



uMkhomazi Water Project Phase 1

NATIONAL COUNCIL OF PROVINCES
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I. Purpose

- To provide a background to the uMkhomazi Water Project (**uMWP-1**), highlighting progress and its critical role in enhancing water security in the province.



II. Project Purpose

Why is the Project necessary:

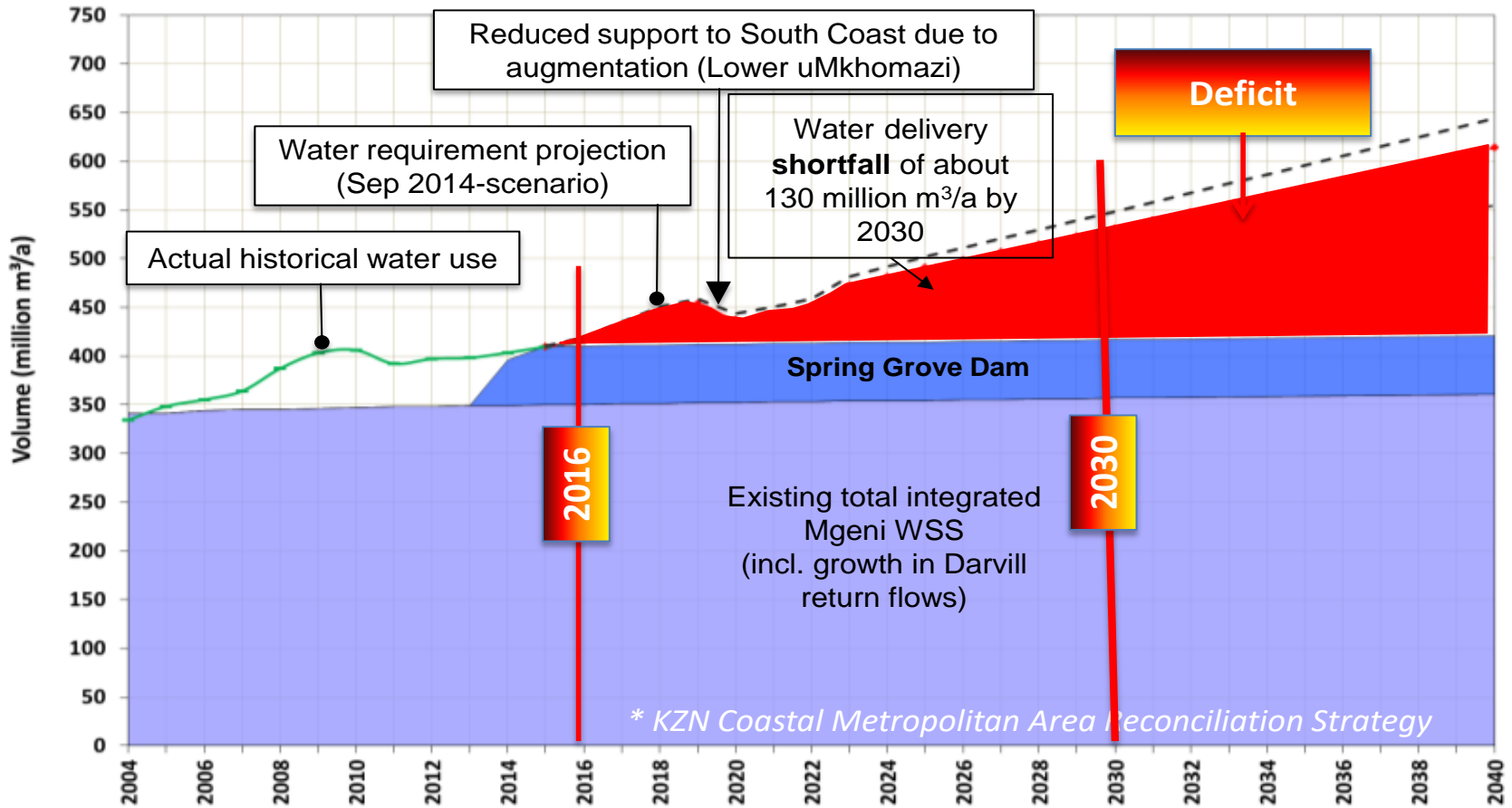
- The project will transfer water from the uMkhomazi River to augment the **Mgeni Water Supply System (Mgeni WSS)**, which supplies domestic water to **more than 5 million people** and industries in **South Africa's third largest regional economy**, viz the Durban and Pietermaritzburg regions.
- The Mgeni System is **already experiencing a deficit** and therefore needs to be augmented for increased water security in the Mgeni System until at least 2040.

Project Purpose (cont'd)

- The project will increase the Mgeni System yield from **394 to 608** million cubic metres (or kilolitres) per annum.
- The KZN Coastal **Metropolitan Reconciliation Strategy** by the Department of Water and Sanitation confirmed that the uMWP-1 is the next viable long-term scheme to augment the Mgeni System as soon as possible.
- Due to uMWP-1's strategic nature and the urgent need for additional water in the Mgeni System, the DWS needs to **fast-track** its implementation.

Project Purpose (cont'd)

The current water requirements projections of the Mgeni Water Supply System in Deficit since 2016:



Project Purpose (cont'd) :

Efforts to manage demand increases / water losses include the following actions proposed by uMngeni-uThukela Water:

- DWS require that uMngeni-uThukela Water reduce supply to their current Water Use Licence within the Mgeni System.
- Supply will be curtailed at 979.2 Ml/day (million litres per day) for eThekweni Metro, 197.2 Ml/day for Msunduzi Local Municipality and 62.4 Ml/day for uMgungundlovu District Municipality. Current supply to eThekweni is about 1100 Ml/day, whereas the supply to Msunduzi and uMgungundlovu is currently 216 Ml/day and 68.2 Ml/day respectively.
- Any future growth in supply within the municipalities will only be accommodated by an equivalent saving in water loss.
- uMngeni-uThukela Water is investigating the construction of flow control at strategic offtakes to ensure that supply to the municipalities is managed to the volumes provided above.

Project Purpose (cont'd)

Socio-Economic Impact:

- R86,661 million total additional production (new business sales) anticipated to be generated by the project. GDP is anticipated to increase by R30 305 million.
- 4,280 direct employment opportunities related to construction and site operation.
- 110 annual employment opportunities would be created in a permanent manner for the operation of the scheme.
- In total, 123,846 employment opportunities are generated through direct, indirect and induced activities over the same period.
- Failure to implement the project will discourage investment and threaten jobs and the regional economy, and risk social unrest.

Source: uMkhomazi Water Project: Module 1: Technical Feasibility Study: Raw Water

III. Project Planning and Conception

Incremental Planning for uMWP-1:

- **8 alternative** schemes were initially identified by the pre-feasibility investigation by DWS (**1998**).
- After assessments the **Impendle** and **Smithfield** scheme configurations were then found most suitable for further investigation.
- The study finally **recommended** the proposed Smithfield Scheme should be investigated further.
- A 2003 study found the Mooi-Mgeni Transfer Scheme (**MMTS-2**) project should be implemented before the uMWP-1.
- The uMWP-1 Studies (technical/engineering and environmental) were initiated by **2009**. The technical/engineering study was concluded by **2014** and the scheme was found to be feasible.

Project Planning and Conception (cont'd)

Key recommendations of the Feasibility Study:

- Appointment of TCTA by the Minister as the implementing agent for the raw water component.
- Appointment of uMngeni-uThukela Water as the implementing agent for the potable water component and operator for the whole uMWP-1.
- The raw water component of uMWP-1 could be funded off-budget and in total using private sector funding. The cost of the full uMWP-1 would then be recovered out of the uMngeni-uThukela Water bulk water sales.
- In order to reduce the cost burden and help subsidize the supply of water to indigent households, the raw water component could be partly funded on-budget by National Treasury and reduce the impact on UW tariff.

Project Planning and Conception (cont'd)

Key recommendations of the Feasibility Study:

- There is a strong motivation based on household income and the cost of the project, that 25% of the water supplied by uMWP-1 be declared social water.
- Accordingly, the raw water component of uMWP-1 could be funded partially on-budget (approximately 25%) by National Treasury with the balance of 75% being funded through private sector debt funding.
- Development of the financial models for the raw water and potable water components by TCTA and UW respectively,
- Finalisation of off-take agreements with Water Service Authorities that constitute 85% of current water use, by September 2017.

Project Planning and Conception (cont'd)

Components Consulted:

- Development of the project proposals over a number of years included structured consultations, usually through a Project Steering Committee (PSC) and thematic working groups for water services and other infrastructure (such as roads and power supplies), with other Government Departments, Provincial Government Departments and Parastatals (such as Eskom, Telkom, Transnet, SANRAL, etc.).
- During the environmental impact assessment (EIA) Process, authority meetings were held with the DEA, Department of Agriculture Fisheries and Forestry (DAFF), KZN Cooperative Governance and Traditional Affairs (COGTA), DMR, KZN Provincial Department of Economic Development, Tourism and Environmental Affairs (EDTEA), Ezemvelo KZN Wildlife (EKZNW), Tribal Authorities, etc.

Project Planning and Conception (cont'd)

- Officials from the Ugu DM, Msunduzi LM, Harry Gwala DM, iLembe DM and eThekweni MM actively took part during the uMWP-1's feasibility phase.
- Senior officials from the DWS, other Government Departments and UW, as well as from the Ugu DM, Msunduzi LM, Harry Gwala DM, iLembe DM and the eThekweni MM were taken to a site visit on 14 March 2014 to familiarize themselves with the uMWP-1's components.
- The Deputy Director General (DDG): NWRI, Chief Financial Officer of the Water Trading Entity (WTE), Chief Director: Institutional Oversight, DDG: Regulation and the DWS KZN Regional Office were also consulted and support the project.

Project Planning and Conception (cont'd)

Process Followed From Finalisation of Feasibility Study:

- DWS submitted a request for the Minister to approve the Project;
- Minister approved the project and declared it a Government Waterworks;
- Directives issued to TCTA and uMngeni-uThukela Water in line with recommendation from the Feasibility Study;
- Record of Implementation Decision issued to Infrastructure Branch to fast-track the project;
- Project to be gazetted once all environmental authorisations are obtained.

IV. Project Description

Raw Water Component - TCTA:

- The **81m high dam at Smithfield** on the uMkhomazi River (gross storage capacity of 251 million m³).
- A **33km long**, and 3.5m diameter, **raw water tunnel** from the dam at Smithfield up to the uMlaza River Valley.
- A **5.1km long**, and **2.6m diameter**, **gravity bulk raw water pipeline** that will connect the raw water tunnel to the Baynesfield Water Treatment Works (WTW).

Project Description (cont'd)

- TCTA will incur the following capital costs to implement the raw water component of the project:

Cost Estimates	
Apr-19	
ZAR	
Construction	11 526 027 000
Engineering	1 817 122 171
Environmental	641 047 840
Administration	700 000 000
Sub Total 1:	14 684 197 011
Contingency	3 873 882 023
Sub Total 2:	18 558 079 034
Escalation	4 685 213 102
TOTAL (Nominal)	23 243 292 136



Project Description (cont'd)

Potable Water Component – uMngeni-uThukela Water:

- The **Baynesfield WTW** in the uMlaza River Valley (initial capacity of 500Mℓ /day upgradeable to 625Mℓ /day).
- A 21.3km long, and 2.7m diameter, **gravity potable water pipeline** from the Baynesfield WTW to Umlaas Road.
- The uMWP-1 potable pipeline will tie into the **Western Bypass** at Umlaas Road.
- A potential 2.6MW **Hydro Power Plant** at Smithfield.
- The system will be a **gravity system** and can potentially be **energy neutral**.

Project Description (cont'd)

State of Readiness for Project Implementation:

- Construction-related activities to commence once the construction and operations Environmental Management Programmes (EMPrs) have been approved by DFFE.
- The Environmental Impact Assessment Report (EIAR) and EMPr were submitted in November 2016, but were rejected by the Department Forestry, Fisheries and Environment (DFFE) in February 2017.
- To address issues raised by DFFE, additional studies were undertaken and two addenda to the EIAR were submitted in August 2018 and September 2020, respectively.

Project Description (cont'd)

State of Readiness for Project Implementation:

- DFFE issued two Environmental Authorisations (EAs) in November 2020 – an EA for the Water Conveyance Infrastructure (tunnel and pipeline) and an EA for the Smithfield Dam and Associated Infrastructure.
- Due to impractical conditions in the EAs above, amendment applications were submitted in July 2021.
- The amendments applied for were mostly accepted by DFFE in September 2021, however, the initial EMP submitted as part of the EIA was revised and resubmitted but it was not approved, therefore implementation of the project could not proceed



Project Description (cont'd)

- **State of Readiness for Project Implementation:**
- Following engagement with DFFE, the EMPr was revised and repackaged into two separate EMPrs to allow for pre-construction activities only and re-submitted. DFFE approved the pre-construction EMPrs in March 2022 – a pre-construction EMPr for the Water Conveyance Infrastructure (tunnel and pipeline) and the other for the Smithfield Dam and Associated Infrastructure.

Project Description (cont'd)

The Mgeni System:

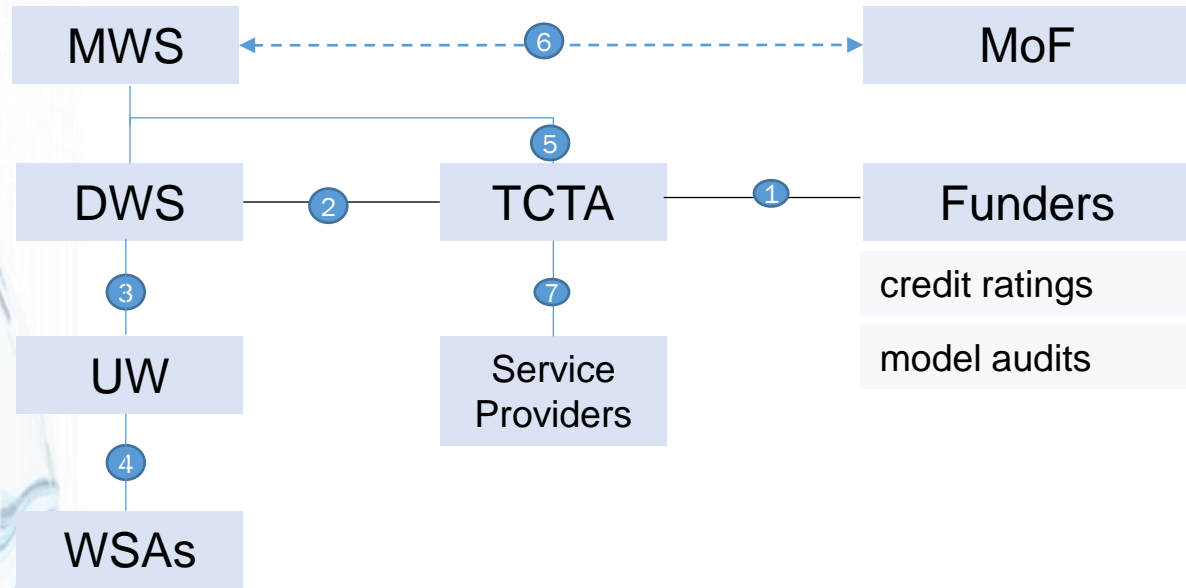
- The Mgeni System benefits approximately six million people in the uMngeni-uThukela Water area of supply, which includes the eThekweni, Msunduzi, Mgungundlovu, Harry Gwala, Ugu and iLembe municipalities.
- The Mgeni System comprises 4 large dams on the Mgeni and Mooi rivers, a transfer scheme and bulk potable water distribution infrastructure servicing users in the uMngeni-uThukela Water area of supply.
- The system is already in deficit (abstraction before the 2016 drought was running at about 450 million m³ p.a. vs. system supply yield of 394 million m³/a).

Project Description (cont'd)

Phase 2 of the Mooi Mgeni Transfer Scheme– MMTS-2:

- The last augmentation scheme was the Mooi-Mgeni Transfer Scheme Phase 2 (MMTS-2), which was funded and implemented by TCTA at a cost of R2.06bn.
- It is funded off-budget through tariffs in the UW area of supply.
- MMTS-2 includes Spring Grove Dam on the Mooi River and a transfer system to the uMngeni River.
- The project debt was originally scheduled to be repaid in 2033. The need for uMkhomazi has accelerated debt repayment to 2022.

V. Institutional Arrangements



- ① Financing agreements
- ② *Implementation Agreement*: TCTA to implement project o.b.o. DWS; DWS undertakes to fund TCTA through tariffs and underwrites its obligations to funders.
- ③ *Raw Water Supply Agreement*: DWS undertakes to UW to augment water supply to the Mgeni System through uMWP, UW undertakes to include a capital charge in bulk water tariffs to its customers.
- ④ *Water User Agreements*: UW undertakes to augment water supply to its customers, in return for undertakings by customers to recover the costs through a capital charge on bulk supply.
- ⑤ Ministerial Directive, borrowing limit approval, reporting
- ⑥ Min of Finance must concur with Minister of Water and Sanitation for TCTA borrowing limit. TCTA contracts with various service providers for implementation of the project.

Framework Agreement: WSAs-UW-DWS-TCTA



Institutional Arrangements (cont'd)

TCTA was issued with a Directive to:

- fast-track, fund and implement the uMWP-1's raw water component;
- develop the financial model for the funding of the uMWP-1's raw water component;
- facilitate the drafting and negotiation of the Water Supply Agreements between uMngeni-uThukela Water and the relevant Water Services Authorities (WSAs).

Institutional Arrangements (cont'd)

uMngeni-uThukela Water was issued with a Directive to:

- fund and implement the uMWP-1's potable water component;
- develop the financial model for the funding of the uMWP-1's potable water component;
- draft, negotiate and finalise the Bulk Water Supply Agreements between UW and its customers (the municipalities).

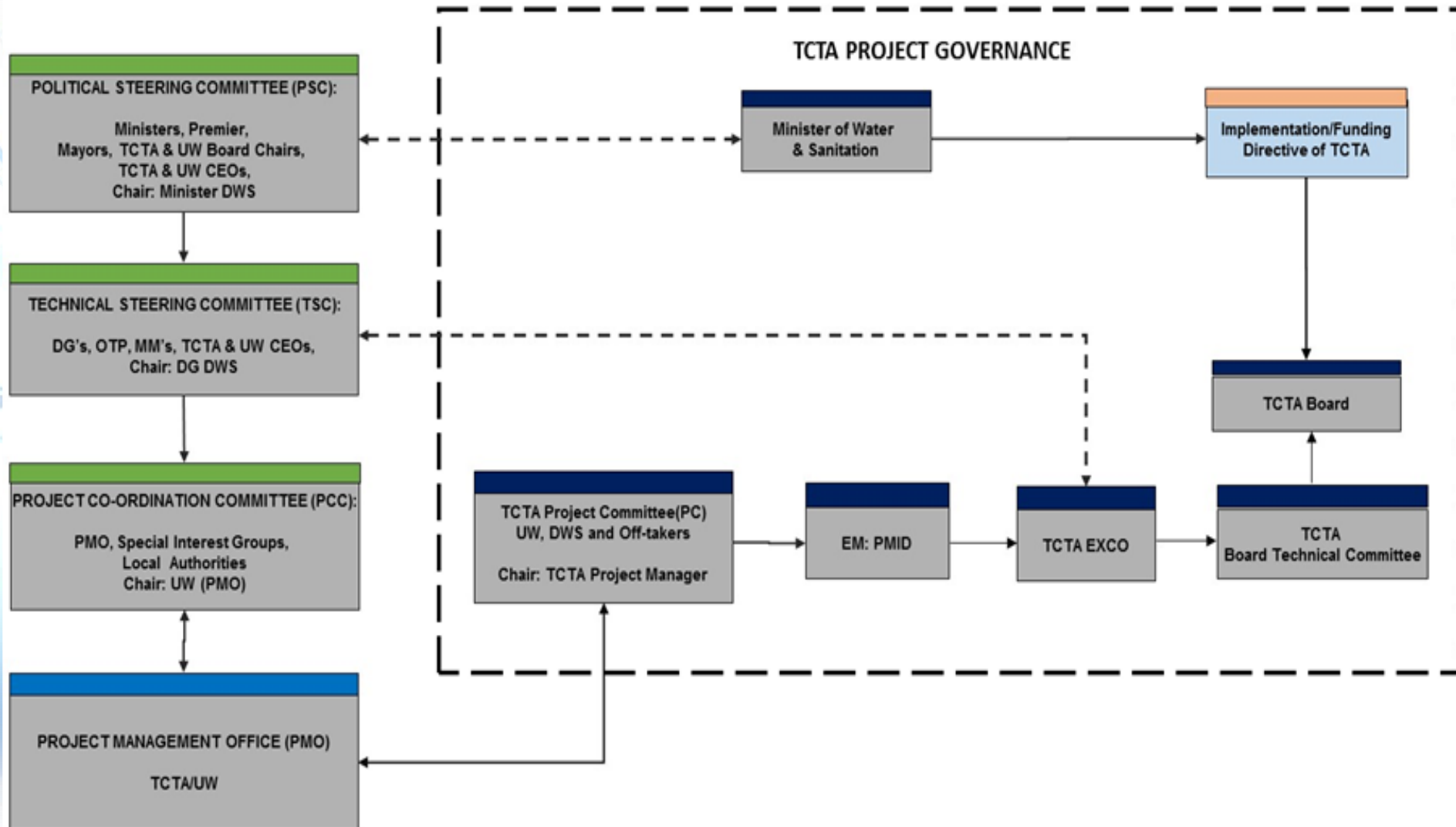
Institutional Arrangements (cont'd)

In terms of the Directive, DWS is required to:

- Provide interim funding to TCTA to proceed with the preparatory and implementation tasks until National Treasury has approved the borrowing limit to enable raising of commercial funding;
- If funds for the social portion can be obtained from the fiscus, DWS shall secure and provide such funding once the requirement has been approved by NT;
- DWS has to date provided R60 million of project preparation funding for the project.

VI. Project Governance Structure

uMKHOMAZI WATER PROJECT GOVERNANCE STRUCTURE



Project Governance Structure – cont'd

■ Inter-Governmental Political Steering Committee (PSC)

- Chaired by Minister of Water and Sanitation comprising of other Ministers from co-implementing departments, Executive Mayors, MEC's, Chairperson of UW Board, Chairperson of TCTA Board, PSC will account to Cabinet / PICC and will provide policy direction, institutionalize & champion the project and ensure accountability
- PSC will meet twice a year, where implementing agents will report progress

Project Governance Structure – cont'd

Inter-Governmental Technical Steering Committee (TSC)

- Chaired by DG of Water and Sanitation comprising of the DG in the Office of the Premier (OTP), DG's from co-implementing departments, Municipal Managers, UW CEO, TCTA CEO
- TSC will account to PSC and provide strategic direction, integrate priorities and mobilize resources
- TSC will meet on a quarterly basis, where TCTA CEO amongst other implementing agents will report progress.

Project Governance Structure – cont'd

Project Co-ordination Committee (PCC)

- Comprising of uMngeni-uThukela Water, DWS Regional Director, Directors from co-implementing departments, HoD's, TCTA Project Team
- PCC will account to TSC and co-ordinate implementation plans, monitor budgets and risk, and consolidate reporting from the various work streams
- PCC will meet on a monthly basis, where TCTA Project Manager amongst other implementing agents will report progress.

Internal governance within TCTA

Internal governance within TCTA will be in accordance with its regulatory framework and Delegation of Authority, from the project team through to EXCO and the Board

VII. Progress since the Directive was issued

- TCTA requested a borrowing limit in August 2019 to secure commercial loans for project preparation but this was not approved by NT.
- NT directed that DWS must fund the project preparation activities and the borrowing limit will only be considered after the municipalities have signed offtake agreements with UW.
- A Project Co-ordinating Committee headed by the CEOs of TCTA, UW and the DWS Regional Head was established to direct and oversee the drafting and negotiation of offtake agreements and to co-ordinate the project activities of TCTA and UW.

Progress since the Directive was issued (Cont'd)

- The draft agreement was presented to EMM, Msunduzi and uMgungundlovu in July 2020 following delays due to Covid.
- Negotiations took place from August to October 2020 with 80% of the terms negotiated and settled.
- Negotiations deadlocked at that stage due to concerns from water users over the affordability of the proposed water user tariffs.
- Alternative tariffs scenarios were developed to address affordability and debt sustainability.
- Presented to municipalities in Dec 2020. Optimisation and refinement of funding scenarios continued through October 2021.
- Users objected to the estimated tariffs on affordability grounds. To move forward, TCTA requested motivations to substantiate non-affordability so that the funding model could be drafted and presented to National Treasury.

Progress since the Directive was issued (Cont'd)

- Due to the lengthy delay in concluding the offtake agreements, the PSC was requested to intervene to resolve the issues.
- In December 2021, the PSC resolved that the Water Users should without delay, provide information to TCTA to substantiate their tariff affordability concerns and to motivate for a fiscal contribution.
- The PSC further resolved that upon receipt of all the relevant information from the Water Users, TCTA should finalise the funding model and engage National Treasury on the request for a fiscal contribution.

Progress since the Directive was issued (Cont'd)

- Following the intervention and guidance of the Political Steering Committee, TCTA prepared and submitted a draft funding model report to its Board in March 2022 and subsequently engaged DWS and NT on the document.
- Following these engagements, TCTA Engaged the Infrastructure Fund for co-operation and support on submitting a BFI bid in the June 2022 bidding window.
- Requested the BFI for a fiscal grant to cover 25% of project costs and a 25% interest-free loan from the Infrastructure Fund.
- In January 2023, National Treasury confirmed its approval of the application for a total of R12 billion in funding for the project through the BFI.
- This resolved the biggest issue (tariff affordability) that was delaying the finalization and conclusion of the offtake agreements.

VIII. Current status and way forward

- The project is behind schedule by about 3 years mainly as a result of the delay in concluding offtake agreements with the user municipalities .
- The agreements were negotiated in 2020 and most terms agreed, but could not be taken further due to affordability concerns raised by the municipalities.
- The municipalities insisted on a 50% grant from the fiscus before finalising the agreements on the R23 billion project. This issue has been resolved following the approval of a R12 billion fiscal contribution by NT.
- The users also objected to some of the institutional arrangements stated in the Directive, insisting on bypassing UW and DWS for tariff payments.
- Public participation processes in terms of the MFMA were delayed as a result.
- Following the intervention of the PSC, 5 of the municipalities have concluded their section 33 public participation processes and submitted the comments received from the public and various government departments to TCTA.

Current status and way forward (Cont'd)

- eThekweni Municipality's public participation process commenced in March 2023 but was not concluded as eThekweni believed that the process was not fully compliant with the MFMA.
- Following a number of engagements between DWS, NT, TCTA, UW and eThekweni, eThekweni has agreed to restart its section 33 process and to conclude this by December 2023 with the approval of the final water user agreement by their Council.
- This will pave the way for TCTA to apply for a project borrowing limit and to raise the funding for project implementation.
- TCTA will explore ways to fast-track the project in order to mitigate the impact of the delays once further detailed studies and project designs have been done.

IX. Indicative Project Milestones

ID	Milestones	Planned Completion Dates	Revised Planned Dates	Comments
1	Ministerial Directive	25 February 2019		
2	TCTA Board Interim Charter	19 April 2019		
3	Obtain Environmental Authorisation	February 2020	September 2021 (Actual)	19 months delays due to additional studies required
4	Finalise Water User Agreement	June 2020	December 2023	Delay due to efforts to address affordability concerns by water users and deadlock on other negotiation issues.
5	Obtain Approval of the Borrowing Limit	October 2020	November 2024	The borrowing limit request was declined due to the water user agreements not having been signed by the municipalities.
6	Securing Funding or Achieve Financial Close	November 2021	June 2025	Key milestone to initiate bidding process for the Contractor. Delay is due to the delay in the signing of water user agreements and issuing of the borrowing limit.
7	Appoint Main PSP	March 2020	March 2024	Subject to securing funding
8	Issue tender documents to the market	December 2021	November 2025	This is subject to securing Funding in March 2025.
9	Approval of Construction EMP	March 2022	March 2025	Approval is required prior to the award of construction contract.
10	Contract award	February 2023	July 2026	
11	Start of construction	March 2023	November 2026	
12	Achieve Practical Completion	December 2026	May 2030	
13	Water Delivery	June 2027	March 2032	
14	Project Close-Out	September 2027	March 2033	Administration process

X. Discussion

