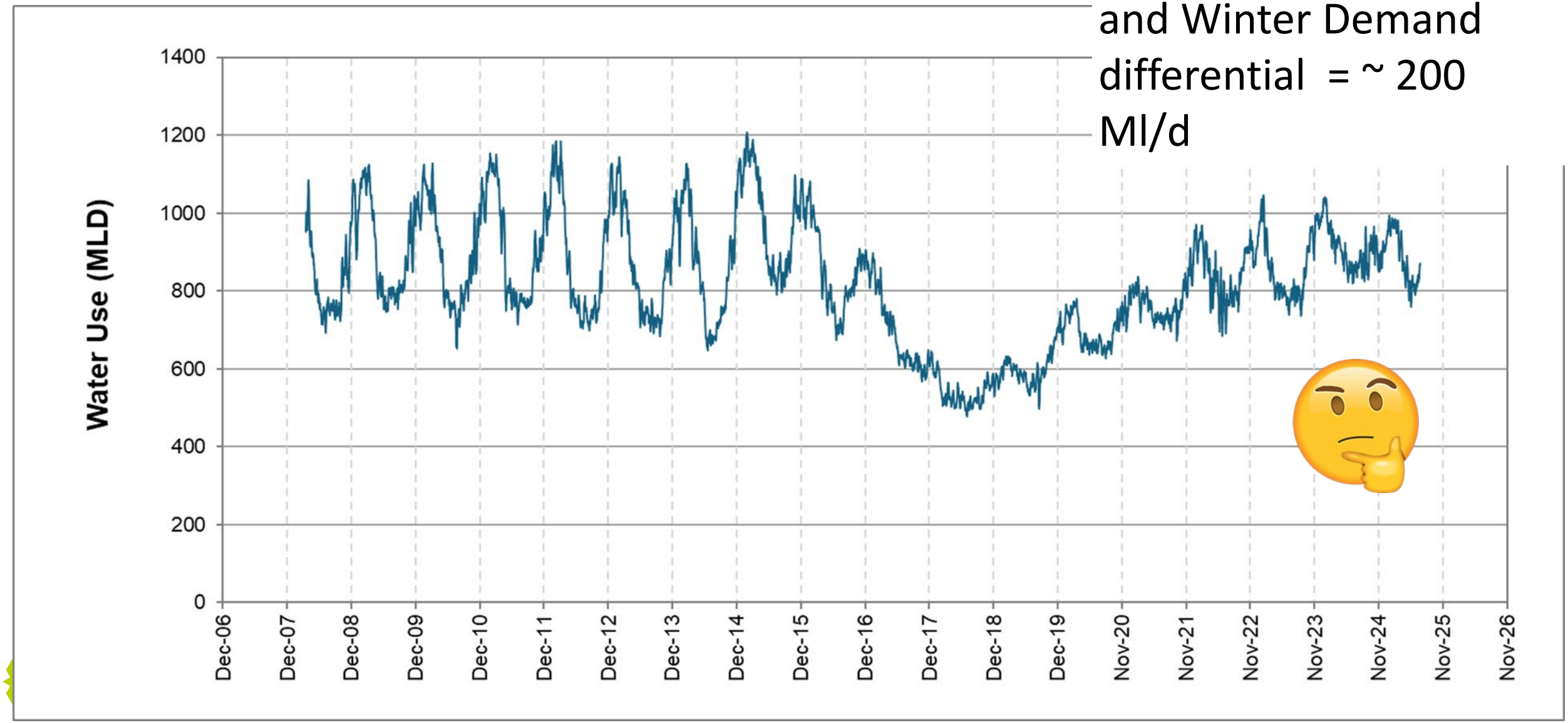
Changing Water Demand



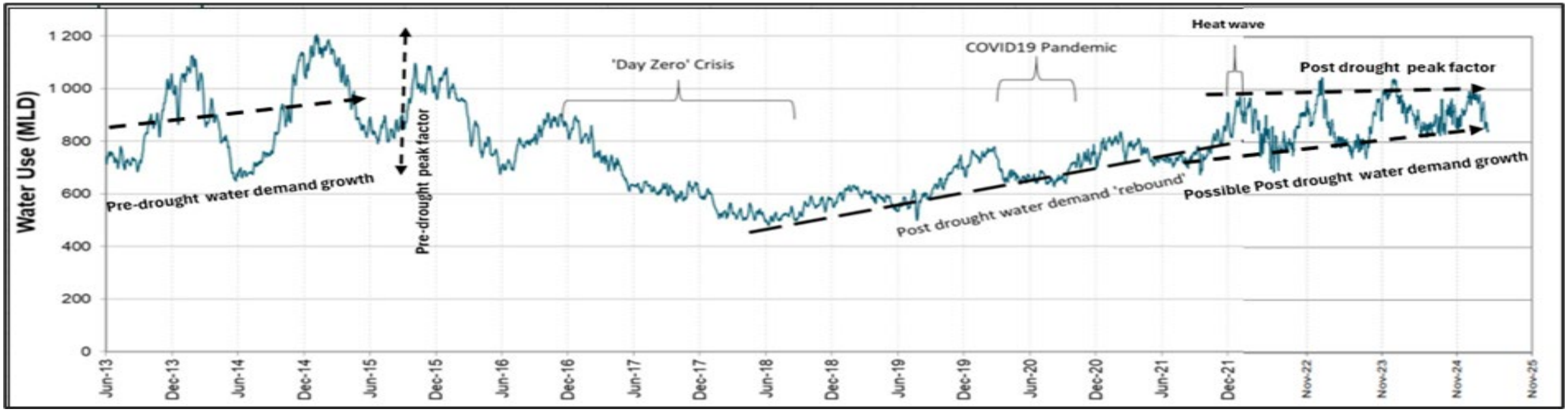
Significant Demand Reduction during drought. Peak demand was halved

Changing Water Demand

Post Rebound. Summer and Winter Demand differential = ~ 200 Ml/d



TOTAL DAILY WATER DEMAND



Limited data available to identify historic demands trends

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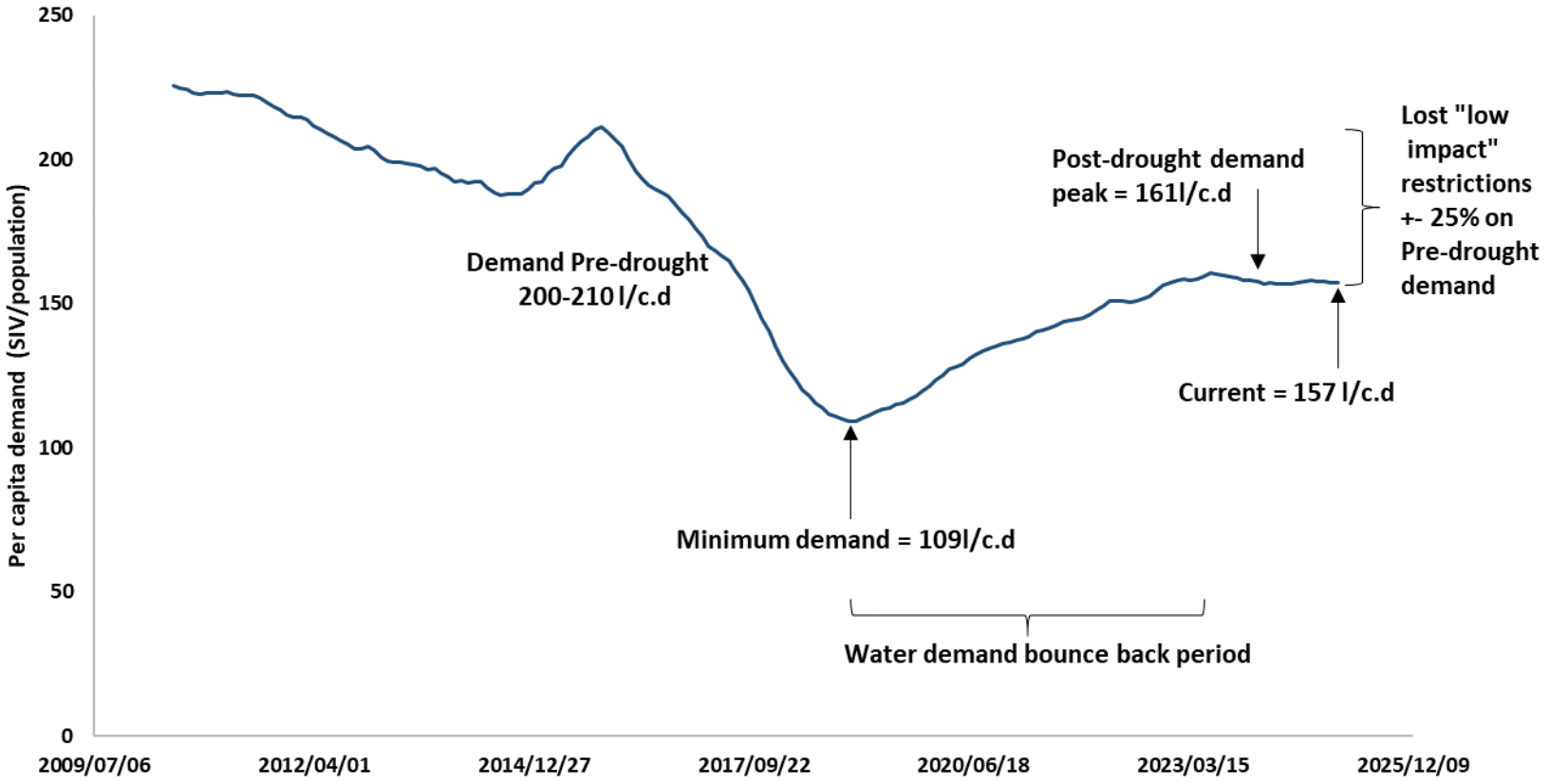
A rebound in water demand after the drought



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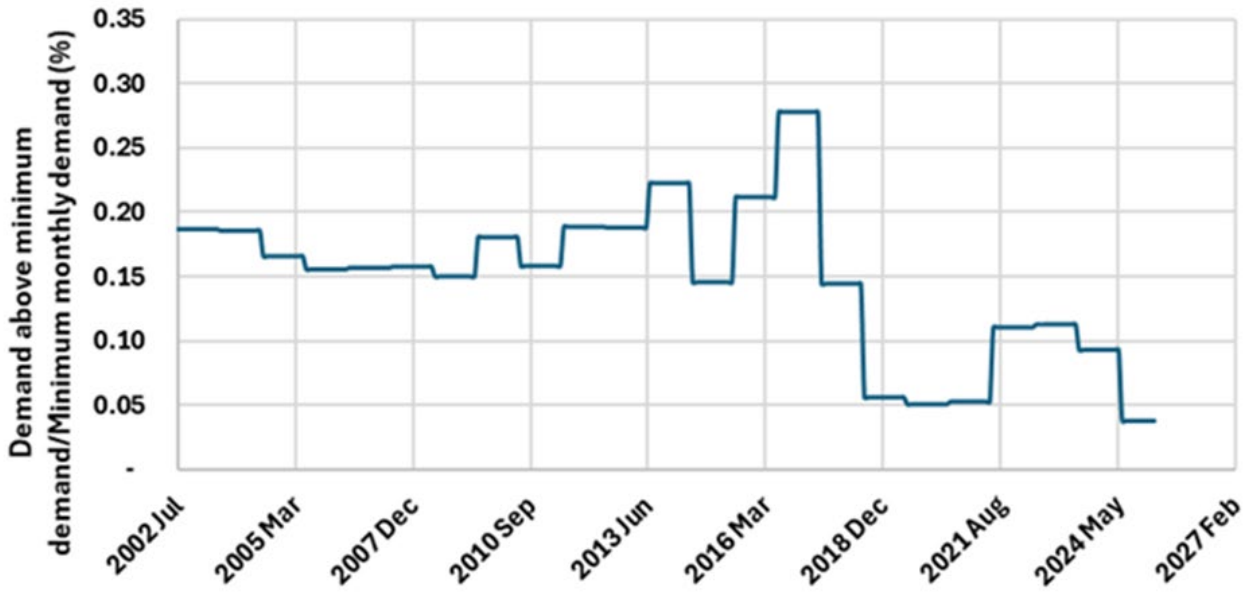
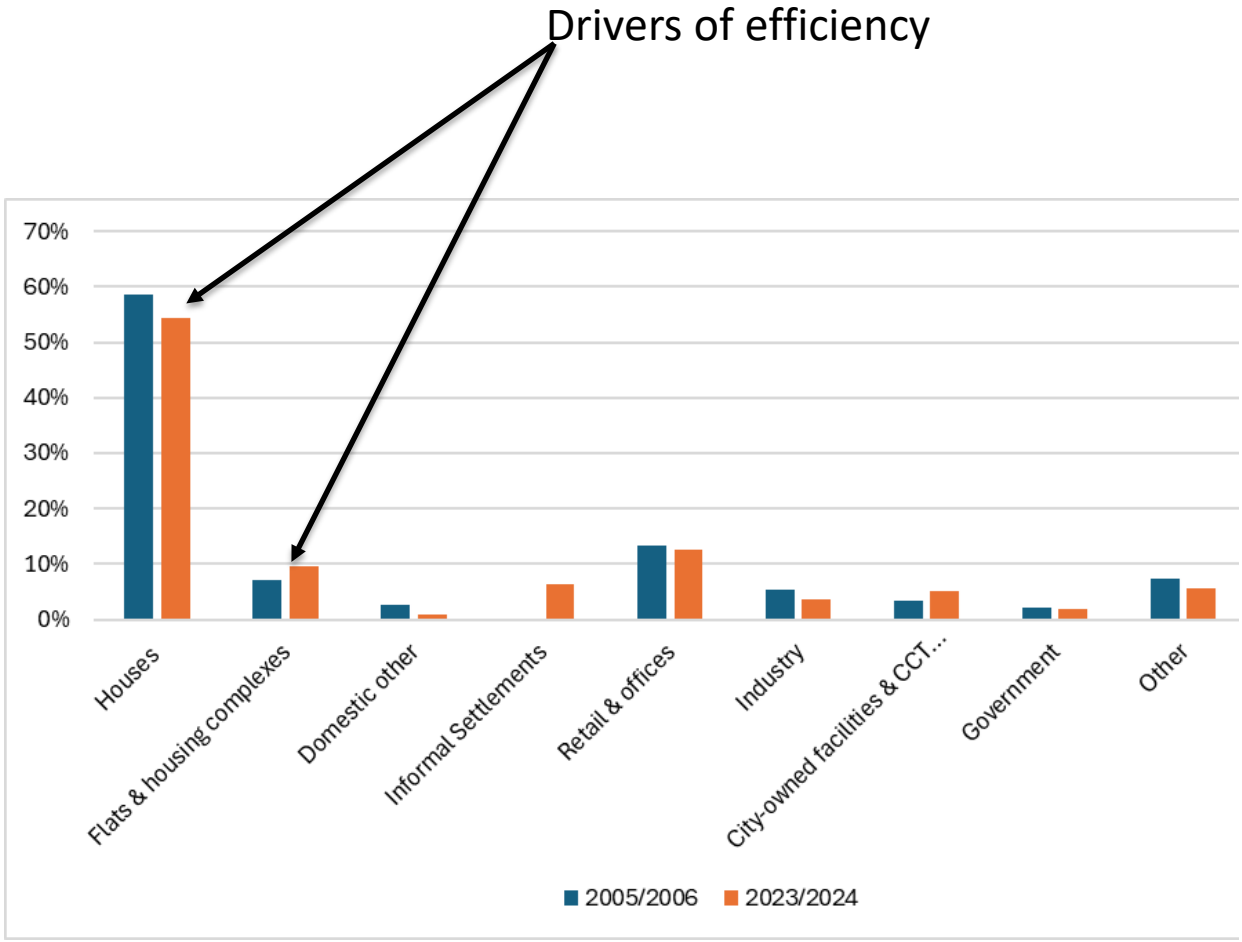
A ‘very’ efficient Cape Town





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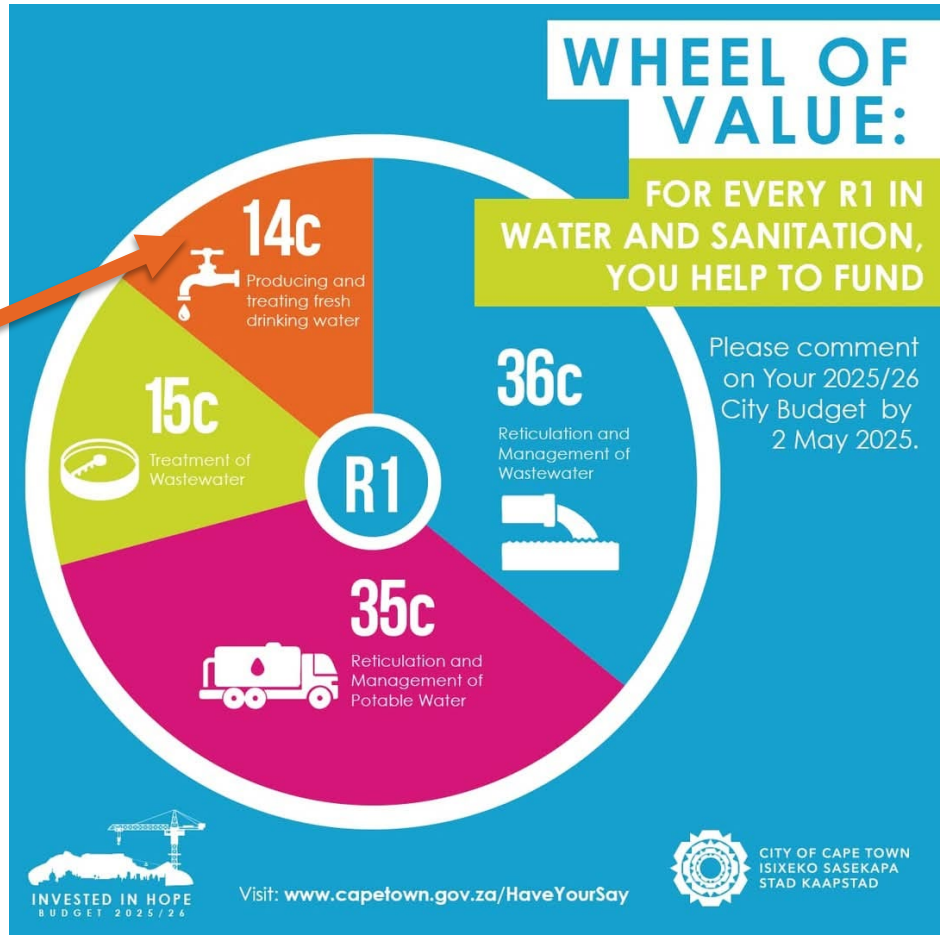
Risks to Water Supply

Affordability

- The water strategy also recognised that "*there is a trade-off between the reliability of water supply, and how much it costs.* "
- Increasing Water Resilience will cost more, but it is important that this only relates to the currently accounts for 14% of consumer water cost.
- While the increases in the bulk water tariffs are expected to be significant, it does not mean that the end-user will necessarily see the same increase in their tariff.
- Balancing water security, affordability, and the phasing in of advanced water treatment sources is important.



Infrastructure Stability

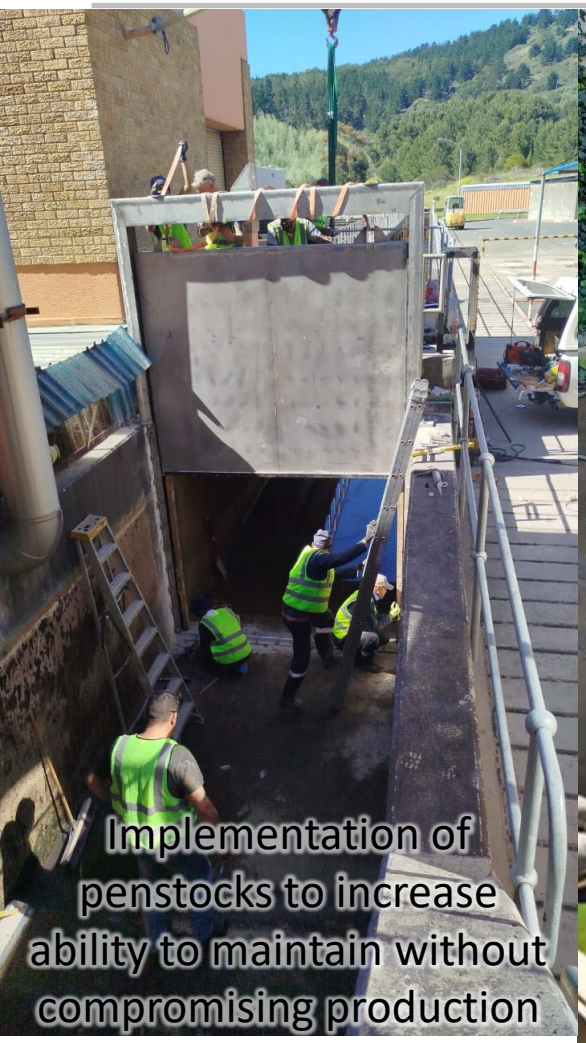
The Water Outlook – 2024 highlighted that the City's existing Bulk Water infrastructure requires refurbishment and upgrading which pose capacity challenges and constraints in the short, medium and long term.

In response, the Bulk Water Branch is implementing an Infrastructure Stability Programme (ISP) to refurbish critical pipelines, water treatment plants, and reservoirs.

Over the last year, detailed condition assessments have been conducted at:

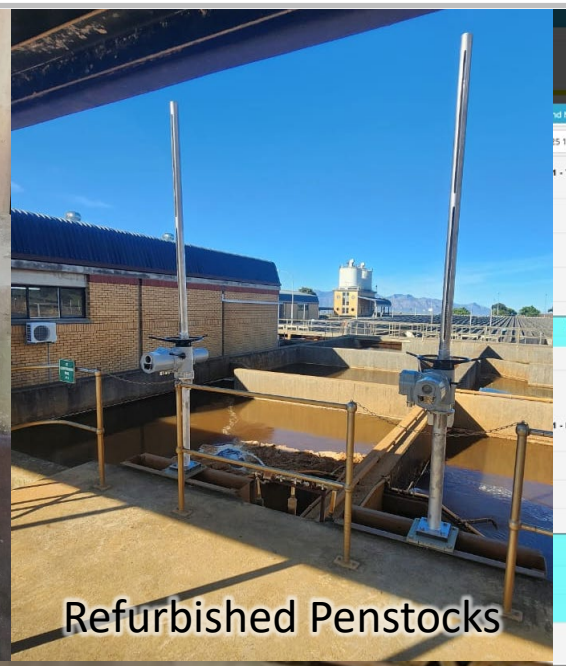
- Faure Water Treatment Plant,
- Blackheath Water Treatment Plant's sludge management system,
- Wemmershoek Water Treatment Plant,
- Molteno reservoir.
- Dam Safety Inspections

Infrastructure Stability

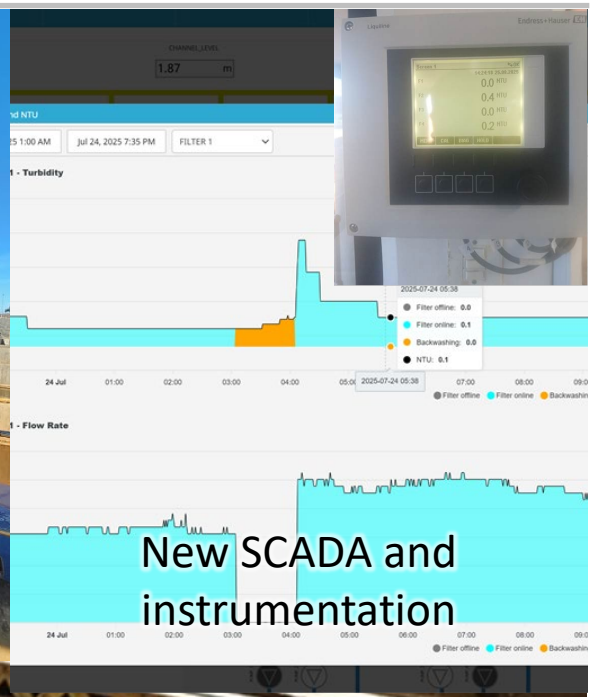


Implementation of penstocks to increase ability to maintain without compromising production

Refurbished Centrifuge (Faure)



Refurbished Penstocks



New SCADA and instrumentation

Ongoing Refurbishment of filters: Blackheath, Faure, Wemmershoek, Steenbras

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The New Water Programme status update

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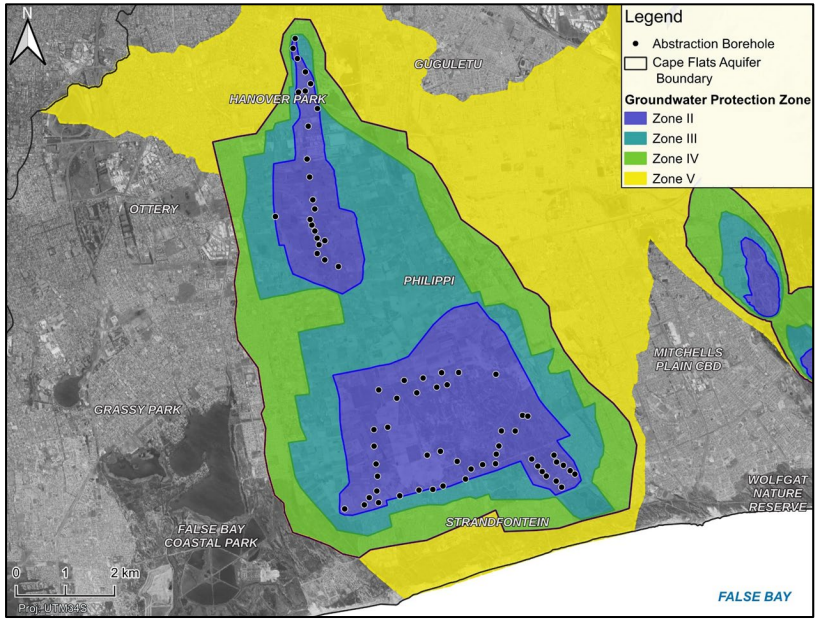
Sustainable Groundwater Utilisation

- **Cape Flats Aquifer**
  - The 6Ml/day Strandfontein West WTP is in the commissioning stage, with performance testing of key equipment and control systems at an advanced stage, in spite of contracting setbacks associated with construction of the administration building.
  - The construction of the Hanover Park/Philippi Water Treatment works is in progress
  - The construction of the advanced water reclamation plant is still underway which will further treat effluent from the Cape Flats Waste Water Treatment Works and provide a high quality water for injection into the aquifer.
- **Atlantis Aquifer**
  - Production boreholes are currently being equipped with the necessary infrastructure (mechanical and electrical) for abstraction and conveyance.
  - Testing of the individual boreholes has been completed and wellfield optimisation and testing is to commence soon
  - The refurbishment of the managed aquifer recharge infrastructure (conditioning and stormwater ponds Ponds 6 and 9) is still ongoing and progressing steadily
- **Table Mountain Group Aquifer**
  - The drilling of a further two (2) production boreholes has been completed with the construction of the pumphouses and installation of pumps (and associated infrastructure) underway
  - Exploration boreholes drilled in the Groenlandberg area has been completed
  - The drilling of core boreholes has been complete with rehabilitation work completed as well. The CCT is still finalising the downhole geophysics at both boreholes



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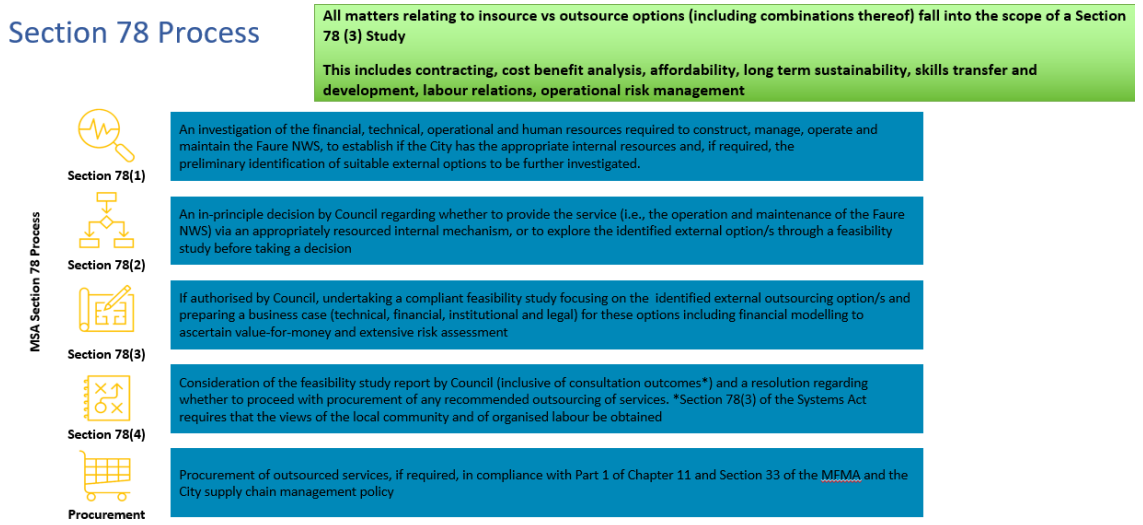
Desalination & Reuse

- Desalination and reuse are currently both actively engaged in obtaining the relevant approvals

- Delivery dates, of Faure NWS and Desalination Phase 1 have all been delayed by approximately one (1) year. The implementation timeline has been influenced by:
  - Extensive internal and external regulatory approval processes, and
  - Rigorous due diligence requirements for high-value investments of this nature



Water Safety Planning – critical to the success of the NWP

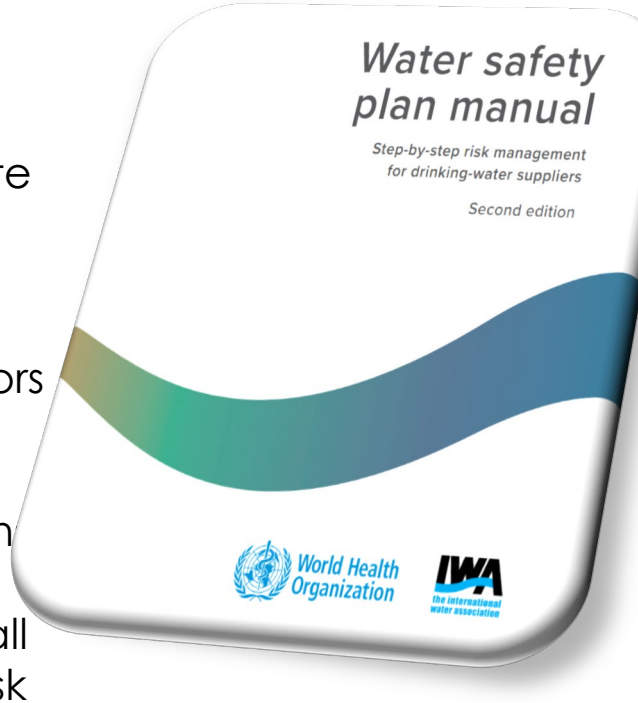
Safe drinking water is a top priority, managed through **Water Safety Plans (WSPs)** for all supply systems, utilizing the comprehensive risk assessment approach:

Catchment-to-Consumer Approach: WSPs are designed to identify and manage risks across the entire supply chain, from **catchment to consumer**, emphasizing continuous monitoring and improvement.

Regulatory Compliance: Plans are developed to diligently meet the requirements of the national drinking water standard, **SANS 241:2015**, while planning is underway to incorporate future revisions of SANS241, including monitoring for Contaminants of Emerging Concern (CEC).

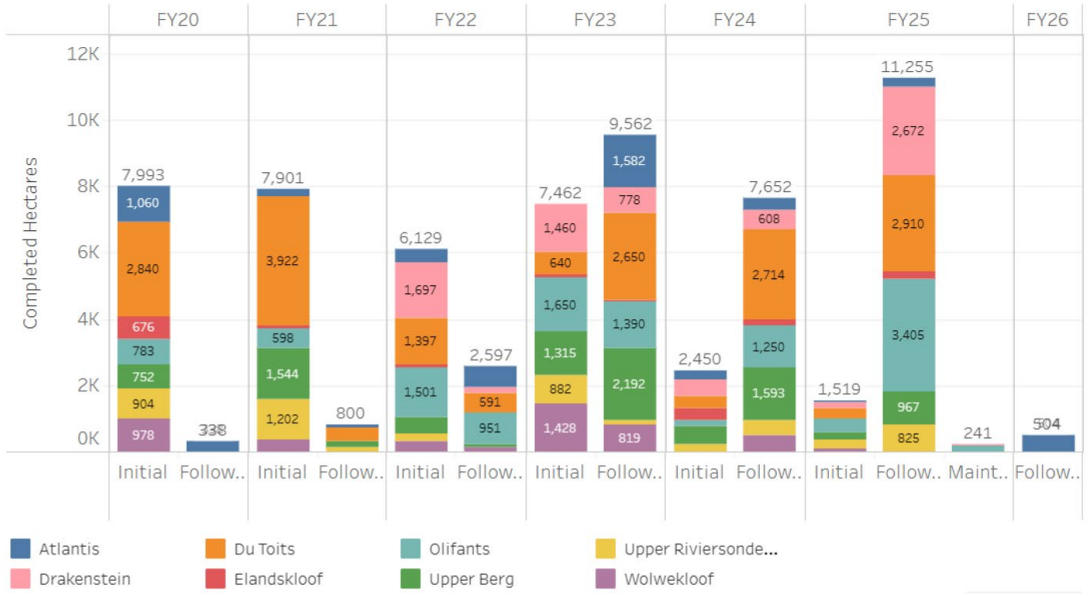
Advanced Risk Analysis: The City conducts comprehensive risk analysis, investigating factors like seasonal raw water quality changes, anthropogenic contamination sources, and treatment process risks. This includes extensive testing for over 700 potential contaminants (including pathogens, heavy metals, pharmaceuticals, PFAS, and other emerging concern

Future-Proofing New Schemes: WSPs are being developed *before* the implementation of all new schemes (including desalination and water reuse) to ensure advanced design and risk management, which includes implementing an enhanced catchment management programme.



Alien Invasive Plants

- Clearing alien invasive plants remains a cost-effective and sustainable method for building resilience and improving Cape Town's water security.
- Through the City's commitment of R125 million towards the GCTWF over five years (2022 - 2026), the GCTWF has been able to secure an equal investment from private funders
- Long-term there is a need for a sustainable funding model for clearing and ensuring the catchments remain clear of alien invasive plants.
- The City continues to advocate for a ringfenced catchment management tariff applicable to all water users in the WCWSS



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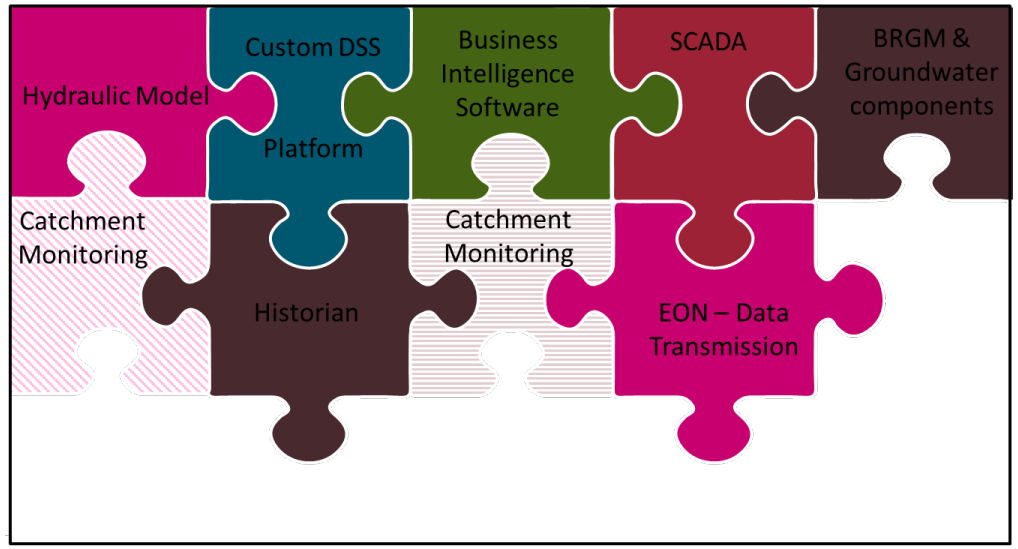
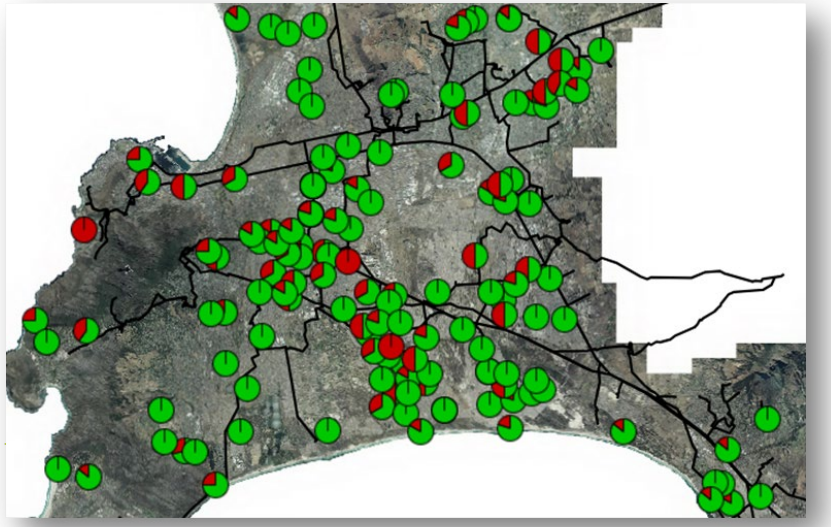
Decision Support Tools



Open Architecture | Responsive Design | Functionality | Ongoing Improvement



The Bulk Water Decision Support tools have been commended by the External Process Auditors who noted: "*The Decision Support System (DSS) of the City of Cape Town data is crucial in monitoring and evaluating water quality throughout production…. This daily reporting schedule allows for real-time monitoring of water quality at different stages of the production process.*"

Cape Town Water Outlook

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Expected delivery dates of New Water Programme

Description	Completion/first water date			
	Revision 6 (Feb 2025)	Revision 6 Peak Production (Ml/d)	Estimated Annual production (million cubic meters)	Comment
Clearing Invasive Alien Plants	Jun-26	30	11	Need to engage with DWS to ensure ongoing funding mechanism
Table Mountain Steenbras P 1	Jun-23	25	5	
CFA Strandfontein West	Jun-24	6	2	
CFA Phillipi & Hanover Park	Jun-26	10	3	
CFA Strandfontein N & E & Mitchells Plain	Jun-30	38	11	
Atlantis Aquifer	Jun-26	16	6	
Berg River Voelvlei Augmentation Scheme (BRVAS)	Jun-28	40	15	Delayed by 1 year, Now Jun-28
Faure New Water Scheme Phase 1 (including verification)	Mar-31	70	24	Busy with Section 78(3). Timeline to be reviewed
Desalination Phase 1	Dec-31	70	24	
Implementation of the NWP	Dec-2031	305	101	

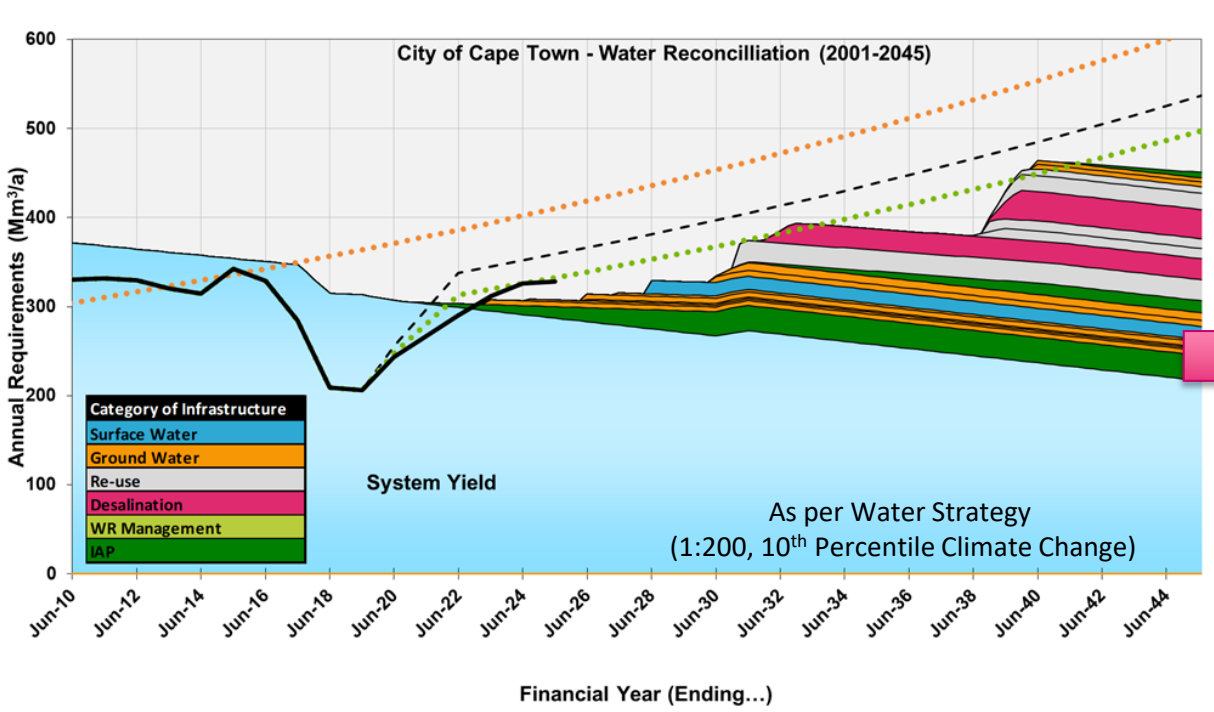
Cape Town's future water security

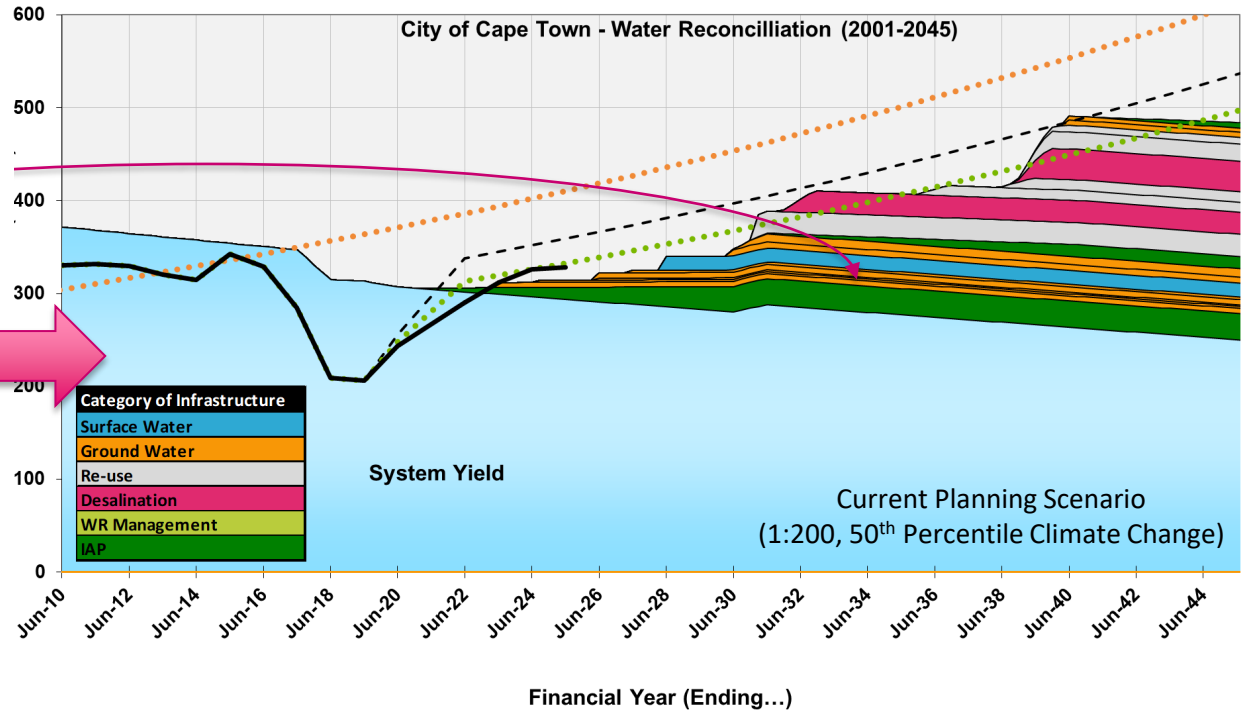
In the short term, Cape Town remains water secure. However, due to low rainfall and operational inefficiencies, and delays there are medium term risks:

Project delays could expose the City to water security risks (depends on winter rainfall)

There is no longer a five (5) year buffer

Planning for a lower climate change impact than in the Water Strategy



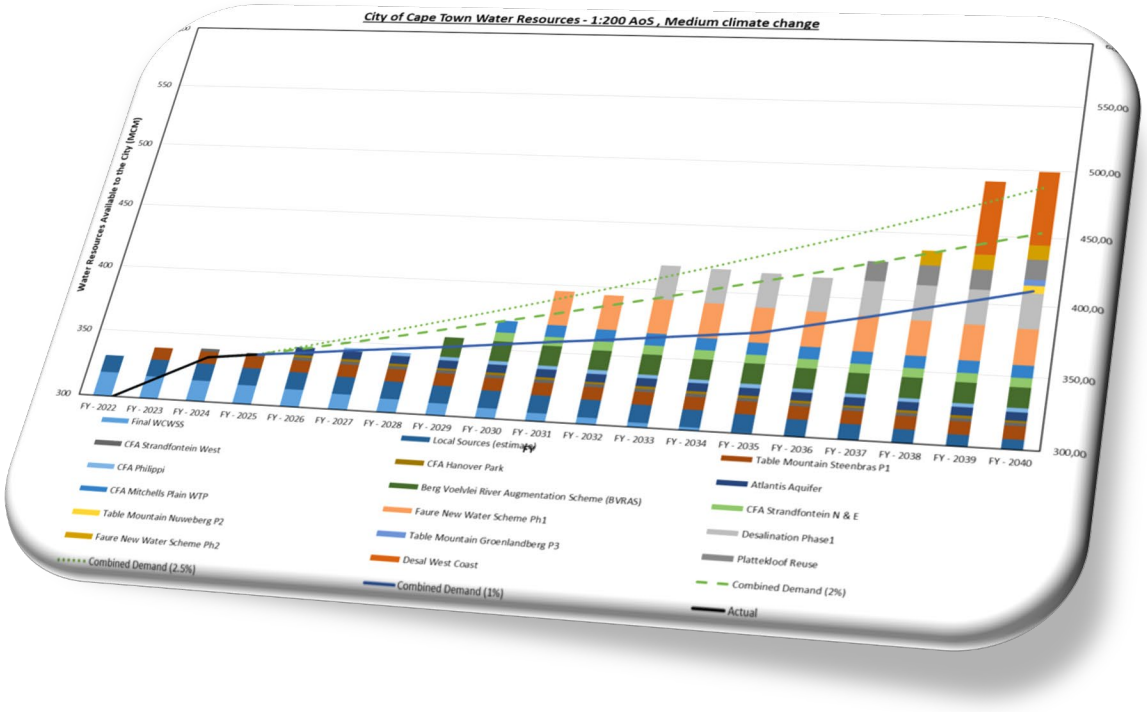


Adaptable Programme (Master Plan)

The Bulk Water Masterplan aimed to identify the most cost-effective strategy for the future development of the City of Cape Town's bulk water supply system.

This study has a planning horizon extending up to 2050 and incorporates the existing Committed and future adaptable New Water Programme while also taking account of bulk potable storage and conveyance requirements.

Study is complete and currently being workshopped with various stakeholder



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Adaptable Programme (Projects)

The following long-term investigations have been initiated:

- The Revised Berg Water Augmentation Scheme (the City's original plan to link directly to the Berg river dam) study is in progress
- A "South-Eastern Area Infrastructure" Scheme study is in progress with an initial cost projection of R1.2 Billion.
- Voëlvlei Pipeline Condition Assessment. The study has been initiated and is critical to the long term water security of Cape Town. Significant progress is anticipated over the next year, and will be reported on in the next Water Outlook
- West Coast Desalination pre-feasibility studies are in progress.
- South Coast Desalination studies is still to be initiated but is not urgent due to the later implementation date.
- Blackheath Upper Reservoir Enlargement study is funded and to be initiated in the 2025/26 FY.

Cape Town's future water security

The 'Water Outlook – June 2025' concludes that:

- The City is forecasting the completion of the committed phase of the New Water programme by 2031/32.
- Further project implementation delays in implementing the New Water Programme could increase the probability of imposing water restrictions. This depends on the winter rainfall received.
- The implementation of the National Department of Water and Sanitation's Berg River Voëlvlei Augmentation Scheme by no later than 2029 is critical for Cape Town's water security.
- The City must implement its Water Conservation and Demand Management strategy as approved by Council and aim to ensure that growth in water demand over the next ten (10) years is limited through a strong focus on water conservation and demand management.

Cape Town's future water security

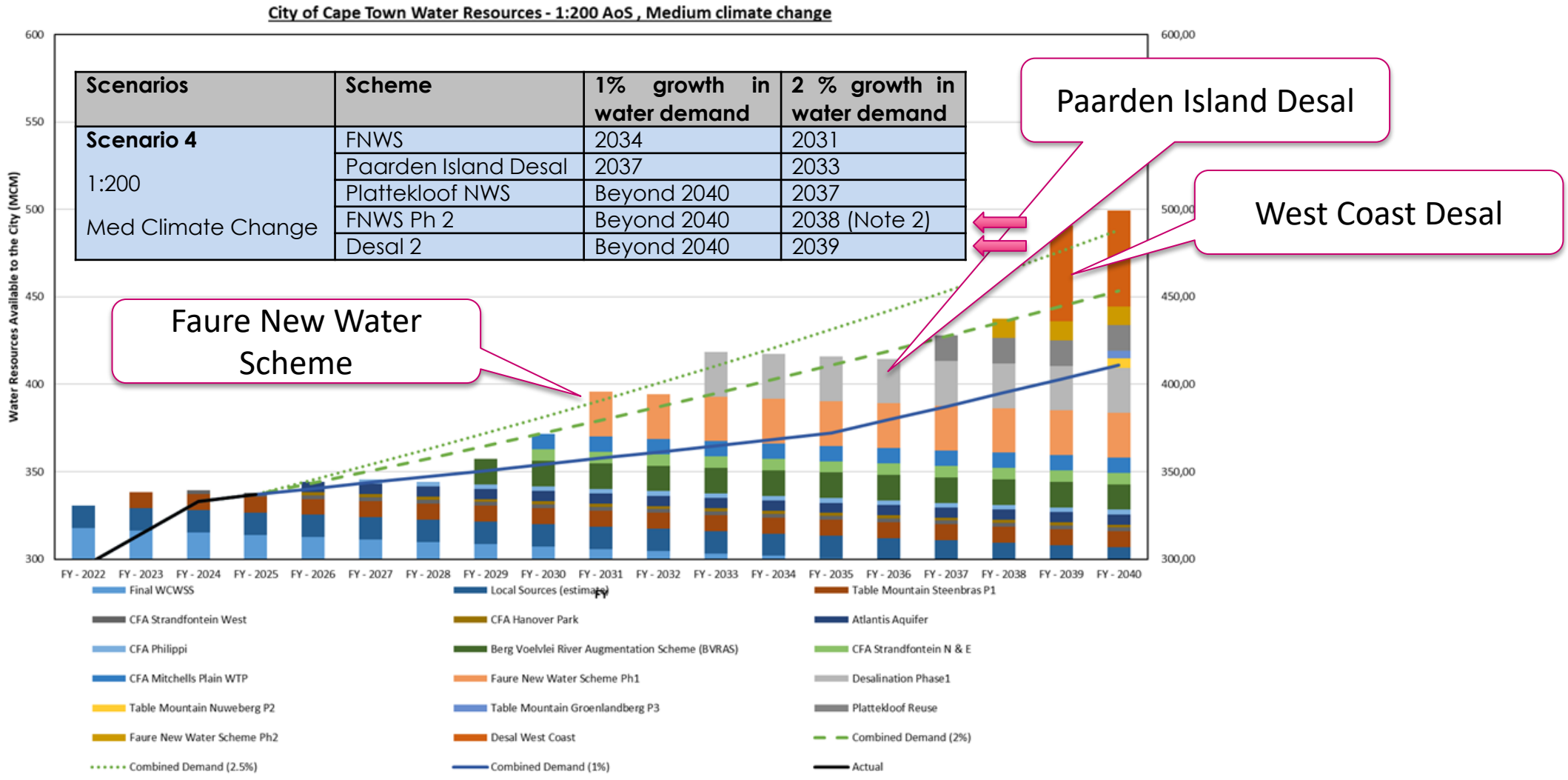
continued…

- In the short to medium term, the likelihood of restrictions could exist due to concerns surrounding ageing infrastructure and possible changes in raw water quality. This risk is being addressed through the Bulk Water Infrastructure Stability Programme which will take several years to implement.
- Balancing water security and consumer affordability requires careful management.
- Communication and transparency around the implementation of the New Water Programme, tariffs, and risks will increasingly become important as the cost of water will increase over the next few years, as outlined in the Water Strategy (2019).

The Adaptable Programme

Scenario 4: Assurance of supply at a 1:200 and a medium climate change impact

Scenarios	Scheme	1% growth in water demand	2 % growth in water demand
Scenario 4 1:200 Med Climate Change	FNWS	2034	2031
	Paarden Island Desal	2037	2033
	Platteklоof NWS	Beyond 2040	2037
	FNWS Ph 2	Beyond 2040	2038 (Note 2)
	Desal 2	Beyond 2040	2039



CITY OF CAPE TOWN
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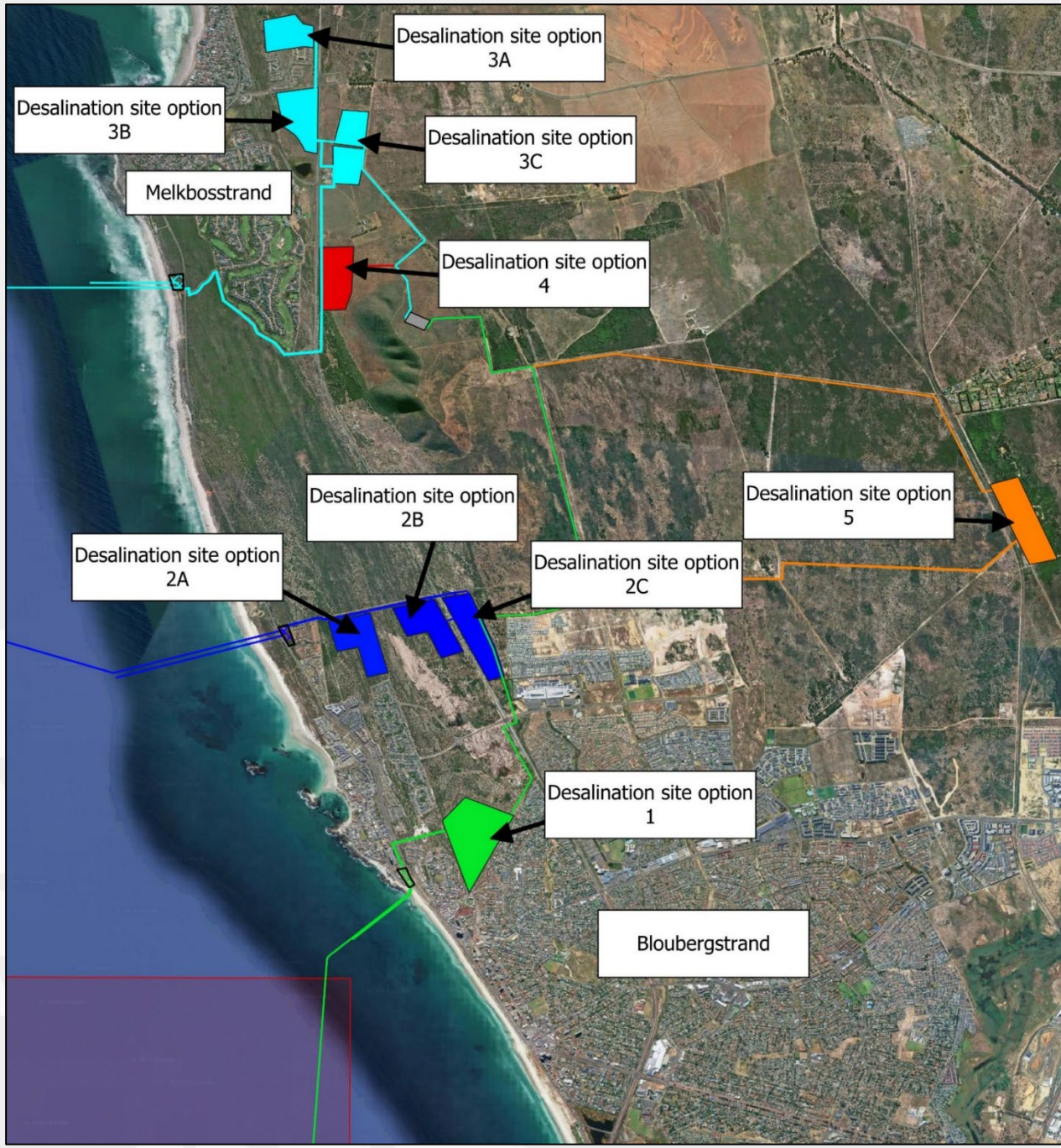
Desalination Location 2

- Part of the "Adaptable Programme"
- Scoping phase currently
- Feasibility phase planned to commence in early 2026
- 9 sites being investigated between Melkbos, Blouberg & Witzands areas
- Current envisaged phasing:
  - Phase 1: 180 Mℓ/d (2035 – 2040)
  - Phase 2: 360 Mℓ/d (2040 – 2045)
  - Ultimate capacity: 400 – 500 Mℓ/d (2045 onwards)



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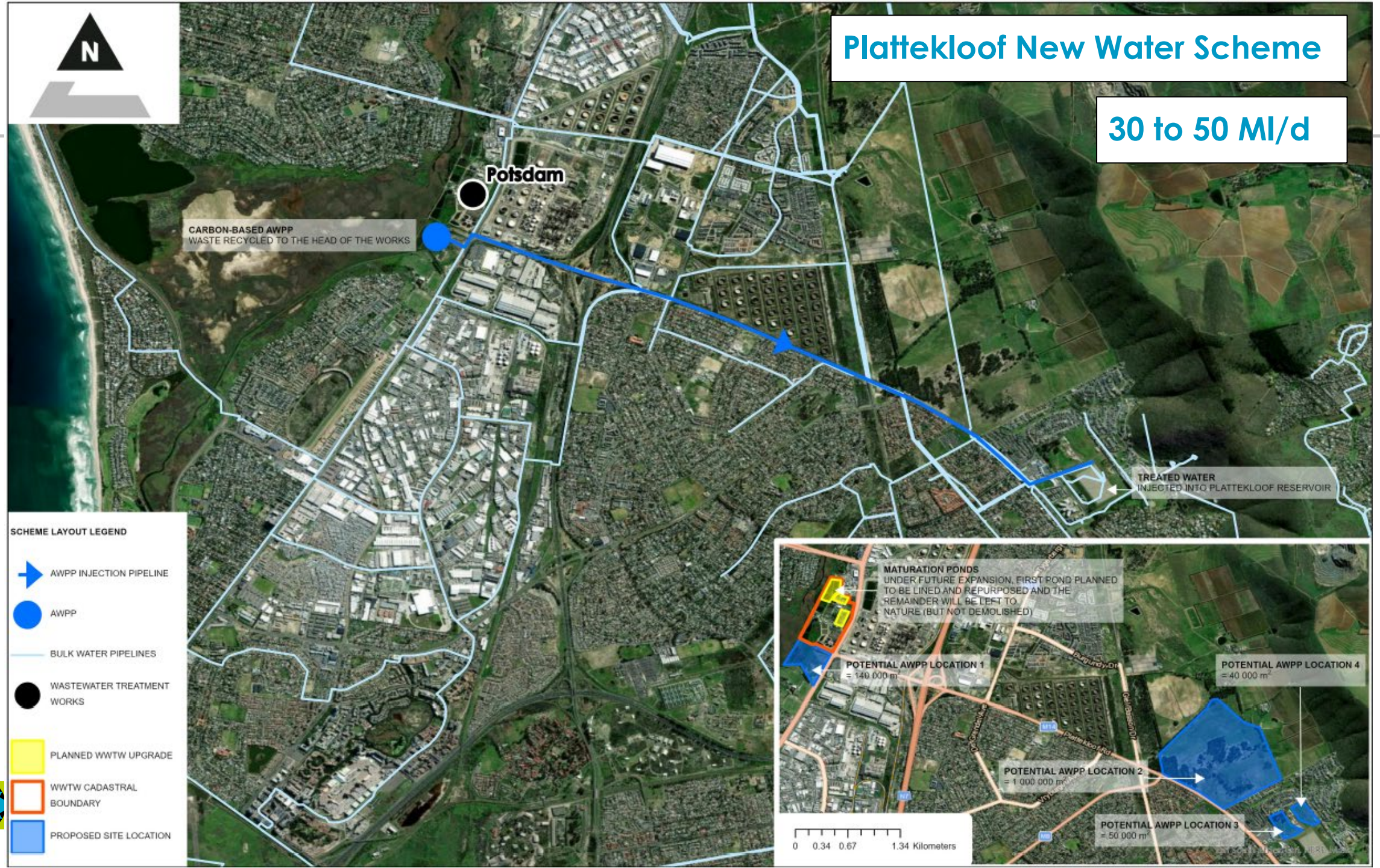
Plattekloof New Water Scheme
30 to 50 Ml/d
N
Potsdam
CARBON-BASED AWPP
WASTE RECYCLED TO THE HEAD OF THE WORKS
TREATED WATER
INJECTED INTO PLATTEKLOOF RESERVOIR
SCHEME LAYOUT LEGEND
AWPP INJECTION PIPELINE
AWPP
BULK WATER PIPELINES
WASTEWATER TREATMENT WORKS
PLANNED WWTW UPGRADE
WWTW CADASTRAL BOUNDARY
PROPOSED SITE LOCATION
MATURATION PONDS
UNDER FUTURE EXPANSION, FIRST POND PLANNED TO BE LINED AND REPURPOSED AND THE REMAINDER WILL BE LEFT TO NATURE (BUT NOT DEMOLISHED)
POTENTIAL AWPP LOCATION 1
= 140 000 m²
POTENTIAL AWPP LOCATION 2
= 1 000 000 m²
POTENTIAL AWPP LOCATION 3
= 50 000 m²
POTENTIAL AWPP LOCATION 4
= 40 000 m²
0 0.34 0.67 1.34 Kilometers

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
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Thank You

Making progress possible. Together.

Energy updates

Cabral Wicht

Senior Professional Officer: Citizen Action & Stakeholder Engagement, CCT.

Cabral holds a Master's in Climate Change and Development from UCT. She brings extensive experience from the Western Cape Government, where she managed initiatives such as 110% Green and the Energy Security Game Changer. Both of these positions have had strong stakeholder engagement and communication focus as their goals relied on collaborative action.

CITY OF CAPE TOWN
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ENERGY UPDATES

ENERGY DIRECTORATE | 20 November 2025

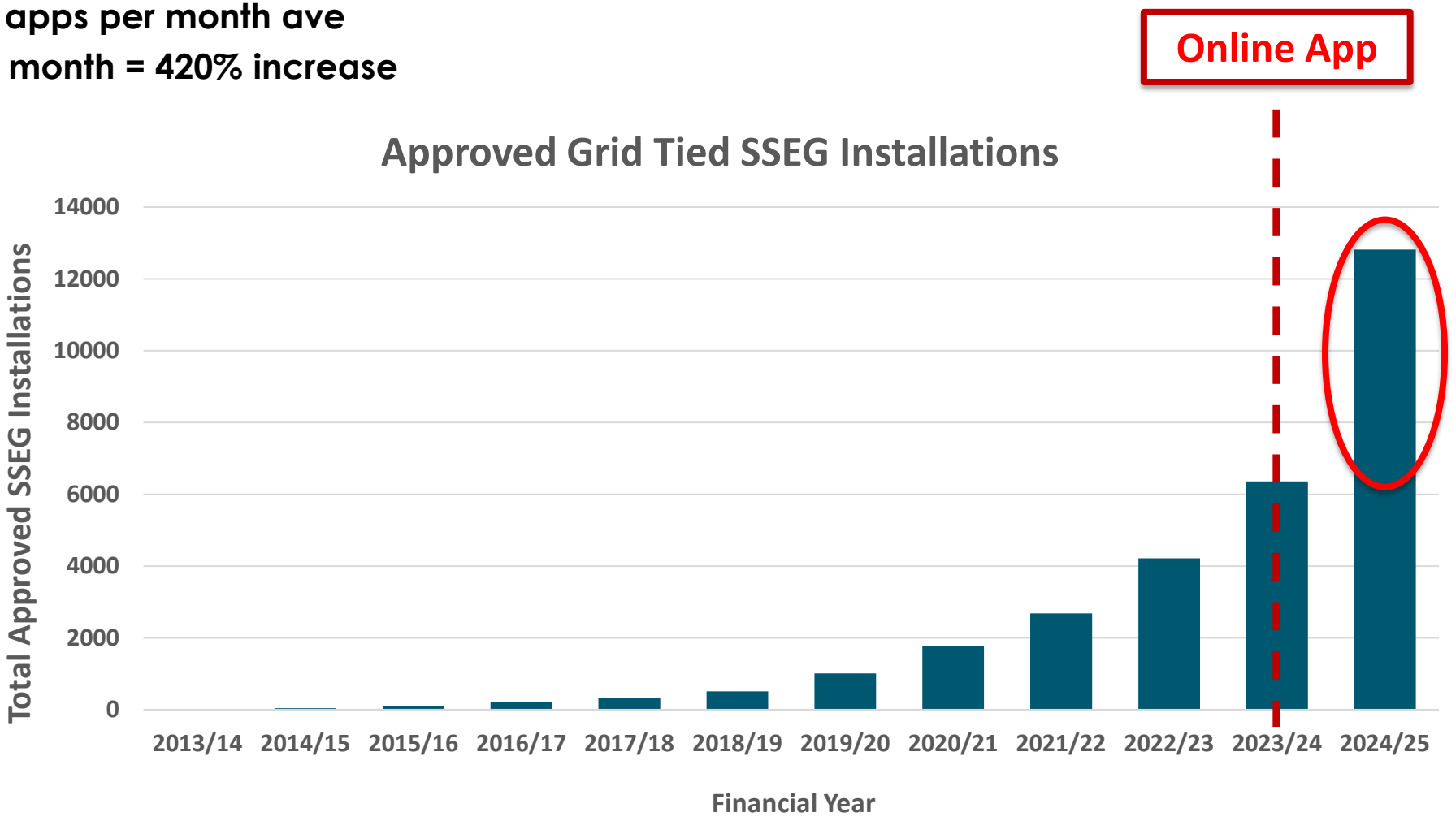
Making progress possible. Together.

SSEG update

After the introduction of the online application platform, the same sized team has doubled the number of SSEG approvals:

- **Over 12 years: 122 apps per month ave**
- **Now: 634 apps per month = 420% increase**

As of 30 May 2025, **12 819** grid-tied SSEG apps have been approved



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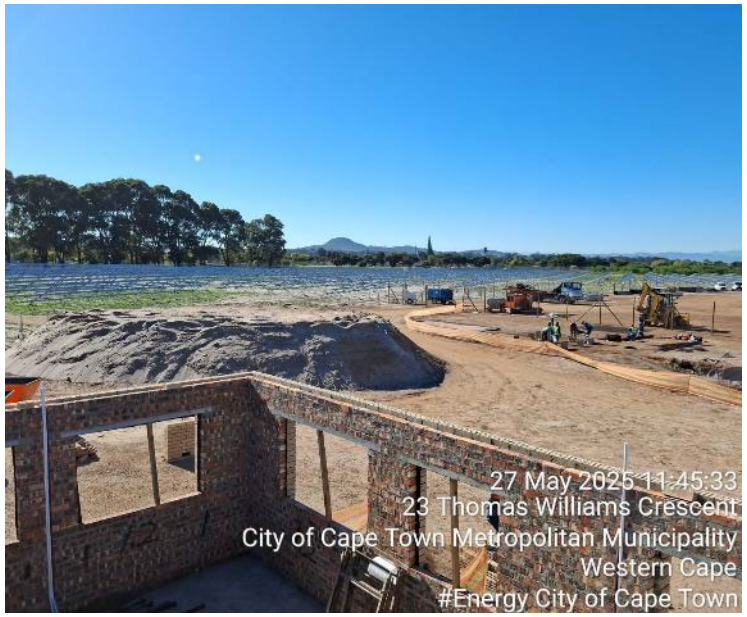
Atlantis Solar PV Plant

- Construction of the City's new **7MW solar PV plant** in Atlantis is nearing completion – expected 2026.
- **Battery Energy Storage System** to be installed – contractor recently appointed and work to start in 2026.



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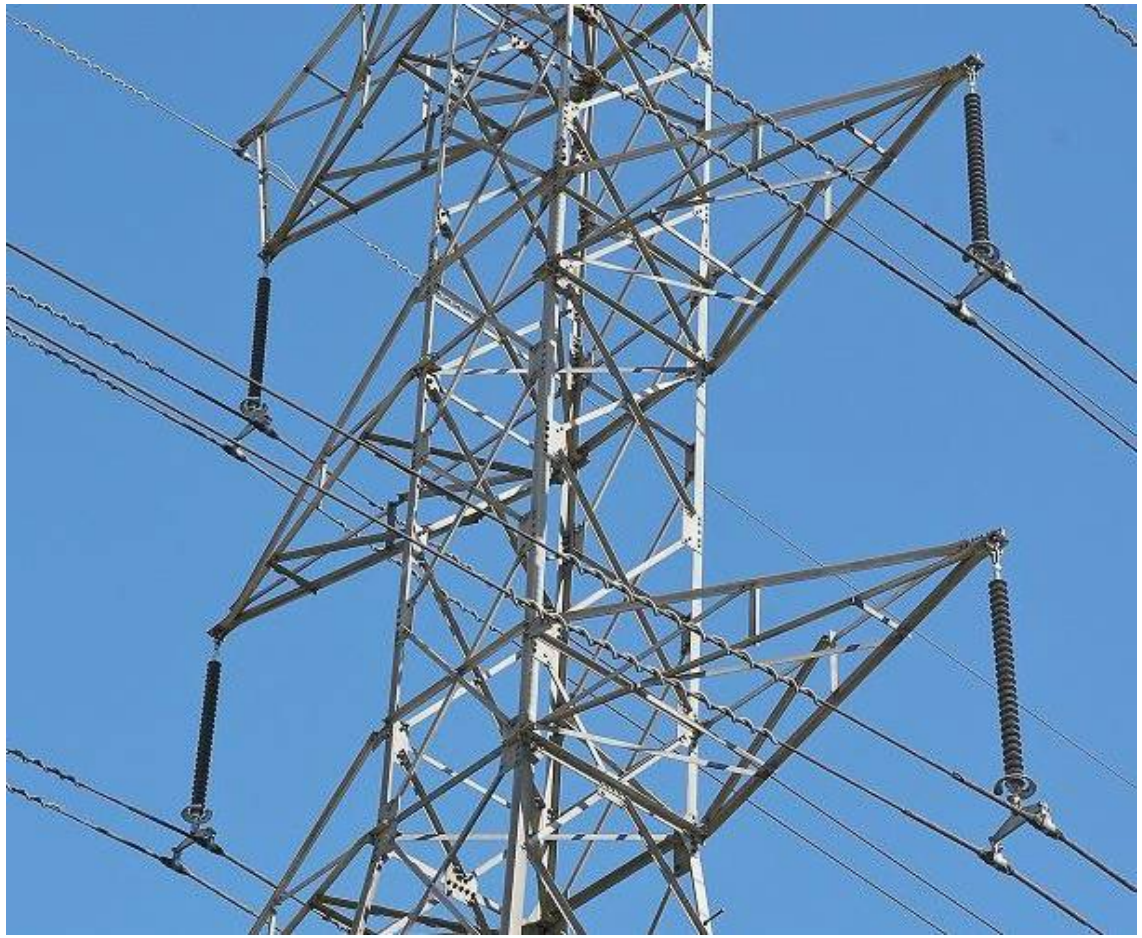
Pooled Wheeling

- After the introduction of one-to-one wheeling in March 2025, the City is piloting pooled wheeling:
  - Electricity wheeling from generator to off-taker: **many-to-one**, **one-to-many** and **many-to-many**
  - **Billing system** has been updated to accommodate pooled wheeling
  - Currenting testing the solution with selected **pilot** participants
  - Expected launch date **1 July 2026**
- Further promote renewable energy use within the City's grid and offers an affordable alternative to businesses

For more information on the City's wheeling programme and how to take part, visit
www.capetown.gov.za/ElectricityWheeling

***Note,** wheeling is only for MV and HV customers



Future Energy Festival

The Cape Town Future Energy Festival is a city-wide movement to **empower residen in their energy choices**, by bringing **energy-smart solutions** into our **homes**, **schools**, and **communities**.

Festival programme:

- **Mall pop-ups**, **community murals and exhibitions** to educate and inspire residents on the energy efficiency measures they can implement in your home.
- **Workshops aimed at senior residents** to help them stay safe, healthy and energy-efficient during the summer heat.
- **Energy Efficiency Schools Programme** includes a touring theatre production to Cape Town schools, educating learners on how they can be the next generation of energy heroes.

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CAPE TOWN
FUTURE
ENERGY
FESTIVAL

For more information on the Cape Town Future Energy Festival and to keep up with the latest activations, visit www.capetown.gov.za/EnergyFest

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Thank You

Making progress possible. Together.

We want to hear from you!

1.Go to **www.mentimeter.com**
Enter the event code: **8341 2001**

2. https://www.menti.com/aljztg7iaocx

3. Scan the QR code

Faure New Water Scheme

Kaashifa Aziz

Principal Professional Officer
Water and Sanitation

Kaashifa is a Professional Civil Engineer (Pr Eng) with over ten years' experience in civil infrastructure, specialising in major water and sanitation projects. She played a key role in Cape Town's first Direct Potable Reuse initiative, the Faure New Water Scheme, strengthening the city's future water resilience.

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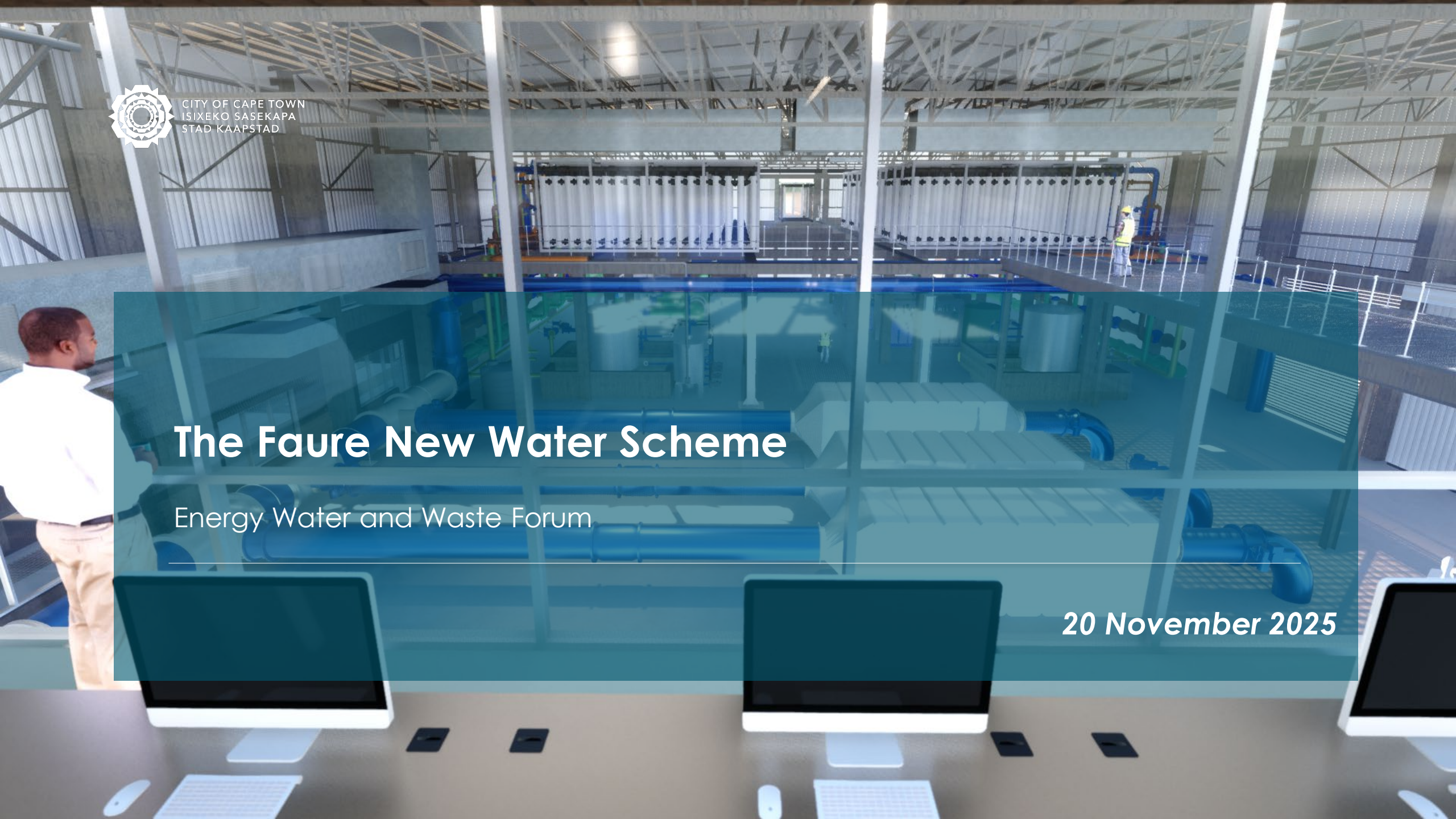

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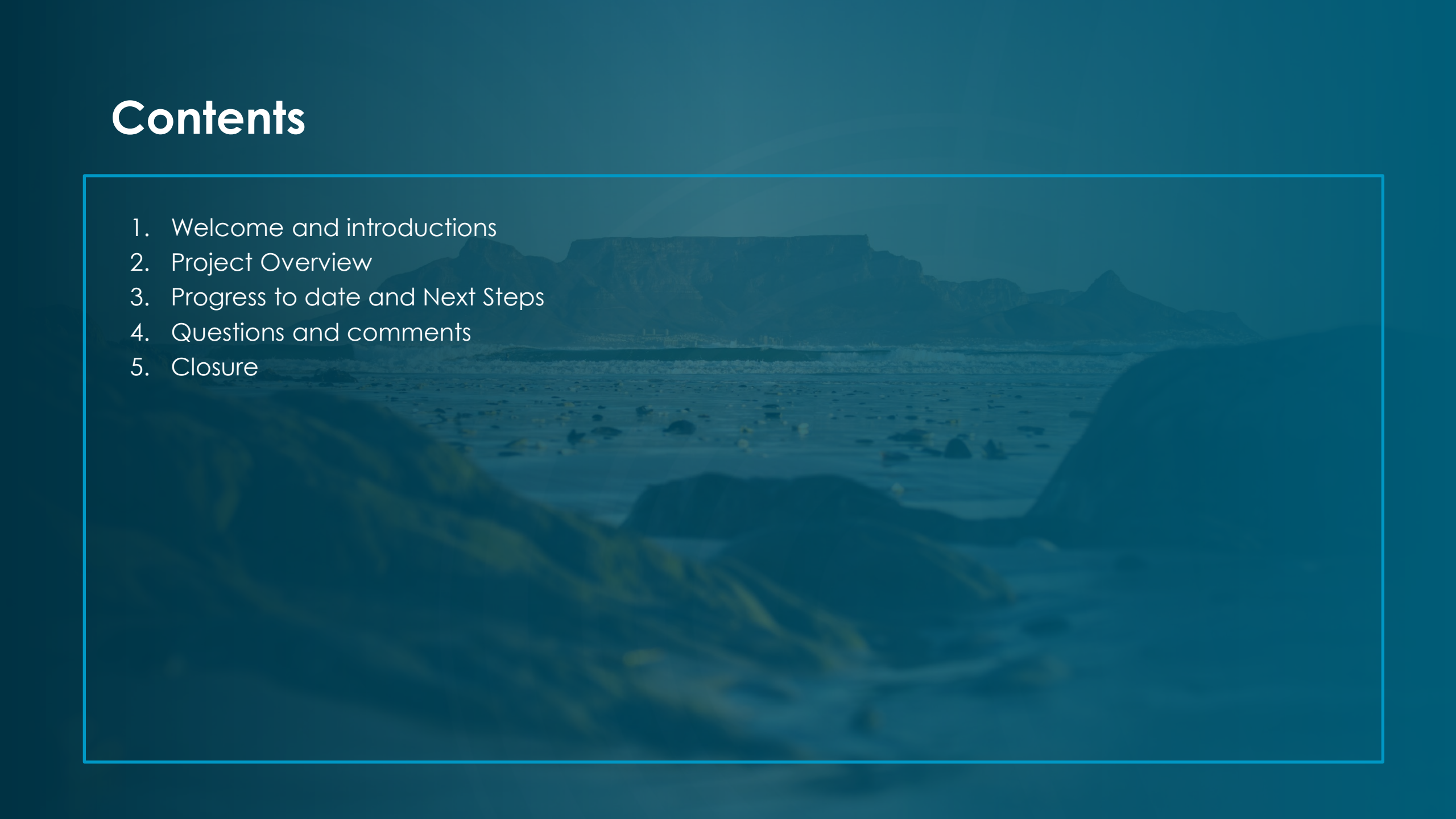
The Faure New Water Scheme

Energy Water and Waste Forum

20 November 2025

Contents



1. Welcome and introductions
2. Project Overview
3. Progress to date and Next Steps
4. Questions and comments
5. Closure

Project Overview

The Faure New Water Scheme

The Water Strategy and plans to augment Cape Town's water

FIVE COMMITMENTS IN THE WATER STRATEGY

Supporting the City's Resilience Strategy and the IDP strategic priorities

1. **SAFE ACCESS TO WATER AND SANITATION FOR ALL**
2. **WISE WATER USE** through pricing, regulation, active citizenship, network management
3. **SUFFICIENT, RELIABLE WATER FROM DIVERSE SOURCES**: surface, ground, desalination, RE-USE (more water resilient by 2030)
4. **SHARED BENEFITS & MANAGED RISKS** from regional water resources
5. **WATER SENSITIVE CITY** by 2040

300 million litres per day of new capacity over 10 years

NEW WATER SUPPLIES – as well as

MANAGEMENT INTERVENTIONS

See www.capetown.gov.za/thinkwater

The Water Strategy and plans to augment Cape Town's water

SURFACE WATER

GROUNDWATER

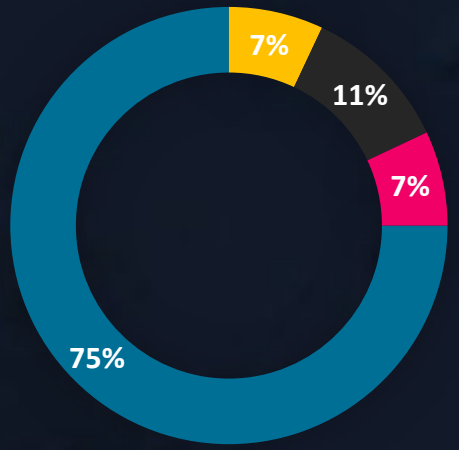
REUSE

DESALINATION

City of Cape Town

2040

diversified water resource mix



VOELVLEI DAM

VOELVLEI 1

ATLANTIS MAR

BRANDVLEI DAM

WEMMERSHOEK DAM

BERG RIVER DAM

BERG RIVER DAM

PAARDEN EILAND DESALINATION

FNWS

NEWLANDS AQUIFER

THEEWATERSKLOOF DAM

LOURENS

CF AQUIFER

CF MAR

STEENBRAS UPPER / LOWER DAMS

PALMIET 1

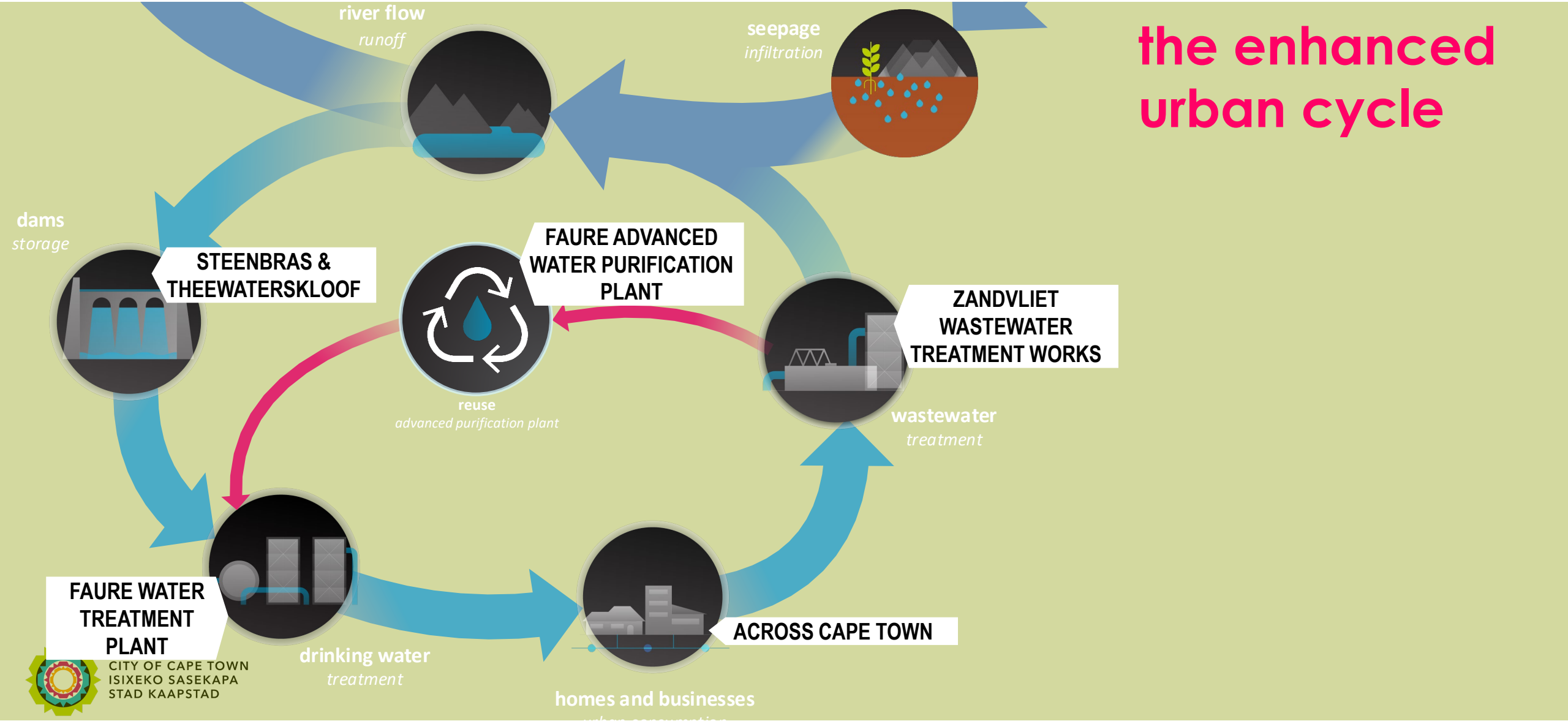
TMG AQUIFER

The Faure New Water Scheme

The Faure New Water Scheme

A new water source: 70 to 100 ML/d of purified recycled water

the enhanced urban cycle



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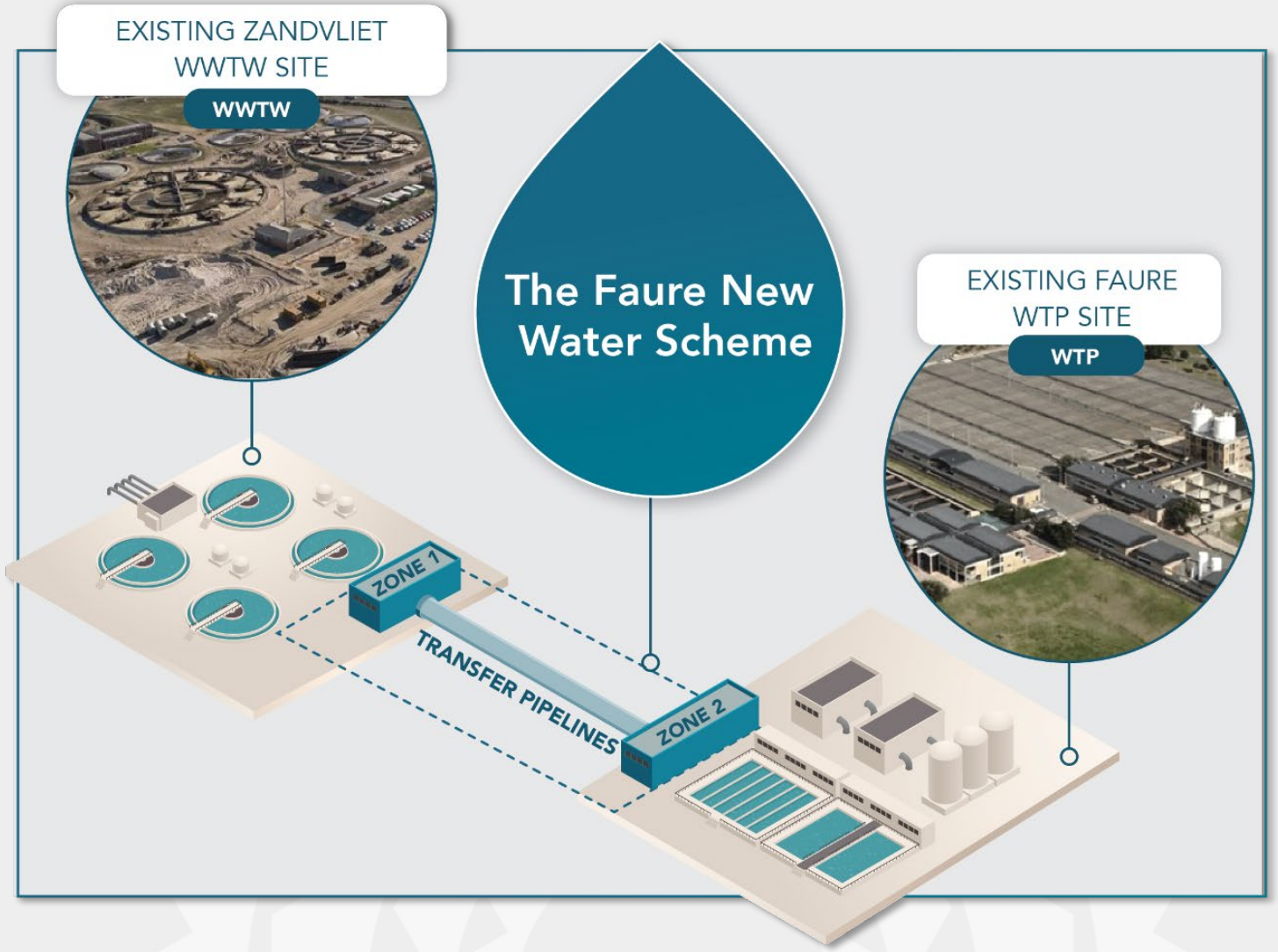
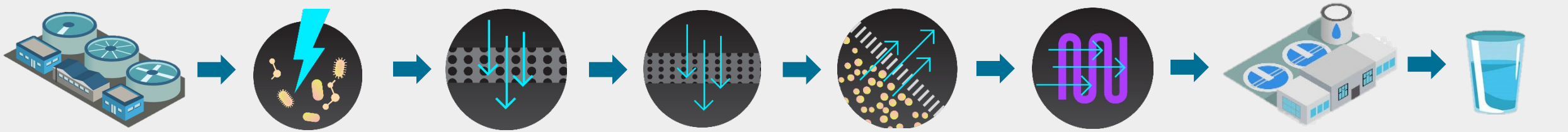
The Faure New Water Scheme



The Faure New Water Scheme



Water Source → Ozone → Biologically Activated Carbon → Granular Activated Carbon → Ultra-Filtration → Ultraviolet Advanced Oxidation Process → Further Purification → Drinking Water

Multi-barrier advanced water purification process

The planning and design journey

Detailed Design
HACCP

Enhanced Catchment Control

Water Use License

Section 30 A directive

Land Use Management

Water Quality Testing

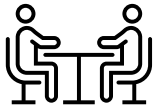
Independent Advisory Panel

Lab-Scale Pilot Plant

Community Engagement

How should we do it?
The process for deciding

The process for deciding

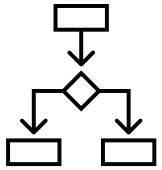


The Municipal Systems Act (MSA), Act 32 of 2000

Section 77

A municipality must review and decide on the appropriate mechanism to provide a Municipal Service when:

- Reviewing the Integrated Development Plan
- A new Municipal Service is to be provided
- An existing Municipal Service is to be significantly upgraded, extended or improved



The Municipal Systems Act (MSA), Act 32 of 2000

Section 78

Sets out the criteria and process for deciding on appropriate mechanisms to provide Municipal Services

The process for deciding

MSA Section 78 Process

 Section 78(1)	An investigation of the financial, technical, operational and human resources required to construct, manage, operate and maintain the Faure NWS, to establish if the City has the appropriate internal capacity and resources
 Section 78(2)	A decision by Council regarding whether to provide the service (i.e., the operation of the Faure NWS) via an appropriately resourced internal mechanism, or to proceed with a feasibility study of other options
 Section 78(3)	If authorised by Council, undertaking a compliant feasibility study focusing on options for which outsourcing of services is required and preparing a business case (technical, financial, institutional and legal) for the **most suitable** option/s.
 Section 78(4)	Consideration of the feasibility study report by Council (including consultation outcomes) and a decision regarding whether to proceed with procurement of any recommended outsourcing option

MFMA Section 120 Process

WE ARE HERE

Feasibility study: Service delivery options

City built and operated (PSC)

City competitively procures construction company to build scheme to City's design specifications

City appoints engineering team to manage construction phase

City expands its staff complement with full range of skills and expertise to operate and maintain the scheme

Funded on City balance sheet

City built and outsourced operation (C/OM)

City competitively procures construction company to build scheme to City's design specifications

City appoints engineering team to manage construction phase

City competitively procures operation company to operate and maintain scheme to specified standards

City expands its staff complement to manage private operator and monitor performance

Funded on City balance sheet

Public-Private Partnership (PPP)

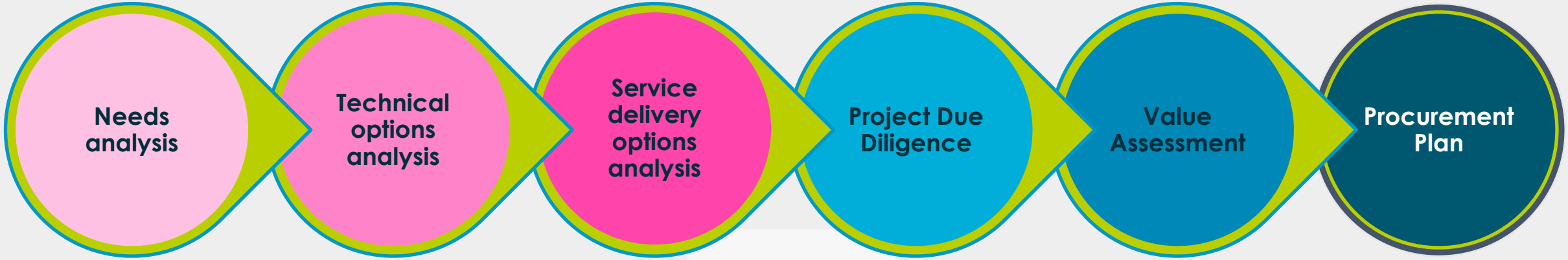
City competitively procures private company to finance, design, build, operate and maintain scheme to City specifications

City appoints engineering team to manage process through to operation

City expands its staff complement to manage private company and monitor performance

Private company finances scheme. City pays for service by unitary payment over contract duration (~ 20 years)

Feasibility study: Overview



- Strategic Alignment
- Regulatory compliance
- Financial realities
- Technical feasibility
- Human resource requirements
- Institutional commitment

- Pre-feasibility study
- Options analysis
- Source and location Selection
- Technology selection

- City built and operated
- City built and outsourced operation
- Public-Private Partnership

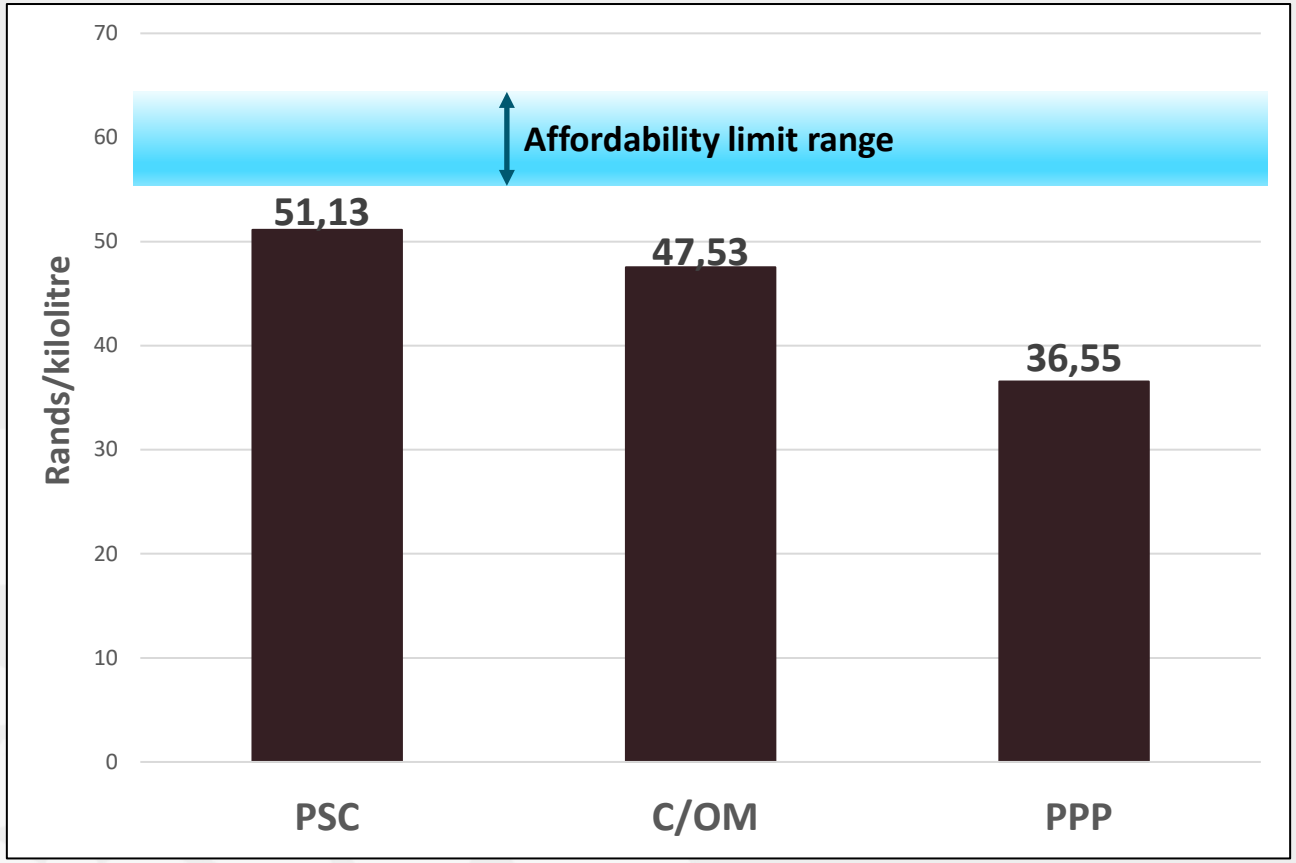
- Legal competence
- Site enablement
- Employees and jobs
- Oversight and performance
- B-BBEE and socio-economic objectives

- Full life costs
- Affordability
- Risks
- Value for money

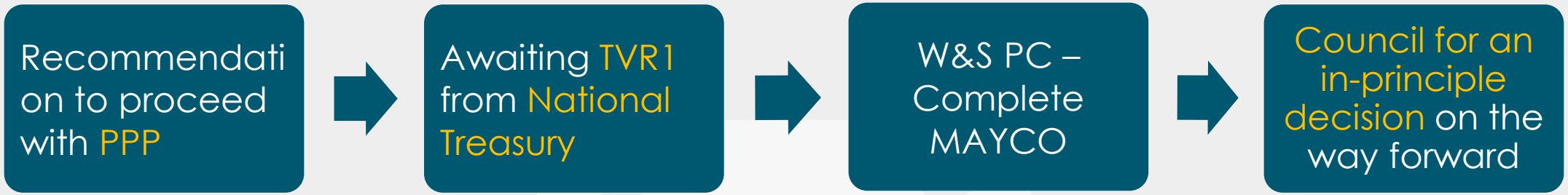
- Internal approvals
- Engagement with National Treasury
- Programme
- Budget and funding
- Risk management
- Procurement practice & procedures
- Consultation

Feasibility study: Value Assessment

- The value assessment tests:
  - ***Risk transfer***: Can significant risk be transferred to another party?
  - ***Affordability***: Whether project can be accommodated in the City's budget
  - ***Value for money***: Which option is most economical
- The cost of each option is adjusted to allow for appropriately assigned risks, such as cost increases, delays, interruptions in production.
- Total Construction Cost (Capital): Approximately R 3 Billion (real)



Where we are now



Next Steps - PPP Procurement Process

Proceed to procure a PPP

- Finalise Feasibility Study
- Public participation
- **TVRI [vfm and affordability]**
- Stage Gate PEP update
- **Council in-principle decision [s78(4) & s120(6)] December 2025**

Pre-Qualify Bidders

- Prepare RFQ
- GTAC review
- **TVRIIA [RFQ]**
- BIF submission
- BSC approval
- Submit for advertisement
- Bidders briefing
- Bid closing

Competitive procurement process

- SCM Receive bids
- BEC evaluation process
- Due diligence assurance
- Bid evaluation report
- BAC approval of pre-qualified bidders

RFP process

- Draft RFP and PPP agreement
- Bid optimisation
- CCT legal service vetting
- **TVRIIA [RFP & PPP agreement]**
- BSC approval
- City Manager approval
- Issue RFP to pre-qualified bidders
- Bidders briefing and data room
- Bid closing

Bid evaluation & negotiation

- BEC Bid evaluation process
- Bid evaluation report
- Due diligence assurance
- BAC approval of preferred bidder and reserve bidder
- Negotiations
- Value Assessment Report
- **TVRIIB [value assessment]**
- BAC report
- BAC award
- Appeal process

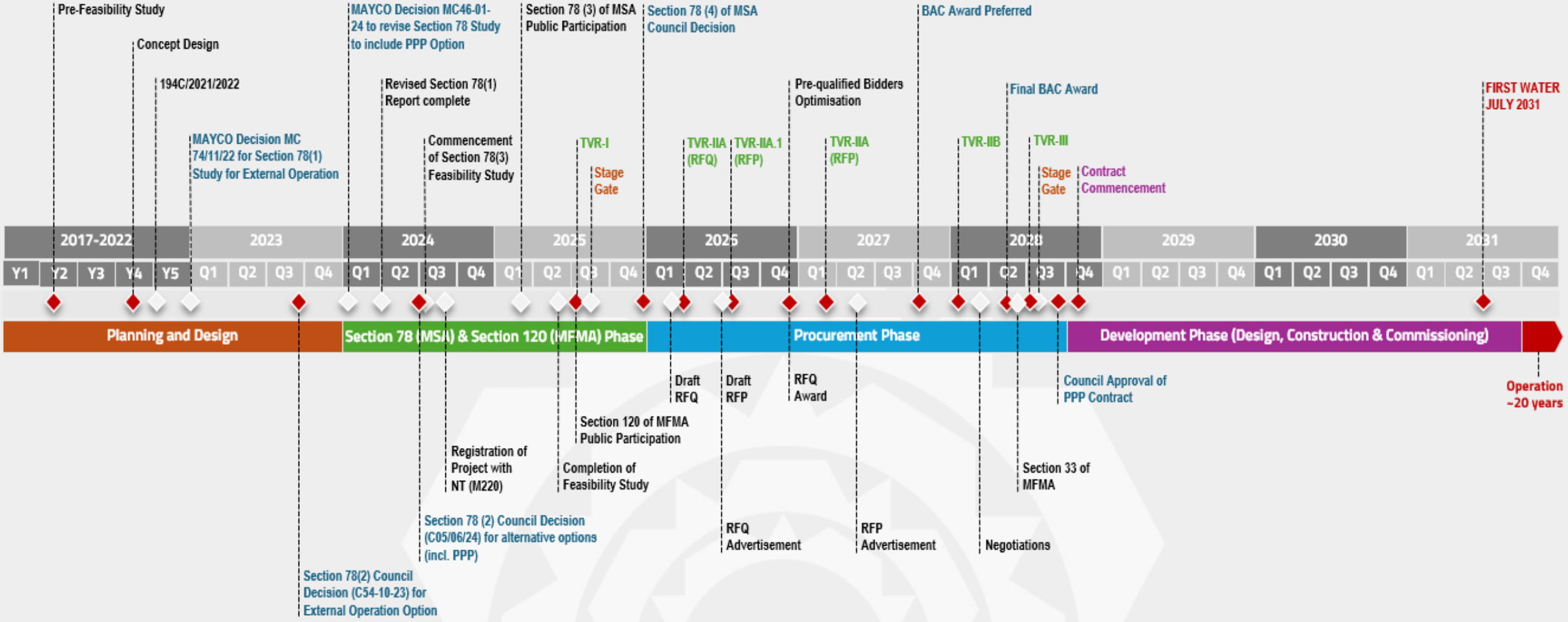
PPP Agreement Authorisation

- Finalise contract management plan
- Report to ED/City Manager
- Public participation
- **TVRIII & S33 [contract]**
- Council reporting process
- **Council approval and authorisation for City Manager to sign**

Contract implementation

- PPP Agreement signing
- Financial Close
- Hand-over of site
- Anticipated 2028/29
- Construction: <3 years
- Operations: >20 years

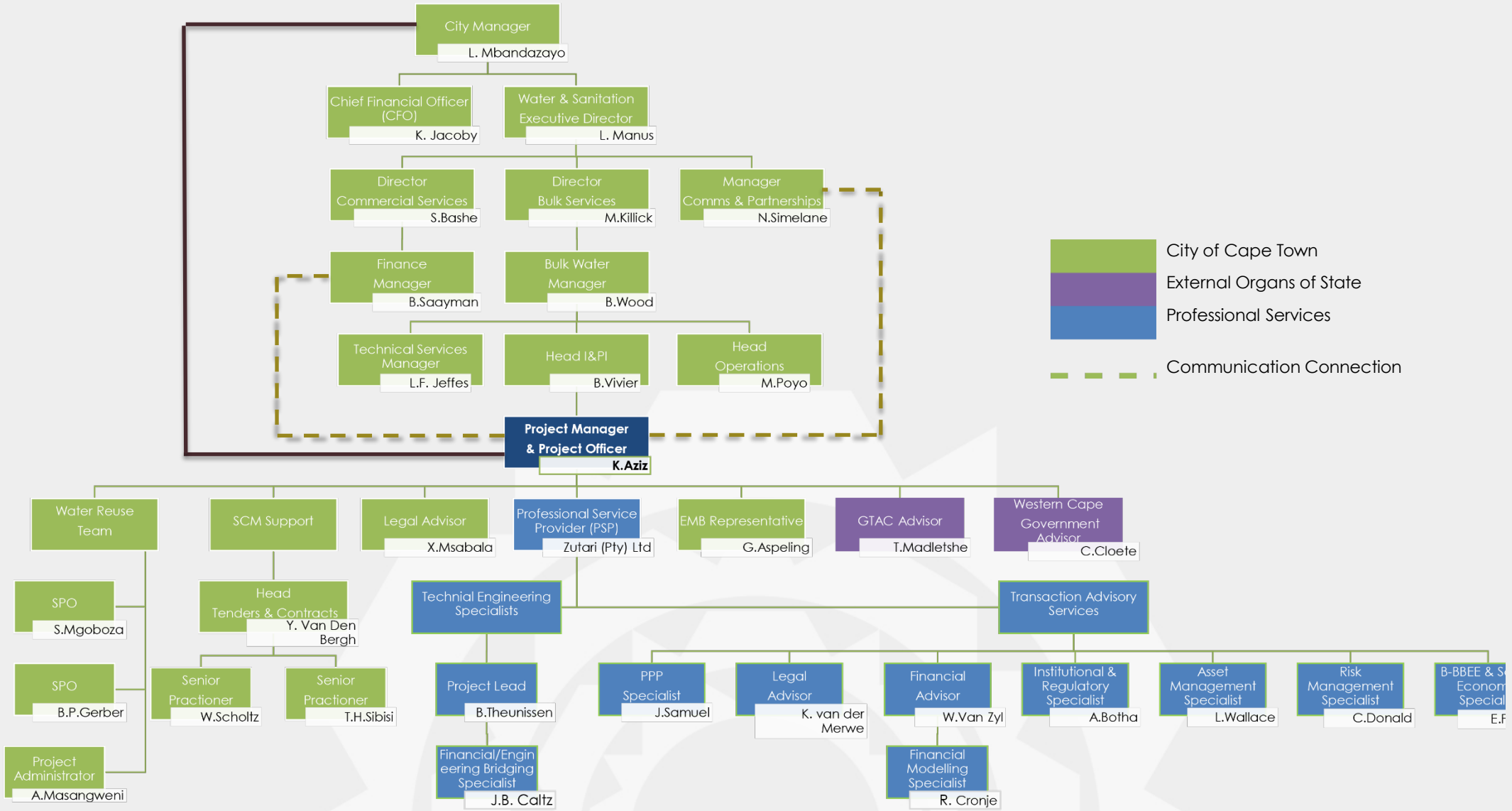
Timeline


Pre-Feasibility Study
Concept Design
194C/2021/2022
MAYCO Decision MC 74/11/22 for Section 78(1) Study for External Operation
MAYCO Decision MC46-01-24 to revise Section 78 Study to include PPP Option
Revised Section 78(1) Report complete
Commencement of Section 78(3) Feasibility Study
Section 78 (3) of MSA Public Participation
TVR-I
Stage Gate
Section 78 (4) of MSA Council Decision
TVR-IIA (RFQ)
TVR-IIA.1 (RFP)
Pre-qualified Bidders Optimisation
TVR-IIA (RFP)
BAC Award Preferred
TVR-IIB
Final BAC Award
TVR-III
Stage Gate
Contract Commencement
FIRST WATER JULY 2031
2017-2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
Y1 Y2 Y3 Y4 Y5 Q1 Q2 Q3 Q4
Planning and Design
Section 78 (MSA) & Section 120 (MFMA) Phase
Procurement Phase
Development Phase (Design, Construction & Commissioning)
Draft RFQ
Draft RFP
RFQ Award
Council Approval of PPP Contract
Operation ~20 years
Section 120 of MFMA Public Participation
Registration of Project with NT (M220)
Completion of Feasibility Study
Section 33 of MFMA
Section 78 (2) Council Decision (C05/06/24) for alternative options (incl. PPP)
RFQ Advertisement
RFP Advertisement
Negotiations
Section 78(2) Council Decision (C54-10-23) for External Operation Option

Key Dates

MILESTONE ACTIVITIES	TARGET DATE
Council Section 78(4) Decision	December 2025
RFQ Advertisement	June 2026
RFP Advertisement	May 2027
PPP Contract Award	May 2028
Construction Commences	October 2028
First Water	July 2031

Project team



"Water reuse is not a solution of the future—it is a solution for today. With the right frameworks and partnerships in place, it can become a defining feature of how we secure clean, reliable water for generations to come" (Scaling Water Reuse, World Bank, 2025)

Just water.

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THANK YOU

TEA BREAK : 11:30 – 11:45 (15 minutes)

Grab a beverage and snack whilst networking

Paarden Eiland Desalination project

Nichilis Tredoux

Senior Professional Officer
Water and Sanitation

Nichilis is a Civil Engineer with a Master's degree and over nine years' experience in municipal engineering, specialising in water infrastructure. He has managed multiple multidisciplinary projects for the City of Cape Town and has extensive desalination experience, having led key projects including the Monwabisi and Strandfontein temporary plants.

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Paarden Eiland Desalination Project - Status Update

Energy Water Waste Forum

Nichilis Tredoux Senior Professional Officer, City of Cape Town
Jan Malherbe Principal Professional Officer, City of Cape Town

20 Nov 2025

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Project Background

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Paarden Eiland Desalination

The Paarden Eiland Desalination project encapsulates the development of a 50 to 70 MLD capacity scheme to produce drinking water from sea water through the process of Sea Water Reverse Osmosis (SWRO).

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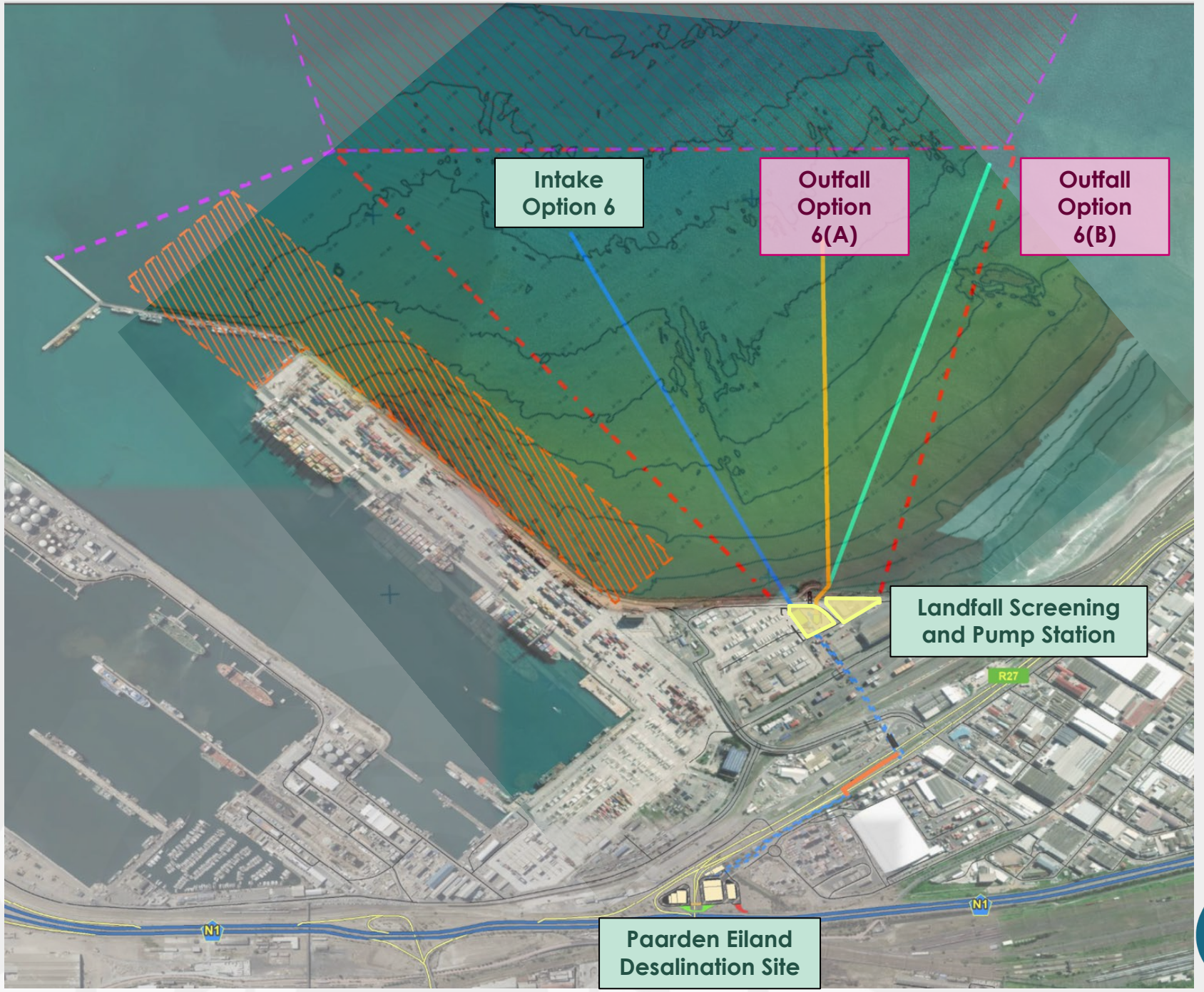
Proposed Marine Infrastructure

Marine intake and outfall pipelines are located within a marine corridor.

The screening works and abstraction pump station will be located within the Port of Cape Town

Intake and outlet pipelines will route through the existing seawater canal system to the Paarden Eiland Desalination Site



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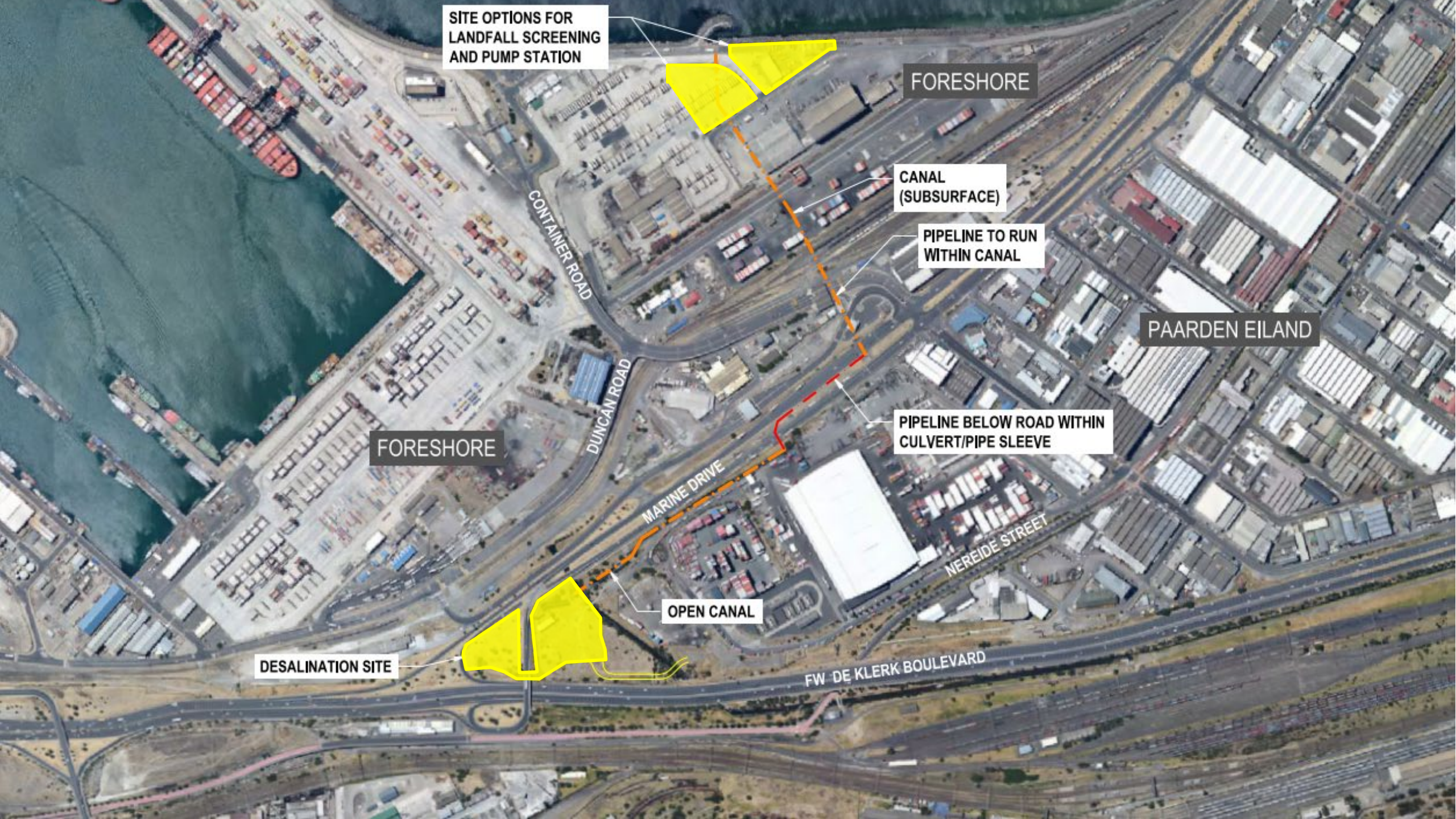
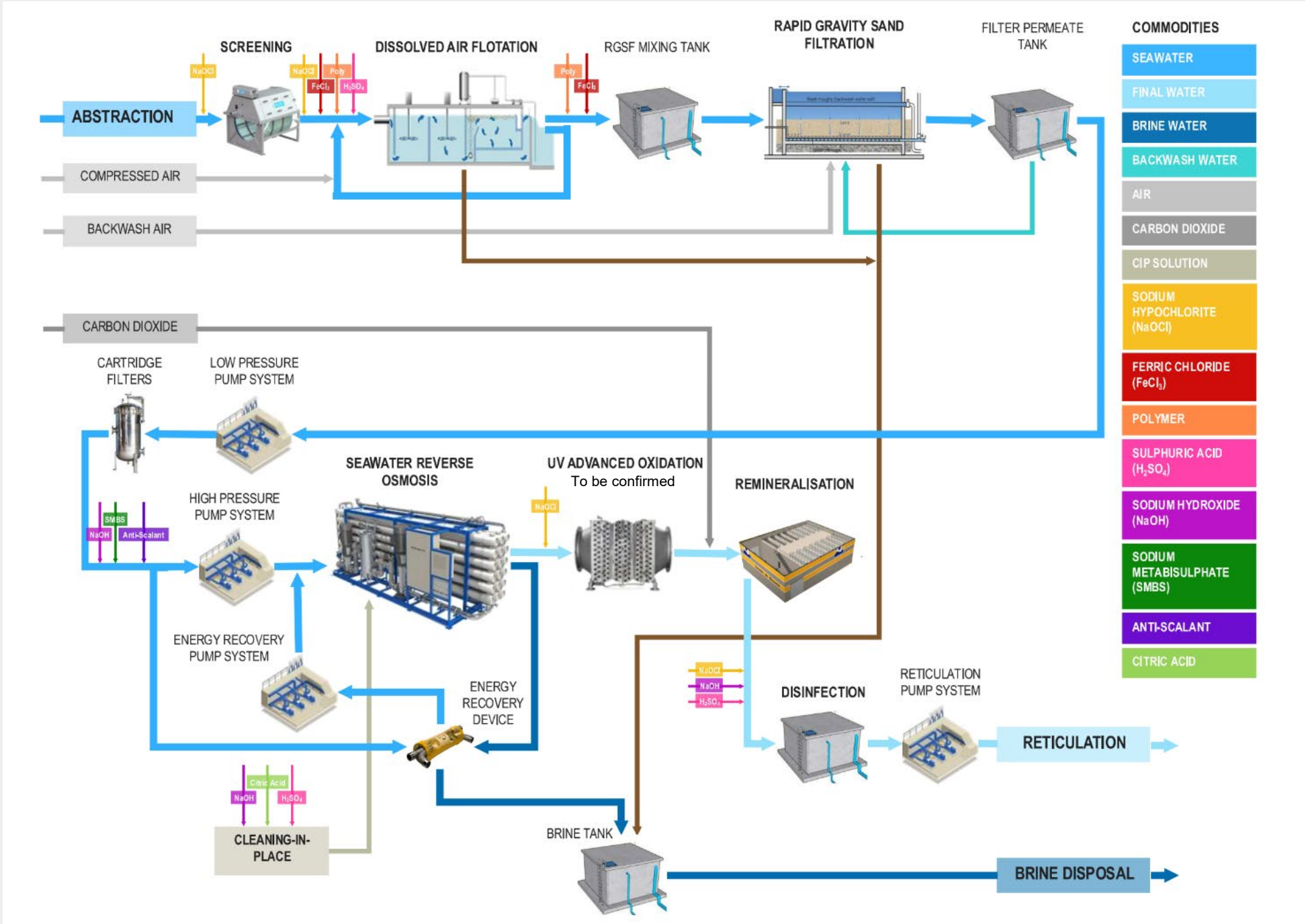

SITE OPTIONS FOR LANDFALL SCREENING AND PUMP STATION
FORESHORE
CANAL (SUBSURFACE)
PIPELINE TO RUN WITHIN CANAL
CONTAINER ROAD
PAARDEN EILAND
DUNCAN ROAD
FORESHORE
PIPELINE BELOW ROAD WITHIN CULVERT/PIPE SLEEVE
MARINE DRIVE
NEREIDE STREET
OPEN CANAL
DESALINATION SITE
FW DE KLERK BOULEVARD

Proposed Process Train

160 Mℓ/d of seawater abstracted

70 Mℓ/d of potable water produced

90 Mℓ/d of concentrate and treatment residual is discharged back to the ocean



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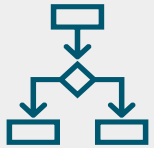
The process being followed: MSA Section 78 Process

Section 78(1)

An investigation of the financial, technical, operational and human resources required to construct, manage, operate and maintain the Paarden Eiland Desalination plant, to establish if the City has the appropriate internal capacity and resources



Section 78(2)

A decision by Council regarding whether to provide the service (i.e., the operation of the Paarden Eiland Desalination plant) via an appropriately resourced internal mechanism, or to proceed with a feasibility study of other options

Section 78(3)

If authorised by Council, undertaking a compliant feasibility study focusing on options for which outsourcing of services is required and preparing a business case (technical, financial, institutional and legal) for the **most suitable** option/s.

Section 78(4)

Consideration of the feasibility study report by Council (including consultation outcomes) and a decision regarding whether to proceed with procurement of any recommended outsourcing option

We are here

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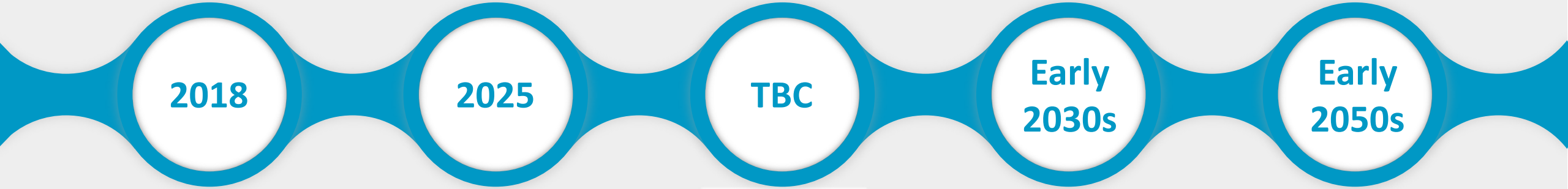
Project Phasing Roadmap
(Indicative and subject to Council approvals)



Project start date

Council Section 78(4) decision to proceed with procurement

PPP Contract Award Date

First Water

PPP Contract End Date

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Project: Outcomes and Benefits

- 💧 Water supply augmentation to the greater Cape Town Metropolitan area.
- 🛡️ Greater water security for the future
- 📈 Economic growth and stability
- 🌍 Climate resilience
- 🏠 Economic resilience benefits for households
- 💼 Economic resilience benefits for businesses

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Potential Opportunities Looking Forward

Construction

- Water Treatment Systems
- Chemical and Dosing Systems
- Utility and Control Systems
- Civil, Mechanical, Electrical Engineering Works

Operation

- Chemical Supply
- Desalination Equipment Supply
- General Plant Maintenance
- Desalination Equipment Maintenance - screening systems, membranes

Employment Opportunities

- Significant direct and indirect employment opportunities during construction and operation of the Desalination Plant.

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Making progress possible. Together.

From Feasibility to Finance

Understanding PPPs and dispelling the myths of privatisation.

Brendon Theunissen

Practice Lead: Water and Wastewater Treatment

Zutari

Brendon oversees a team dedicated to advancing urban water resilience. With 30 years' experience in planning, designing, constructing, and operating treatment solutions, he has delivered projects ranging from process optimisation to major multidisciplinary infrastructure. Brendon has led award-winning initiatives and provides specialist advice locally and internationally.

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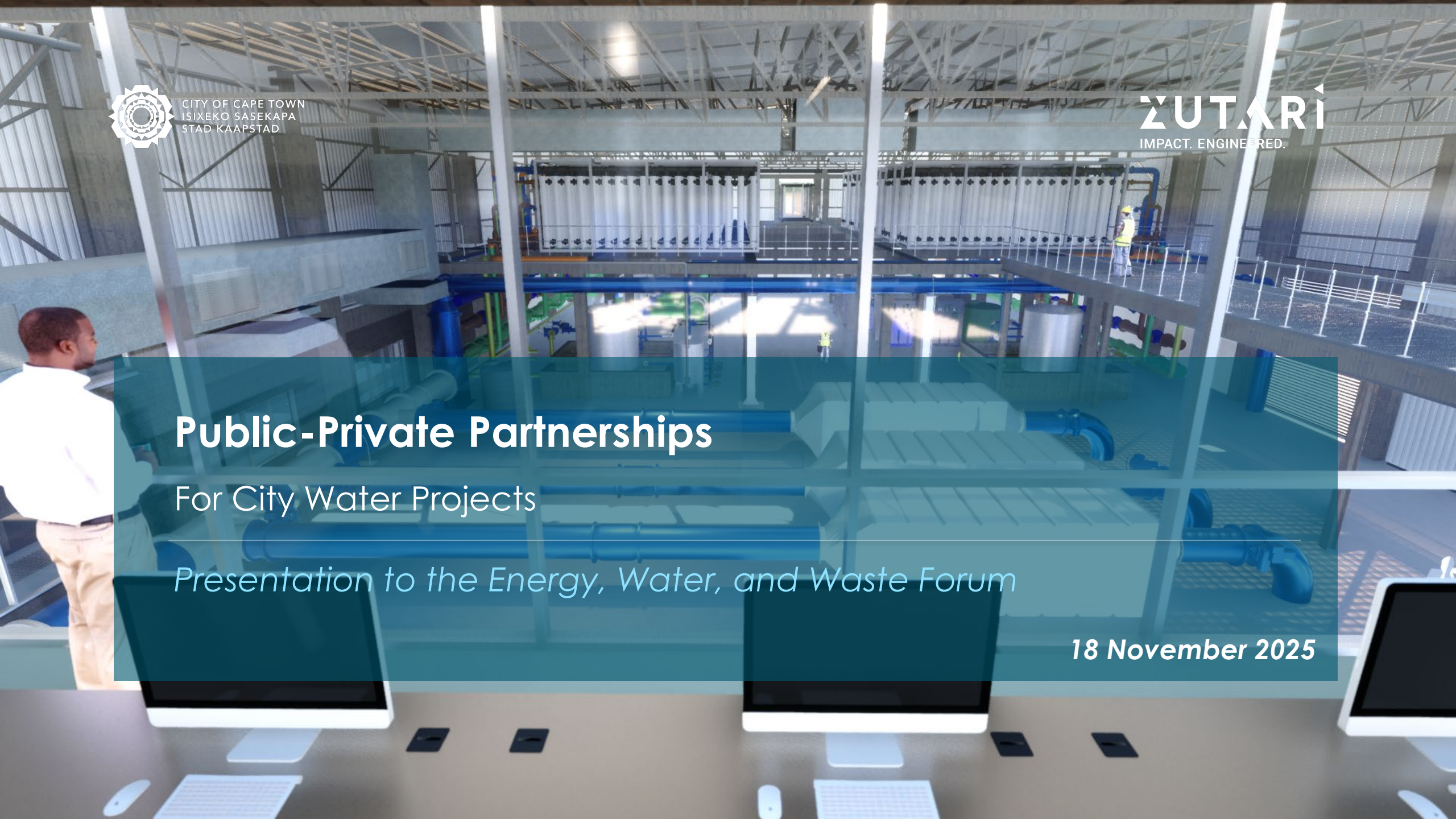


Public-Private Partnerships

For City Water Projects

Presentation to the Energy, Water, and Waste Forum

18 November 2025

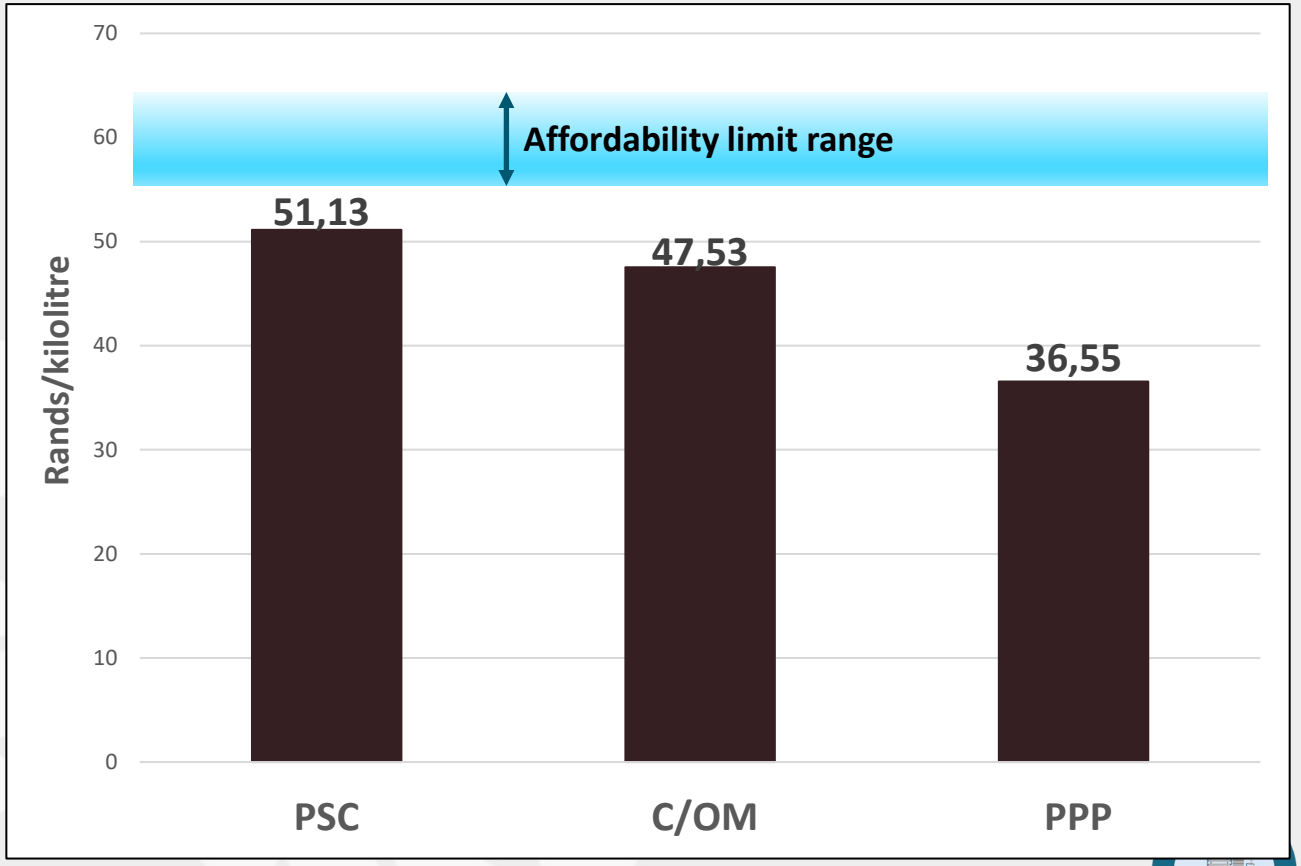
Contents

Why a PPP?

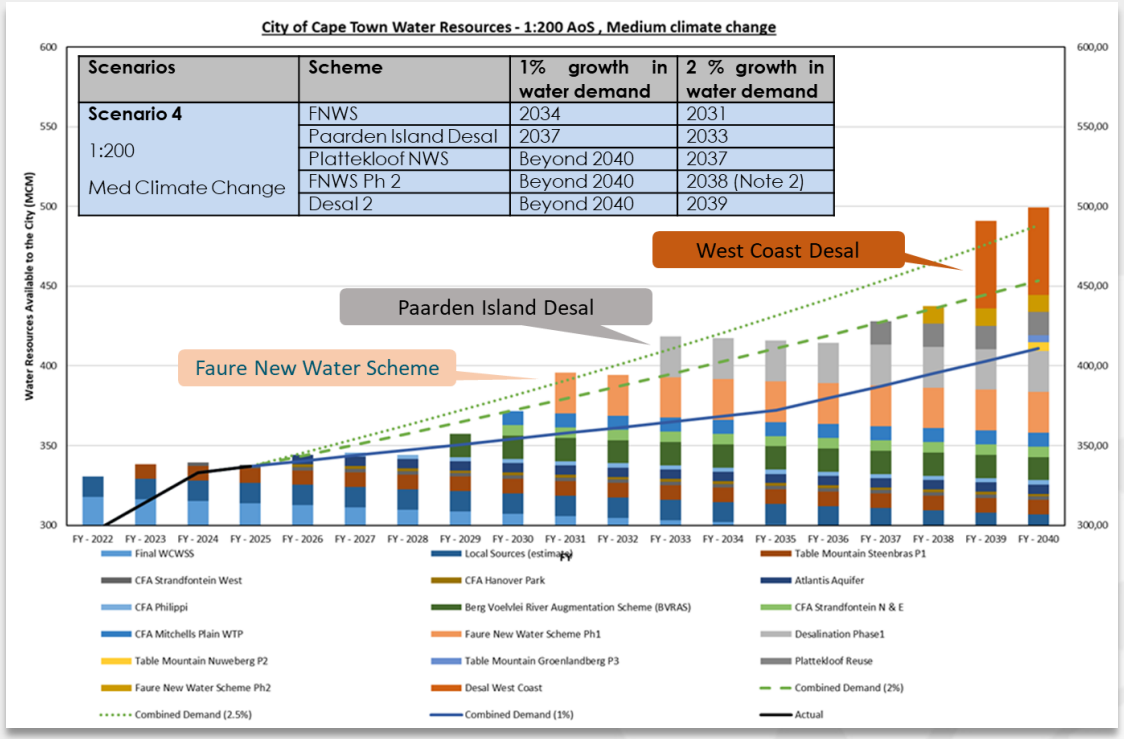
Why consider a PPP?

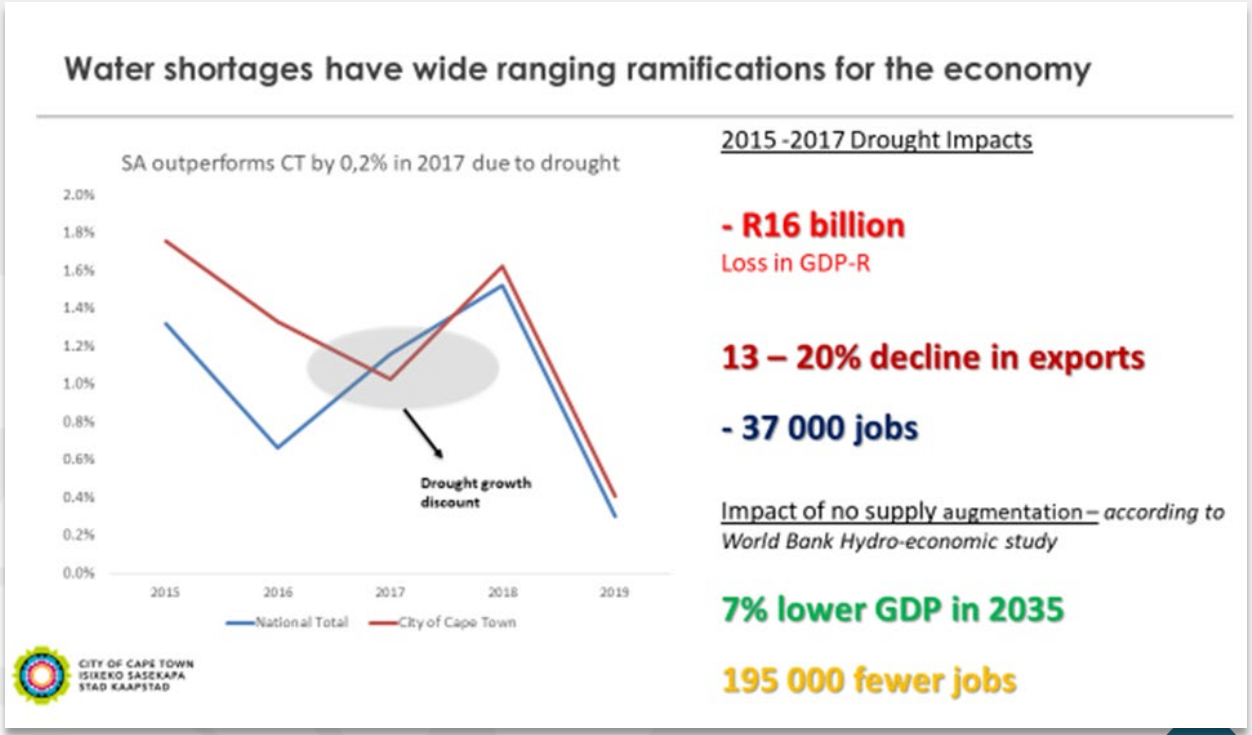
How do we evaluate the options?

How did we get here?



Why a PPP?





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South Africa's Water Crisis Deepens Due to Aging Infrastructure and Poor Management

By SAT - International - June 9, 2025

South Africa Today

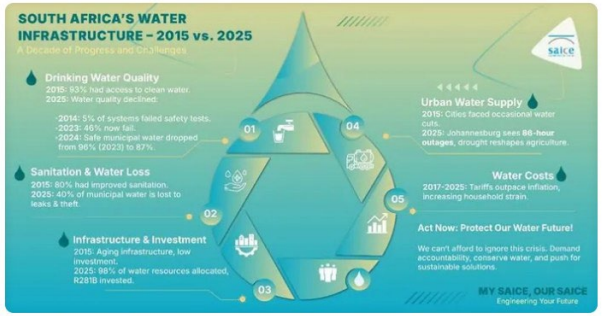
IOS NEWS

South Africa's water crisis: The urgent need for infrastructure renewal

Staff Reporter | Published 7 months ago

2min

IOL



Aging infrastructure which resulted in water losses of upt to 40% should be overhauled urgently.

TALK

BUSINESSTECH

ERGY MOTORING INDUSTRY NEWS PROPERTY TREN

g disaster: Collapsing wate structure in pictures

NEWS

SA Water Crisis | The impact of municipal failures on water sec

Wendy Dondolo | Published 6 months ago

THE MERCURY

Burst pipes and neglected infrastructure symbolise the growing water crisis facing communities across

Image: File

Finance

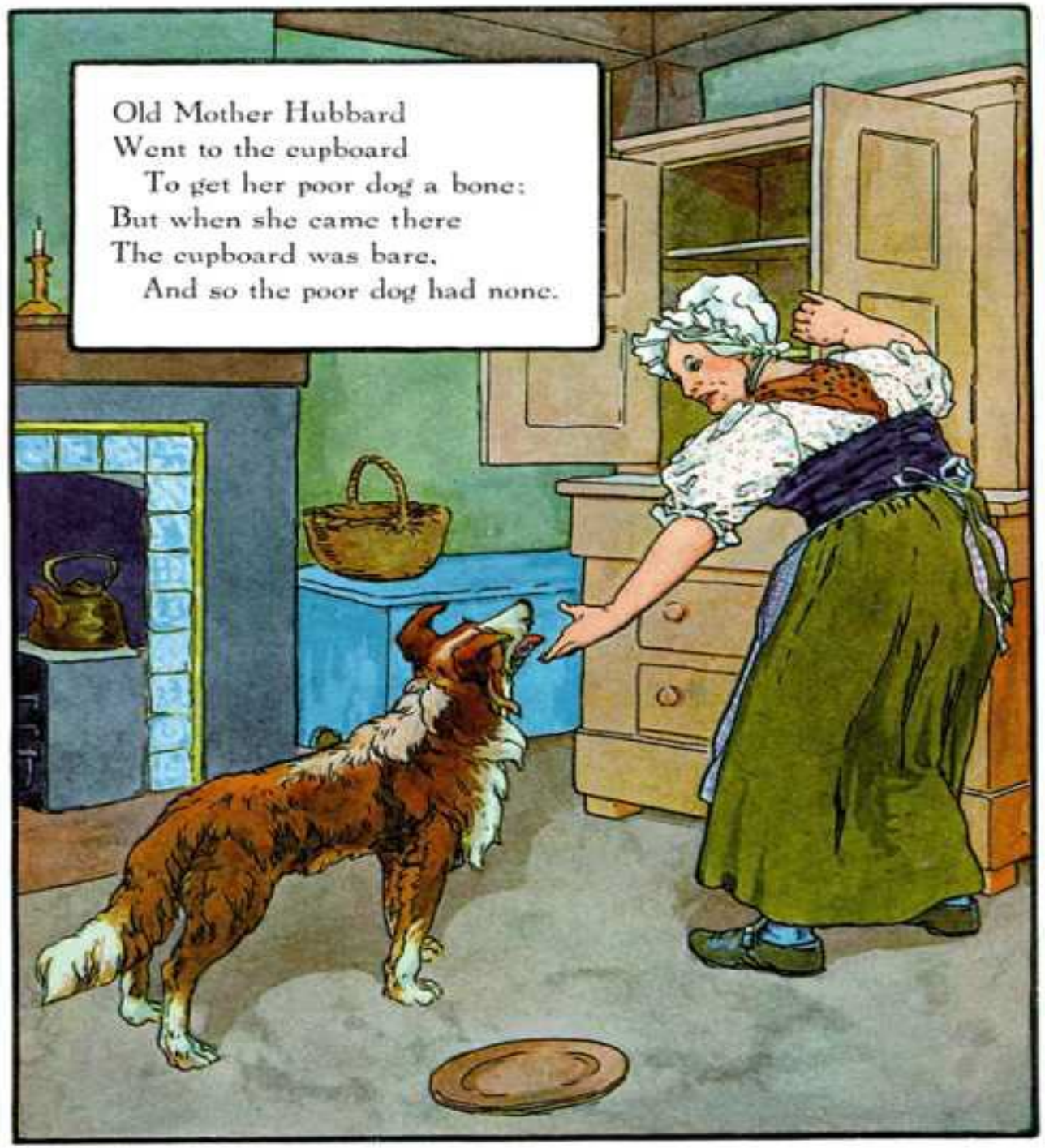
South Africa's government has run out of money

Shaun Jacobs • 3 September 2025

DAILY INVESTOR

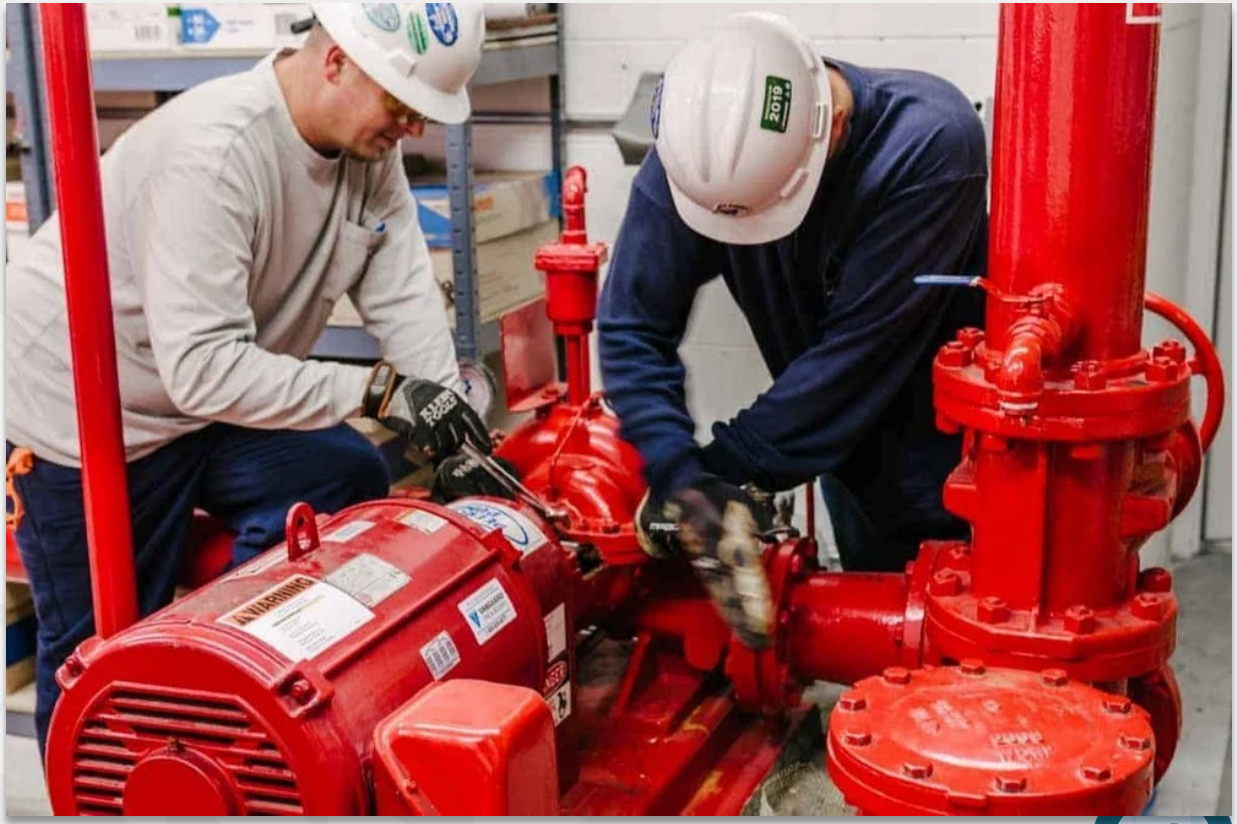
South Africa's government is no longer able to simply borrow more money to afford its ambitious spending programmes, with the National Treasury's policy of fiscal consolidation beginning to bear fruit.

The state cannot afford to take on additional debt as the economy cannot sustain its current debt burden, which has crossed 76% as a share of GDP.



Why a PPP?

- Capital provided by private sector
- Output to specification
- Operation and maintenance budget approved and ring-fenced
- Assets maintained for contract period
- Assets always owned by the state – not privatization
- People skills sourced by the private sector from local and international pool
- Private sector agility to provide public infrastructure



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What is a PPP? Partnership at NEWater Singapore

Supplies 40% of Singapore's water demand

Built in 2003 and developed and operated through a PPP

Strong regulation and enforcement by PUB

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What is a PPP? Goreangab Water Reclamation Plant

World's first water reuse plant

Commissioned in 1968 following a severe drought

Newly upgraded and operated by WINGOC (Windhoek Goreangab Operating Company)

- Consortium of Veolia, Berlinwasser International and WABAG
- Operating since 2001

What is a PPP? Partnership examples across South Africa

Beaufort West Water Reuse

2 Ml/d

Commissioned in 2011

1st DPR plant in South Africa

Ballito Water Reclamation

12 Ml/d

Commissioned in 2016

Forms part of existing partnership for water and sanitation signed in 1999

Durban Water Recycle

47.5 Ml/d

Commissioned in 2001

eThekwini Municipality tenders

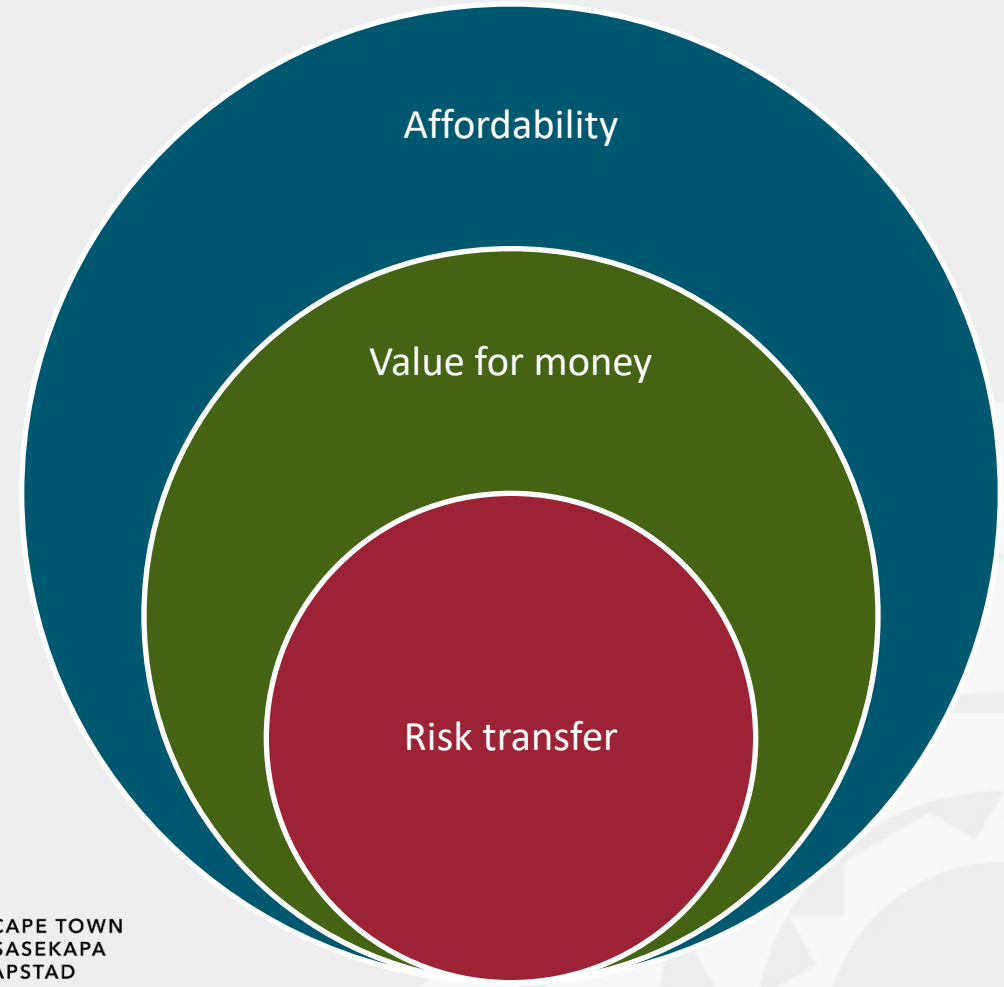
Two new tenders published for WWTWs implemented as PPPs

What is a PPP?

The *Private Sector Entity* performs a departmental function

- in accordance with an output specification
- for a specified significant period of time
- in return for a benefit (financial return)
- with a substantial transfer of project lifecycle risk to the private sector.

What is a PPP? Three pillars



Not:

- Privatisation
- Asset acquisition
- A construction contract
- An O&M or FM contract

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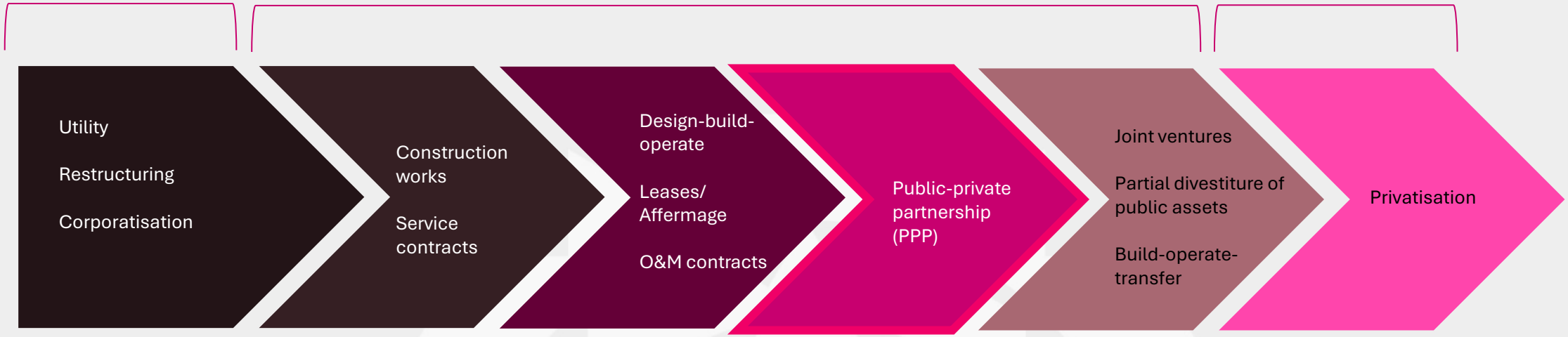
What is a PPP? In context of a spectrum of options

Public sector owns & operates asset

Partnerships

Private sector owns & operates asset



Private sector participation

Low ◄——————————————————————► High

Adapted from Delman (2010), *Understanding Options for Public-Private Partnerships in Infrastructure,* World Bank

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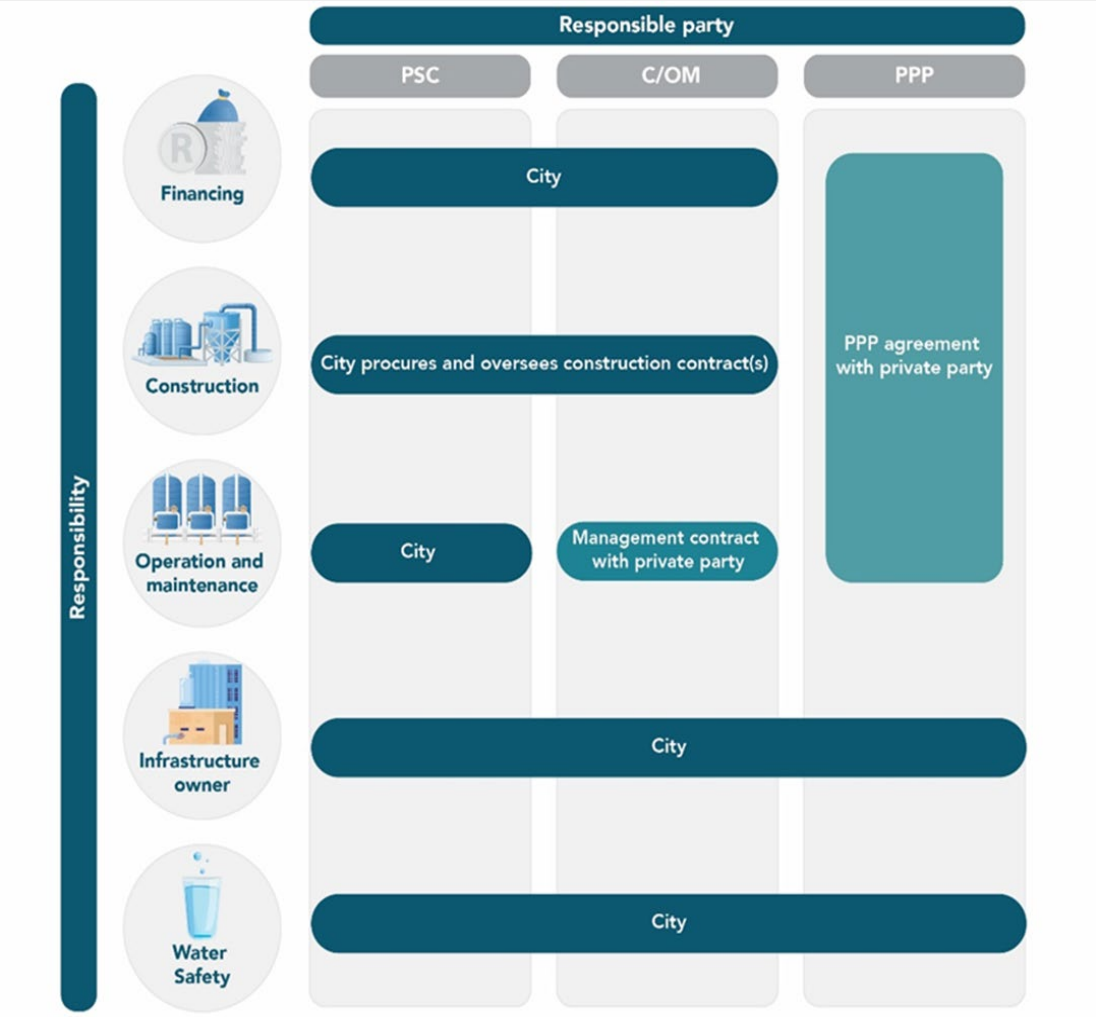
What is a PPP?

Responsibility matrix

City is always the infrastructure owner and responsible for water safety



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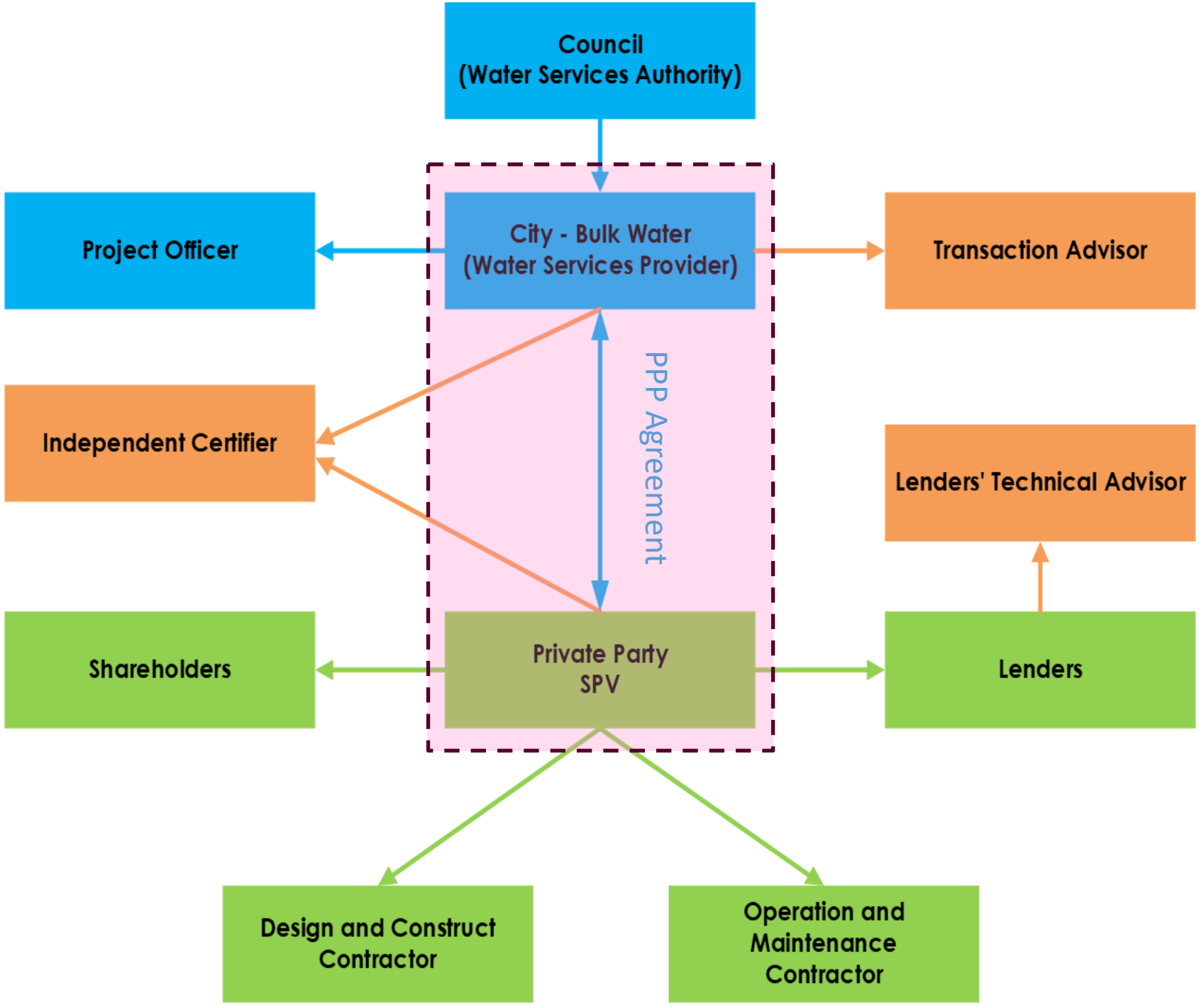
What is a PPP? Parties in a PPP



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What a PPP isn't: UK water privatisation

1989 - UK government sold shares of all local water authorities and transferred ownership to private companies.

Weak oversight and regulation enforcement led to maximising profits and large debt.

Debt accumulation - £64.4 billion

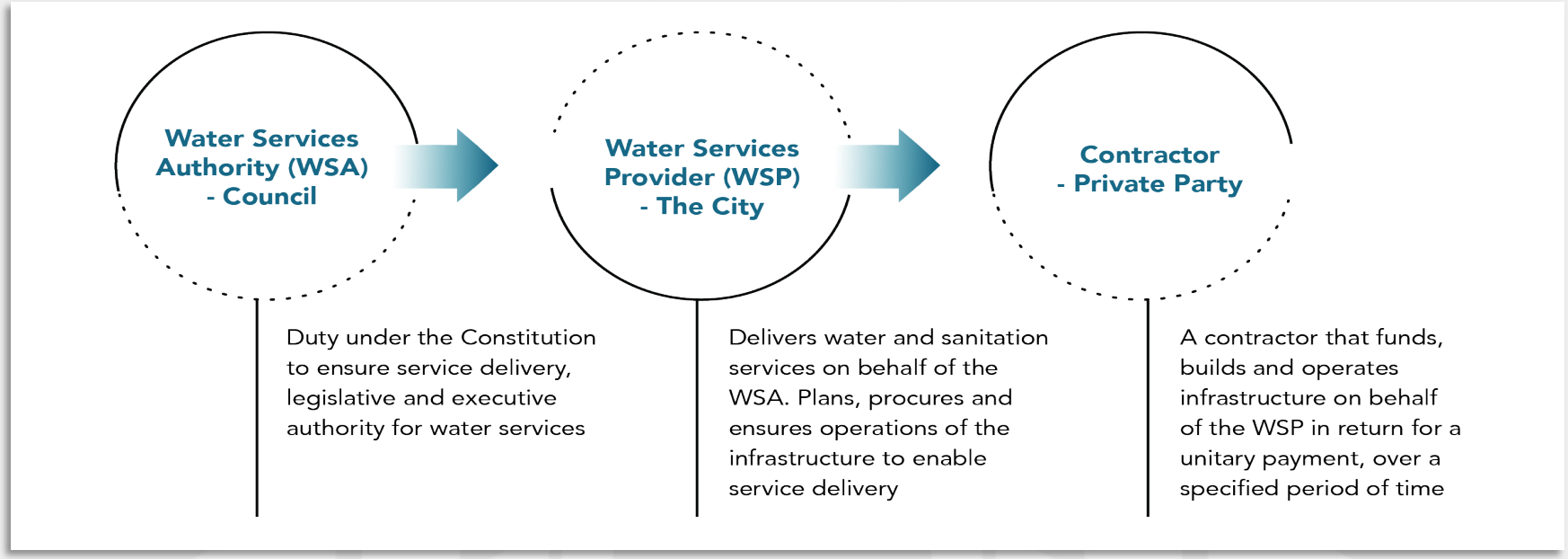
Dividend payments - £77.6 billion

Crippling under investment of water infrastructure and the public paying the price.

What a PPP isn't: Regulated roles

Privatisation - sale/disposal of state property and functions - including assets and liabilities

PPP - contractual mechanism to procure services from a private party through highly regulated and competitive procurement process



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How to we get a PPP: The process for deciding

MSA Section 78 Process

Section 78(1)

An investigation of the financial, technical, operational and human resources required to construct, manage, operate and maintain the Faure NWS, to establish if the City has the appropriate internal capacity and resources

Section 78(2)

A decision by Council regarding whether to provide the service (i.e., the operation of the Faure NWS) via an appropriately resourced internal mechanism, or to proceed with a feasibility study of other options

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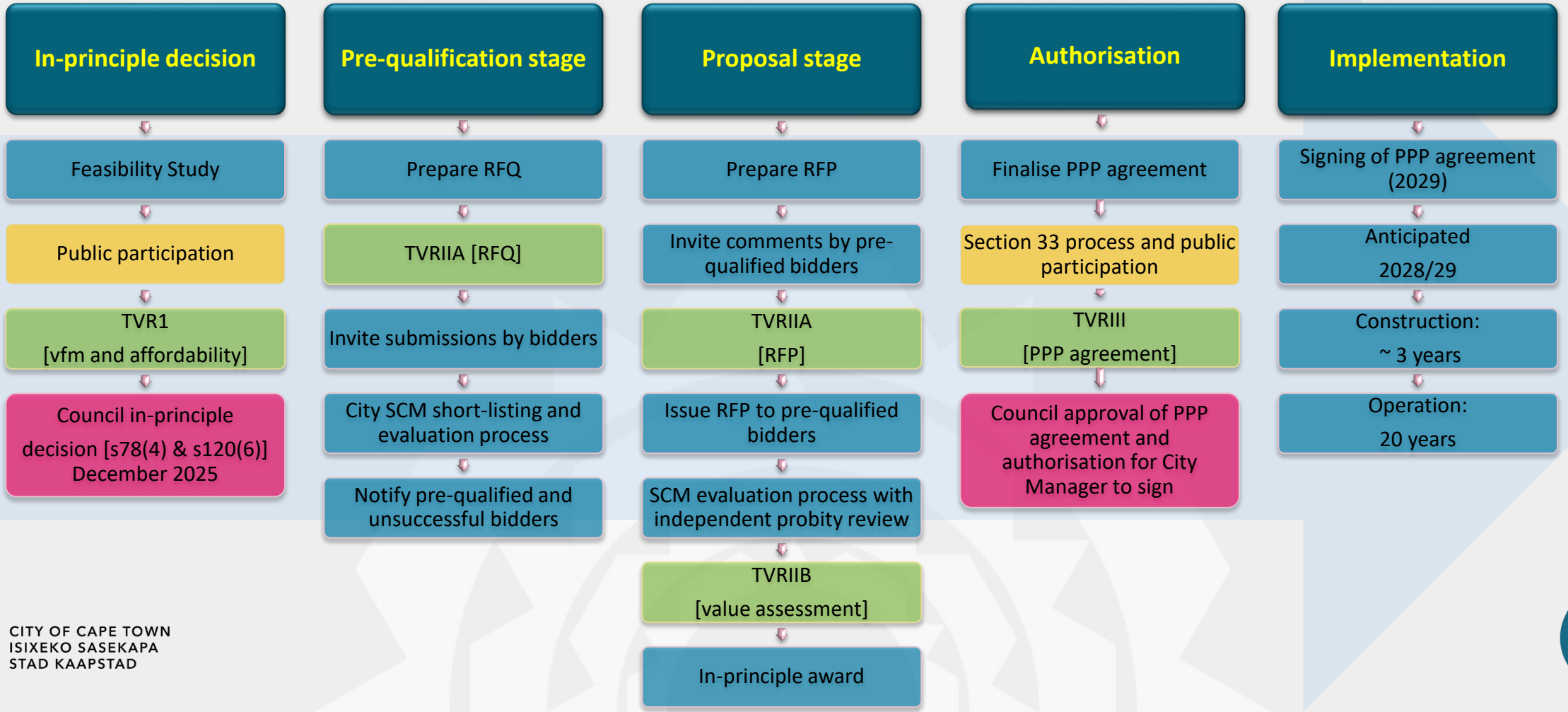
If authorised by Council, undertaking a compliant feasibility study focusing on options for which outsourcing of services is required and preparing a business case (technical, financial, institutional and legal) for the **most suitable** option/s.

Section 78(4)

Consideration of the feasibility study report by Council (including consultation outcomes) and a decision regarding whether to proceed with procurement of any recommended outsourcing option

MFMA Section 120 Process

How to we get a PPP: Decisions, review, & procurement



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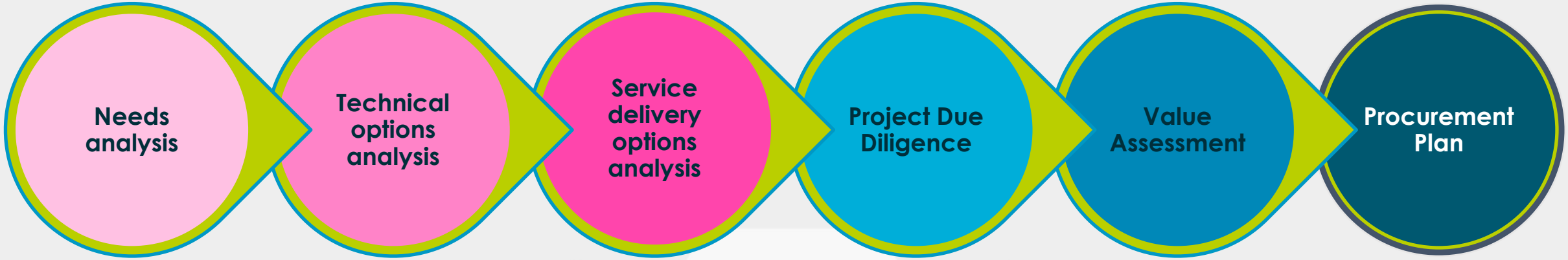
Is a PPP feasible?



- Strategic Alignment
- Regulatory compliance
- Financial realities
- Technical feasibility
- Human resource requirements
- Institutional commitment

- Pre-feasibility study
- Options analysis
- Source and location Selection
- Technology selection

- City built and operated
- City built and outsourced operation
- Public-Private Partnership

- Legal competence
- Site enablement
- Employees and jobs
- Oversight and performance
- B-BBEE and socio-economic objectives

- Full life costs
- Affordability
- Risks
- Value for money

- Internal approvals
- Engagement with National Treasury
- Programme
- Budget and funding
- Risk management
- Procurement practice & procedures
- Consultation

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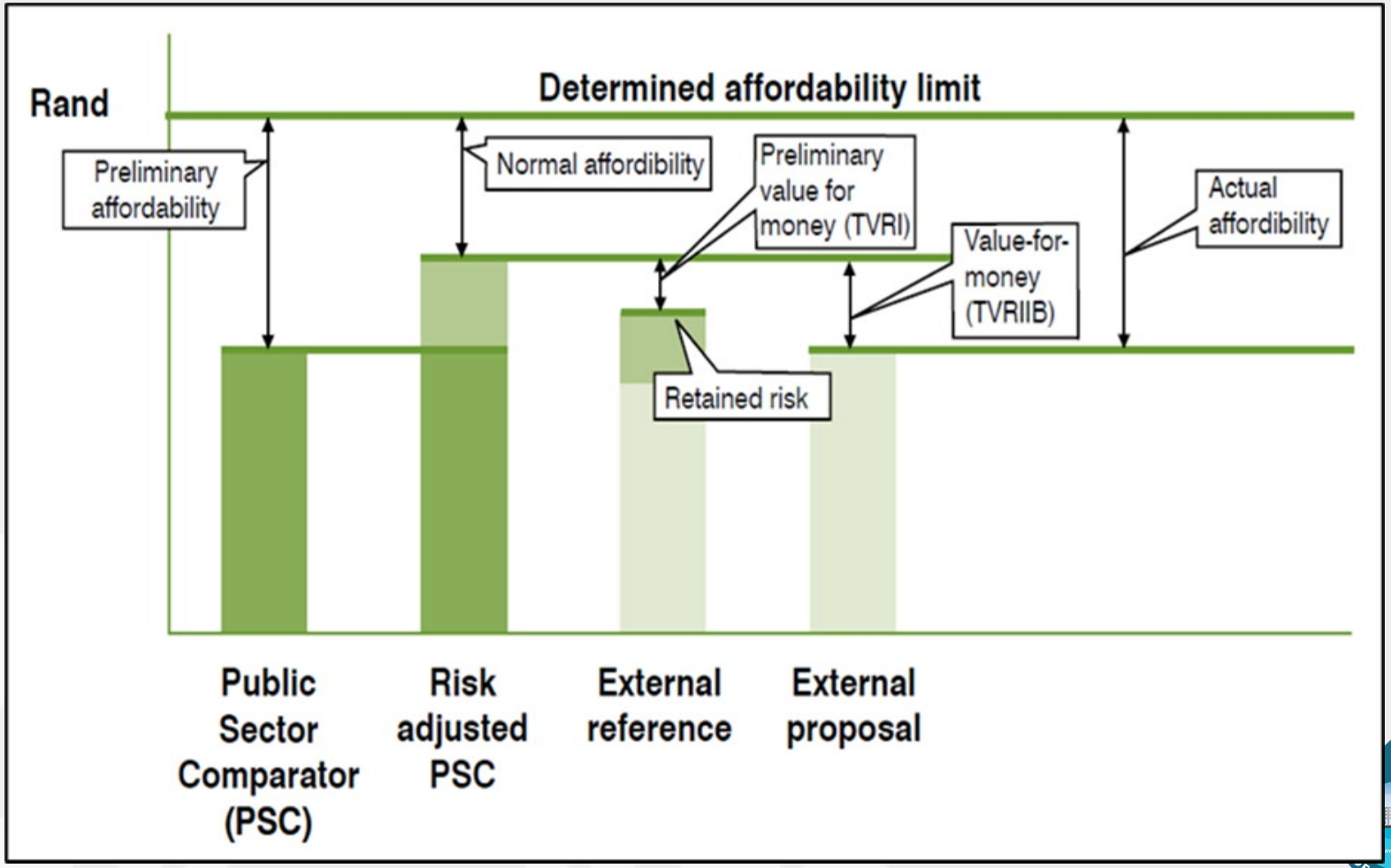
Value assessment: Key concepts

- The ***value assessment*** tests:
  - Affordability: Whether project can be accommodated in the City's budget
  - Value for money: Which option is most economical
- The cost of each option is adjusted to allow for appropriately assigned risks, such as cost increases delays, interruptions in production. The ***risk adjusted*** options become:
  - PSC_{RA}
  - External options -
    - PPP_{RA}
    - C/OM_{RA}



Value assessment: The process

Guided by National Treasury Municipal Service Delivery and PPP Guidelines

Value assessment

Part 1: Determine the type of value-for-money assessment

Part 2: Construct the base PSC model (full VfM)

Part 3: Construct the risk-adjusted PSC model (full VfM)

Part 4: Construct the external reference model

Part 5: Construct the risk-adjusted external reference model

Part 6: Qualitative considerations

Part 7: Sensitivity analysis

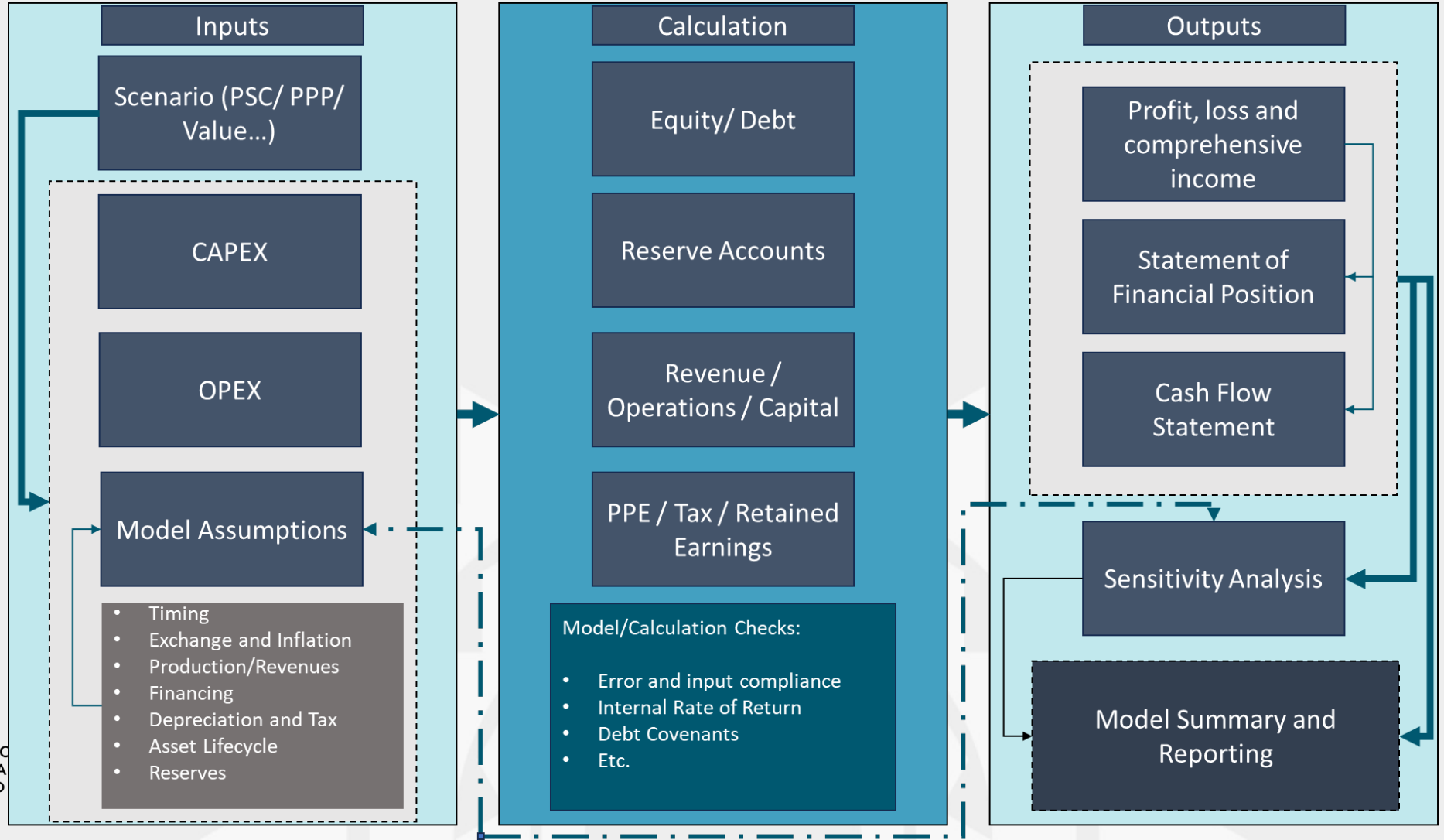
Part 8: Demonstrate affordability

Part 9: Initial value-for-money test

Value assessment: Inputs and assumptions

Capital	Operational	Other	Financing
• Construction • Contingencies • Asset renewal • *Associated risks*	• Labour • Electricity • Chemicals • Membrane replacement • Insurance • Water quality testing • BEE • Mark-up, tax, depreciation, bank charges • *Associated risks*	• Project technical support • Management and oversight • City shared services • Estimated useful life • Plant production • *Associated risks*	• Inflation – capex • Inflation – opex • Working capital • Reserve accounts • Financing structure and sources • Financing rates • *Associated risks*

Value assessment: Cost modelling



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Value assessment: Risk assessment

Risk identification | *The identification of risks associated with the project under consideration*

Risk impact and likelihood | *Determination of the impact and probability of the relevant risks*

Risks allocation | *Allocation of share of risk between the government and private sector*

Risk adjusted model assumptions | *Updating of assumptions for the risk-adjusted model scenarios based on the above effects*

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Value assessment: Risk assessment

Risk grouping

Development – Period up to commencement of the construction phase

Land availability access – Period up to commencement of the construction phase

Construction – Period from commercial close to completion of construction

Operation – Period from commencement of commercial operations

Legal/contractual

Procurement

Financial

Risk workshops

Bulk Water

Catchment Management

EAM & Scientific Services

EMB

Legal Services

SCM

Project and Contracts Management

Policy & Strategy

Finance

Environmental

Property Management

Land use and Building Approvals

Wastewater

Value assessment: Risk assessment

- A time impact - Quantified by the probable number of months associated with the risk (Delays are valued in terms of the loss in production delay component below.)
- A cost impact - Measured as a percentage change in capital or operating costs
- A time and cost impact - Measured as a percentage change in capital or operating costs and a probable number of months associated with the risk
- A loss in production impact
  - Delay in production – Valued as procuring water elsewhere to fill the production shortfall caused by the risk.
  - Reduced production – Valued as an additional operating cost to make up lost production.
- An assumption impact - A change in model assumptions reflects an inherent probability of occurrence and its impact, serving as the basis for risk adjustments in the risk-adjusted model.

Project risks – Time and cost impacts carried forward to risk-adjusted models

Risk summary	PSC-RA	PPP-RA	PPP City retained risk (%)	C/OM-RA	C/OM City retained risk (%)
Time adjustment					
Construction start delay (months)	12	9	78%	11	95%
Loss in production (months)	6	3	79%	10	24%
Cost adjustment					
Development period cost (%)	6.0%	3.3%	39%	5.1%	85%
Maintenance cost (%)	4.5%	1.1%	0%	1.1%	0%
Operating cost (%)	1.4%	0.2%	1%	0.2%	4%

Value assessment: Risk assessment - *exceptional risks*

Difference between PPP and delay in PSC funding at given efficiency differential (Real – ZAR/kl)

Percent Differential	Baseline	1 Year Delay	2 Year Delay	3 Year Delay	4 Year Delay	5 Year Delay	6 Year Delay	7 Year Delay
30 %	(0.98)	1.68	4.31	6.91	9.49	12.04	14.58	17.08
20%	(3.60)	(0.92)	1.74	4.38	6.98	9.57	12.13	14.66
10%	(8.79)	(6.05)	(3.33)	(0.64)	2.03	4.67	7.28	9.87
0%	(11.42)	(8.64)	(5.89)	(3.17)	(0.48)	2.19	4.83	7.45

Value assessment: Value for money

VFM result (NPV - ZAR '000 000)

Description	PSC-RA	C/OM-RA	PPP-RA
Base cost	5,866	6,162	7,728
Risk adjustments	6,424	5,546	1,256
Total risk-adjusted cost	**12,290**	**11,708**	**8,984**
Value for money achieved		582	3,306

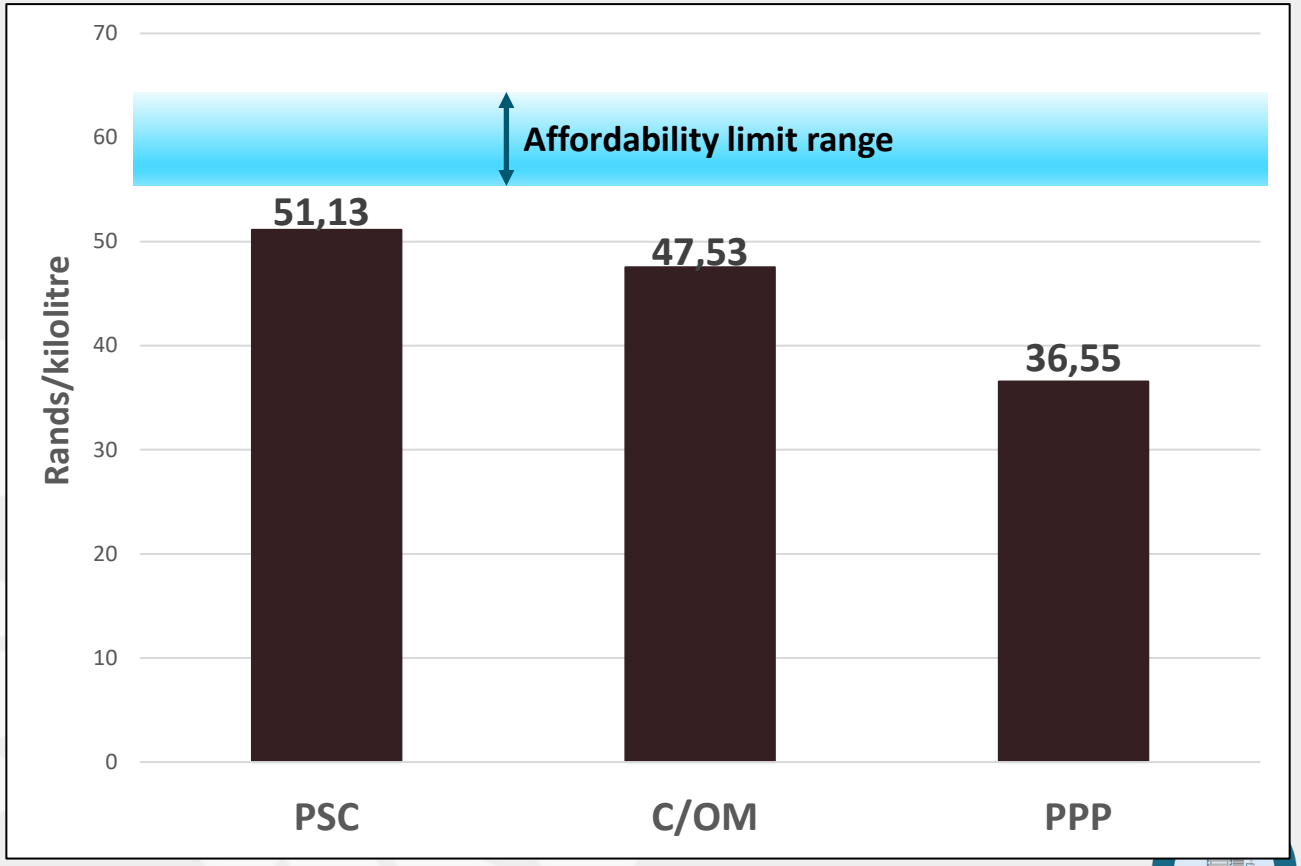
$VFM = NPV\ PSC_{RA} - NPV\ PPP_{RA}$

Total cost of production (real in rands per kilolitre)

Total risk impact	PSC-RA	C/OM-RA	PPP-RA
Base cost	21.52	22.72	31.35
Risk adjustments	29.61	24.81	5.21
Total risk-adjusted cost	**51.13**	**47.53**	**36.56**
Difference to PSC-RA	-	3.60	14.57

Value assessment: Value for money

- The key value assessment tests:
  - ***Risk transfer***: Can significant risk be transferred to another party?
  - ***Affordability***: Whether project can be accommodated in the City's budget
  - ***Value for money***: Which option is most economical
- The cost of each option is adjusted to allow for appropriately assigned risks, such as cost increases, delays, interruptions in production.



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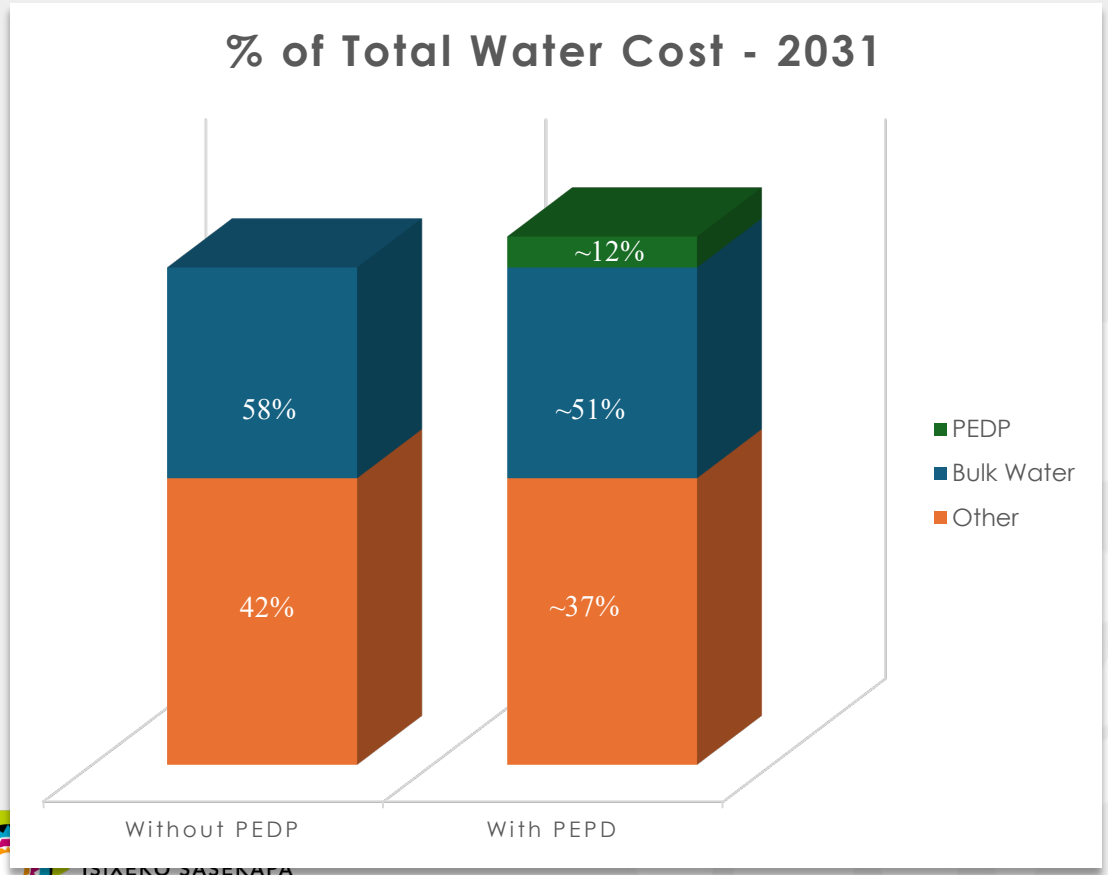
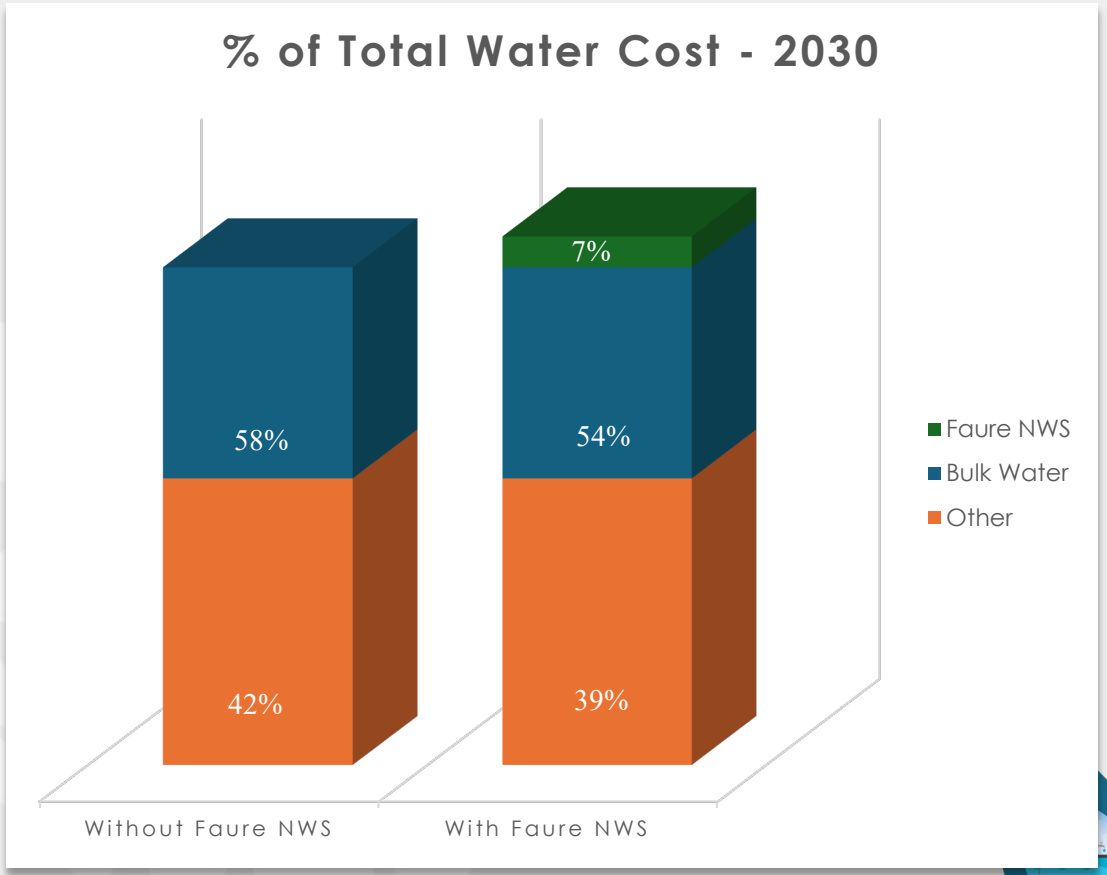
Value assessment: Affordability for end users





Value assessment: Quantitative considerations

Major roles, responsibilities and risks are clear and can be adequately described and allocated in a contract

The project is physically and financially ringfenced, its position in the water supply chain is clear and the commercial arrangements are simple

PPP service delivery option is the most suitable to leverage private financing, innovation, agility, skill, and staff resourcing, specifically for a this project that uses advanced technology

Opportunity to align with the national objective of drawing in private financing and capacity to help deliver and operate public infrastructure

Detailed design development is seen as an advantage in the context of a leading-edge direct potable water reuse scheme where the design and operation implications must be clearly established to ensure success

Macro-economic impacts - economic growth, employment, productivity, etc

Social effects - health, dignity, etc

Environmental benefits - more efficient and responsible use of scarce water resources

Dr Sean Phillips (DG DWS), at the RMB Think Tank Summit (19 May 2025), calling for –

- Increased involvement by private sector in supporting municipalities, while ensuring that government retains oversight of this critical public service
- Public-private partnerships to help strengthen water service delivery

Value assessment: Value drivers

Value Driver	Motivation
Risk Transfer	Substantial **technical, financial, and operational risk transfer** from the City to the private party. This includes risks related to construction delays, performance shortfalls, and operational inefficiencies—areas where private expertise can better manage and mitigate risks.
Whole-of-life costing	Allows for integration of the **design, construction, operation, and maintenance** under one contract. This incentivises the private party to optimise lifecycle costs. The private party will be able to apply value engineering that reduces long-term maintenance and operational expenses.
Innovation	Even though the detail design is complete and will be given as a reference design, the City will allow private bidders to be innovative. The competitive bidding process encourages creative solutions to meet water quality and delivery standards efficiently.
Asset Utilisation	Although the scheme has a **single public off-take**, the private party is incentivised to optimise the facility's performance and resource use. This could include energy efficiency and process optimisation.

Value assessment: Value drivers

Value Driver	Motivation
Focus of service delivery	The PPP contract will clearly define the expected output specifications in terms of **water quality standards and volume,** allowing the private party to focus solely on meeting the output specification. The private party has more motivation to meet the delivery date, because payment will only made then.
Predictability of cost and funding	The PPP model ensures **unitary payments** over the contract term, which supports long-term budget planning. The ringfenced nature of the project (both physically and financially) adds to the predictability and stability of funding and cost management.
Mobilisation of additional financing	The projects address critical water security challenges, including climate change and reduced availability of surface water. They are aligned with National Water & Sanitation goals and will pave the way for the future of DPR and desalination in the country. This serves as motivation for grant funding.
Accountability	The PPP agreement includes **performance-based payments**, meaning the private party is only paid if it meets agreed output specifications. This ensures accountability and incentivises consistent delivery of high-quality water. However the City will still remain accountable to the consumer.

Value assessment: Conclusions

The project will be **affordable,** whether delivered under a public or private model, in the sense that it will be substantially less costly than any of the next-best alternative bulk water projects available and provided for in the future planning according to the Water Strategy.

The PPP case presents the best **value for money**; of more than a quarter gained compared with the PSC. Even if the City's capital and capacity considerations play out more favourably, a notable value differential favouring the PPP option will persist.

As regards **risk transfer,** under the PPP option nearly all financing risk and risks during the construction period, and effectively all operation and maintenance risks are transferred to the private party. Under the C/OM option the City also retains the financial and construction period risks.

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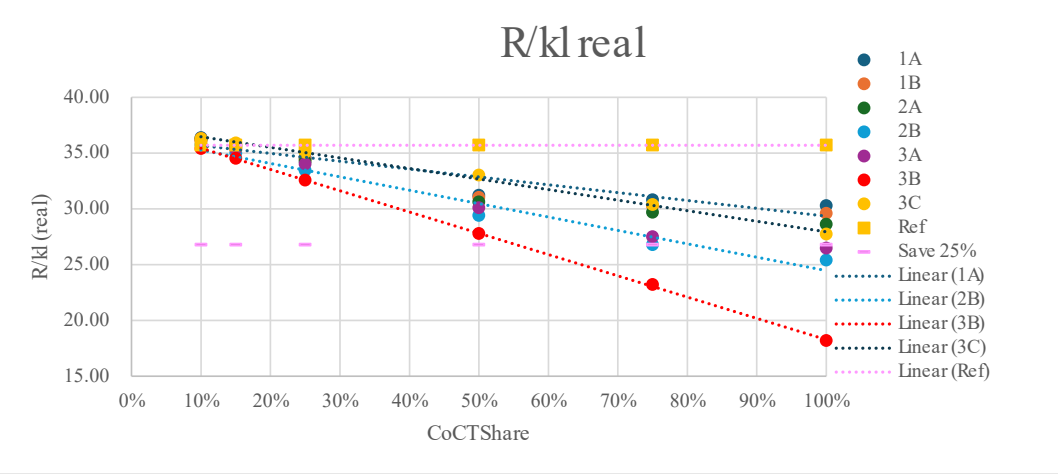
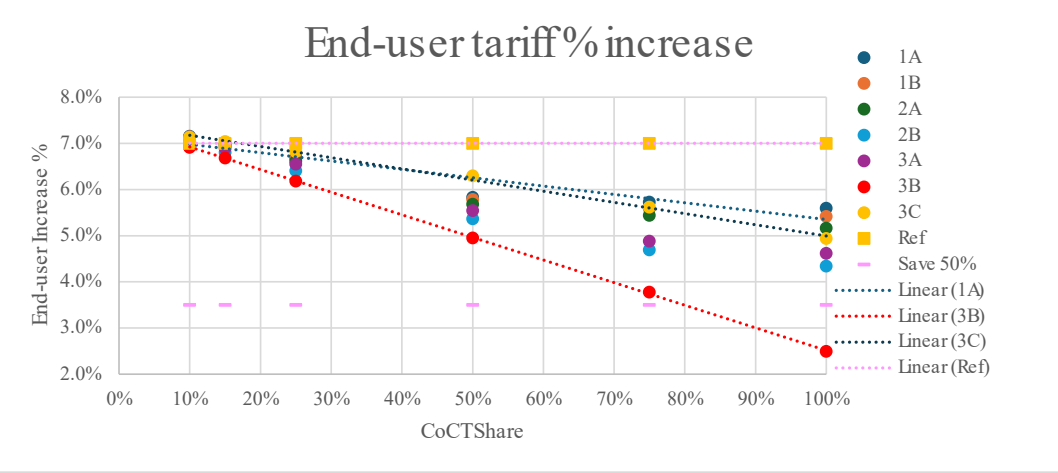
Improving affordability





25% reduction in impact on water cost inf R/kl achieved with alternative funding contribution of:

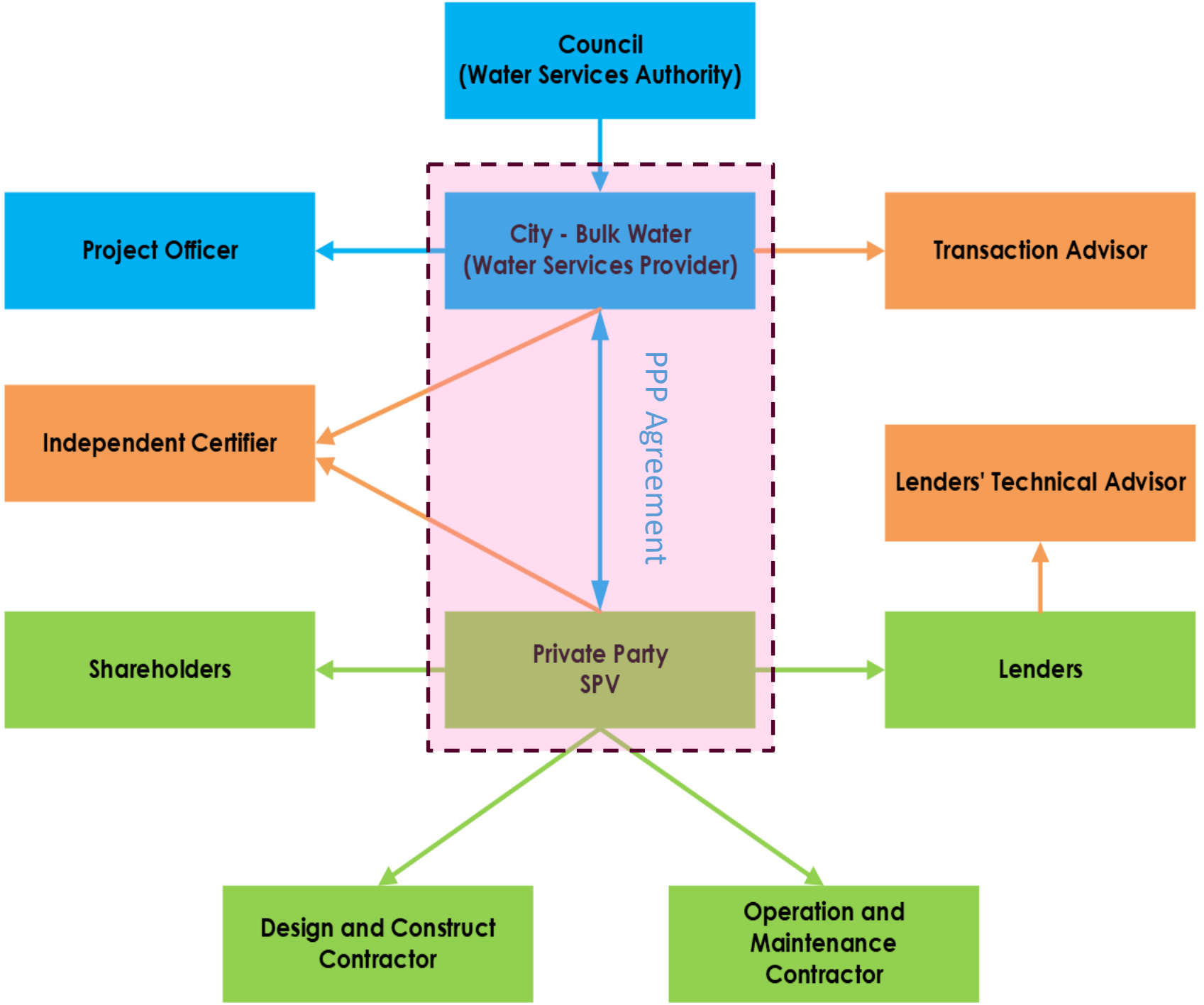
- 85%+ for Option 2B
- 55%+ for Option 3B
- For practical purposes, a grant contribution replacing both equity and debt (i.e. Option 3B):
  - Of R1bn, which is equivalent to a ~30% City share, results in a ~ 15% reduction in bulk water cost
  - Of 50%, which is ~ R1.6bn, results in a ~ 25% reduction in bulk water cost

50% reduction in end-user increase achieved with alternative funding contribution of:

- 80%+ for Option 3B

Note that end-user effect is diluted by the (small) share of Faure NWS in total delivered water cost

A call to the private sector



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Just water.

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THANK YOU

Getting Business ready for our shared water future

Nkululeko Mabila

Senior Analyst: Water Sector
GreenCape

Nkululeko is a hydrologist with six years' experience in the water sector. He holds a Bachelor's, Honours, and Master's degree in Hydrology from the University of KwaZulu-Natal and has built expertise in environmental flows, flood estimation, and water quality monitoring. Skilled in GIS, data analysis, hydrological modelling, and advanced water treatment, Nkululeko brings strong technical insight and proficiency in tools such as ArcGIS, R, and ACRU.

Partnering for the Future: Preparing the Private Sector for Water Reuse and Desalination Opportunities

Energy Water Waste Forum: From Feasibility to Financing, Securing Our Water Future
20 November 2025
Nkululeko Mabila – Senior Analyst at GreenCape

GreenCape

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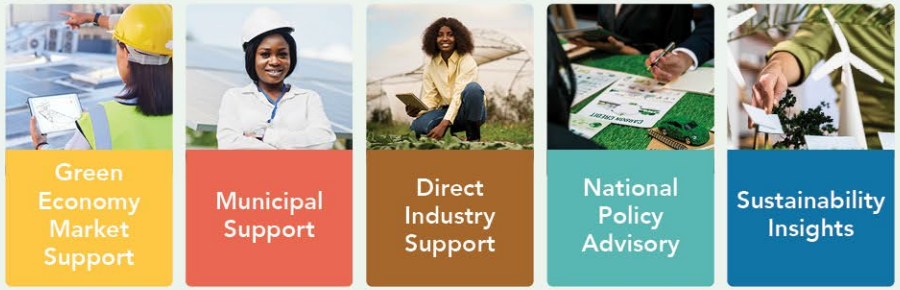
GreenCape

GreenCape is a non-profit organisation that drives the widespread adoption of economically viable green economy solutions in Africa.

The team

The GreenCape team is made up of professionals with backgrounds spanning engineering, environmental science, finance, development and economics.

Our services



Our achieved impact over 15 years

~ 22 000
local jobs

~ 2 000
members

~ R70 billion / $3.9 billion
facilitated investment in the Green Economy

Our international network memberships

Ellen MacArthur Foundation · International Cleantech Network · INETTT International Network of Energy Transition Think Tanks · UN environment programme · CTCN UN Climate Technology Centre & Network

Vision

GreenCape's vision is a thriving prosperous Africa mobilised by the green economy.

Mission

We work at the interface between business, government and academia in order to identify and remove barriers to economically viable green economy infrastructure solutions in developing countries.

Ambition

In the next five years, GreenCape aims to catalyze a further R45 billion in green economy infrastructure investment and create 15 000 jobs across sub-Saharan Africa, accelerating progress towards SDG 8, 2, 6, 7, and 12.

Scan to visit our website

Supporting the business of green.

Session Purpose

Goal: Increase industry readiness for upcoming water reuse and desalination tenders.

By the end of this session, you will understand:

- The City's project pipeline and delivery mechanisms
- The procurement and PPP process
- What companies need to prepare (compliance, technical, financial)
- Partnership and consortium-building opportunities

Water reuse project

This brief is written for:

- Companies interested in the opportunity to provide technologies, products and services linked to the City's planned Faure New Water Scheme.

This brief discusses:

- Background description of water reuse in the City.
- Planned purification process and technologies.
- Skills and staff requirements.
- Water reuse case studies.
- City of Cape Town's community engagement initiative.

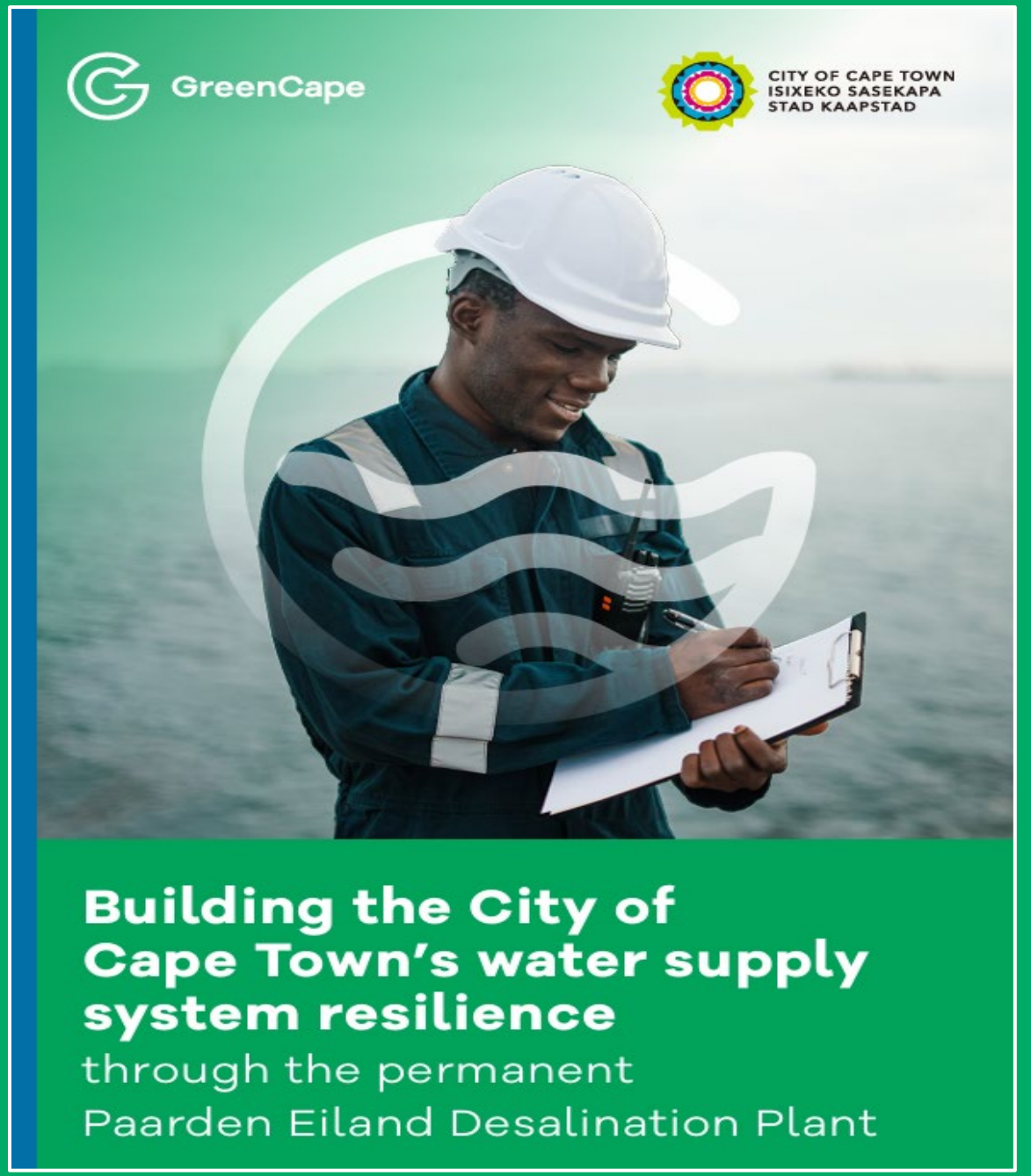
Desalination project

This brief is written for:

- Companies interested in the opportunity to provide technologies, products and services linked to the CCT planned Paarden Eiland Desalination Plant

This brief discusses:

- Background description of desalination in the CCT.
- Planned purification process and technologies.
- Skills and staff requirements.
- Desalination trends and case studies
- CCT's community engagement initiative.
- Overview of CCT's procurement processes.



Procurement and partnering guide

This brief is written as a reference guide for water and wastewater businesses and investors to start or grow their public sector market share. It includes an overview of:

- The key functions, institutions, roles, and pricing structures within South Africa's water sector.
- Procurement legislation, models and requirements and their implications to businesses.
- Platforms to trial new technology and accelerate innovation.

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Procurement / PPP Process Models

RESPONSIBILITY MATRIX FOR CONVENTIONAL PROCUREMENT AND PPP OPTIONS							
			Public-Private Partnership				
Category	**Works and Service Contracts (conventional procurement)**		**Management and Maintenance Contracts**		**Operation and Maintenance Concessions**	**Build Operate Transfer Concessions**	**Privatization**
Type	Design, bid, build	Design and Build	Mgmt Contracts	Performance Based Contracts	Lease or Franchise or Affermage *Brownfield*	BOT/DBFO/BOO *Greenfield*	
Design	Private by fee contract	Private by fee contract	-	-	-	Private by concession contract	Private
Build	Private by fee contract		-	-	-		
Operation & Maintenance	Public	Public	Private by fee contract	Private by BBC contract	Private by concession contract		
Finance	Public	Public	Public	Public			
Own	Public	Public	Public	Public	Public	Public after contract (BOT/DBFO) or Private (BOO)	

[2]Source: PPIAF 2009

Procurement / PPP Process Checklist

Area	What's Required
Legal and Compliance	Registered entity, valid tax clearance, CSD registration
Technical	Proven desalination/reuse experience or strong local partnerships
Financial	Ability to show balance sheet strength or financing partners
B-BBEE / Localisation	Compliance with transformation requirements
ESG / Environmental	Internal governance, Environmental approvals, social value considerations

Building Effective Partnerships

- Successful PPP bids often come from diverse consortia. Start identifying partners early — particularly those who complement your skills or access to capital
- Benefits: shared risk, stronger bid, local empowerment

Types of partnerships:

- Large–small enterprise collaborations
- Local–international technology alliances
- EPC–operator–financier models

Building Effective Partnerships

Partner type	Where to find this partner
Consultants	Consulting Engineers South Africa (CESA) online directory
	South African Council for Natural Scientific Professions (SACNASP) online directory
	South African Council for the Architectural Profession (SACAP) online directory
	South African Geomatics Council (SAGC) online directory
	Environmental Assessment Practitioners Association of South Africa (EAPASA) online directory
	South African Council for the Quantity Surveying Profession (SACQSP) online directory
Contractors and sub-contractors	cidb register of contractors
Suppliers	Western Cape Government's green water businesses database
Service providers	Western Cape Government's green water businesses database

Interactive Poll and discussion

Has your organisation previously participated in a PPP or long-term municipal contract?

- A. Yes, more than once
- B. Yes, once
- C. No, but planning to
- D. No, and unsure

What is your biggest barrier to PPP participation?

- A. Understanding Compliance and administrative requirements
- B. Access to finance / balance sheet strength
- C. Finding the right partners or consortium members
- D. Access to information
- E. Other (Please add)

What type of industry support would most increase your readiness?

Call to Action and Next Steps

- The City and its partners will continue engaging with industry. Please stay connected
- The following sources can be consulted for assistance when bidding on CCT tenders:
  - The CCT's Supply Chain Management Policy.
  - Relevant webpages on the CCT's website, such as the Tender Portal, guiding articles in City Connect, and the CCT's supplier database.
  - Water tariffs can be accessed from the CCT's latest budget annexure.

Resources / Support

GreenCape's business support page:

www.greencape.co.za/water-business-support

Contact: water@green-cape.co.za

Supplier database for water technologies and services

Industry briefs:

https://greencape.co.za/library/

Case Studies

https://www.green-cape.co.za/content/focusarea/water-resilient-businesses

Thank you

Stay in touch as you navigate the next steps

water@green-cape.co.za
Nkululeko@green-cape.co.za

Interactive Dialogue

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EWW Forum General Information

- **EWWF project lead:** Aatifah Latief. Professional Officer: Sustainable Energy Facilitation Branch
- EWW Forum https://bit.ly/AboutEWWF
- All queries are directed to EWW.Forum@capetown.gov.za
- Subscribe https://bit.ly/ewwfsub

ENERGY WATER WASTE FORUM
A PARTNERSHIP FOR THE CAPE TOWN COMMERCIAL SECTOR

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Thank You

Making progress possible. Together.