

WATER PARTNERSHIPS OFFICE

INCREASING PRIVATE SECTOR
PARTICIPATION IN WATER SERVICES

SA WATER REUSE PROGRAMME

Introduction and overview



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



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SA WATER REUSE PROGRAMME

Background and introduction, a standardized approach to water reuse in South Africa, and why water reuse

2

THE REUSE OPPORTUNITY

Determining the reuse opportunity and project pipeline for water reuse in South Africa

3

A BLENDED FINANCE SOLUTION

A blended finance approach and opportunity to access international climate finance for qualifying water reuse projects in SA

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THE MECHANICS

Eligibility criteria, grant and loan mechanisms, and the process to form part of the WRP

INTRODUCTION AND BACKGROUND



- DWS (in partnership with SALGA and DBSA) has established the **National Water Partnerships Programme and Water Partnerships Office (WPO)** in the DBSA (WPO is a ring-fenced entity housed in DBSA)
- Roles of the WPO are:
 - To **develop standardized national programmes for private sector participation** in municipal water and sanitation services, to make it easier, quicker and cheaper for municipalities and water boards to enter into partnerships, without having to ‘reinvent the wheel’ for each partnership
 - **support municipalities and water boards to participate in the programmes** – where municipalities are lacking in the required expertise to undertake feasibility studies and financial structuring
 - where appropriate, **facilitate blended financing, including participation by DFIs**

WPO AS A CENTRE OF EXCELLENCE

Services provided by the WPO



STANDARDISED PROGRAMMES FOR PARTNERSHIPS

The National Water Partnerships Programme

Wastewater Treatment

01

Assisting municipalities upgrade, refurbish and rehabilitate Wastewater treatment facilities

Management Contracts

02

Private sector provides management support to W&S function in municipality. This includes both engineering and non-engineering functions

Non – Revenue Water

03

Comprehensive WCWDM and cost recovery programme focusing on reducing losses and over-consumption and improving cost recovery

Seawater Desalination

04

Independent producing potable water through seawater desalination in coastal cities

Water Reuse

05

Further treatment of municipal Wastewater to enable it to be resold for other purposes e.g. potable, industrial or agricultural

Non-Sewered Sanitation

06

Cocreate & operationalize the fast-tracking and large scale adoption of non-sewered sanitation solutions in South Africa

WATER REUSE PROGRAMME

A standardised approach



- The DBSA secured funding from the Green Climate Fund (GCF) for the **design of a national water reuse programme (WRP) for South Africa**
 - Detail design of the WRP **completed**
 - DBSA secured grant and concessional loan funding of around R4.23 billion (USD235m @ R18/USD) from the GCF for the scaled implementation of water reuse projects across the country
- The WRP includes a standardized approach and includes various components:
 - A strong focus on **climate adaptation**
 - A **blended finance solution**
 - A **standardized project preparation approach**
 - A **communications, environmental, social and gender focus**
 - **Private sector participation**

WATER REUSE PROGRAMME

A standardised approach



- The WRP is designed to assist municipalities and water boards to scale their water reuse projects and includes the following:
 - Assistance to municipalities and water boards to **prepare their water reuse projects**, following a standardized and best practice approach
 - Assistance with a **blended finance funding solution** (opportunity to develop a water reuse project bond programme and maximise private sector investment into this new financial asset class)
 - Opportunity to **access international climate finance**
 - Promotion of PPPs to **leverage private sector investment** (funding) **and expertise** (construction and O&M)

WHY WATER REUSE?

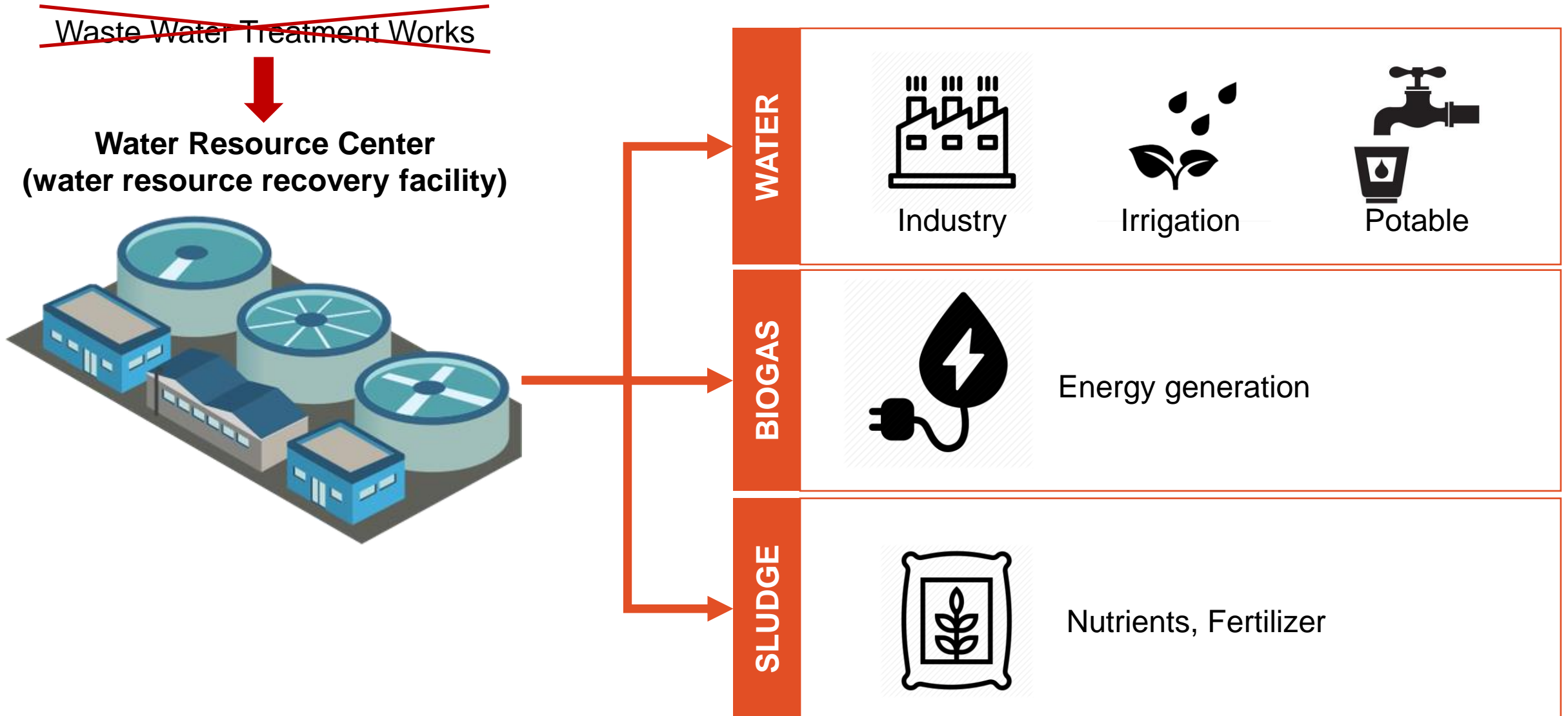
The need to diversify the water supply mix



- SA is a **water scarce country** and is facing a projected **17% water deficit by 2030**
- **Increasing climate variability** is exacerbating this water problem
- Water & sanitation services are **essential basic services and an economic enabler**; for public health, social inclusion, economic growth and job creation
- A number of interventions have been initiated by national government to avoid this projected water deficit
- The **South African National Water and Sanitation Master Plan (2018)** makes a specific note of the need to **reduce water demand and increase water supply** through the “**re-use of effluent from wastewater treatment plants**, water reclamation, as well as desalination and treated acid mine drainage”
- The opportunity to initiate a **framework for the scaled development of water reuse infrastructure** is evident

A PARADIGM SHIFT: FROM WASTE TO RESOURCE

Extract maximum value from a "waste" resource



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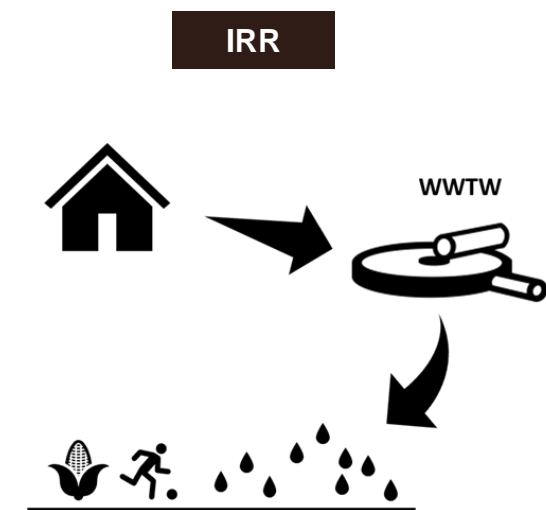
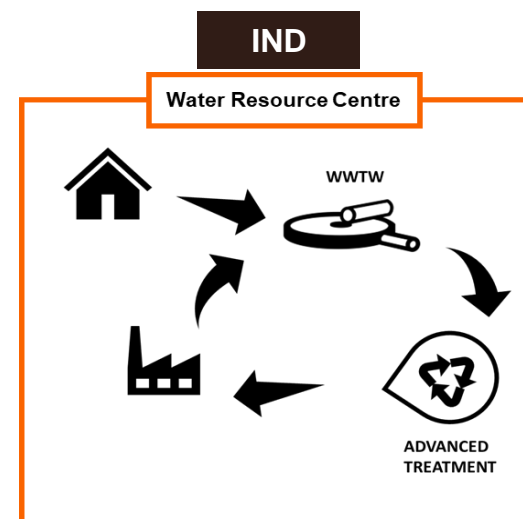
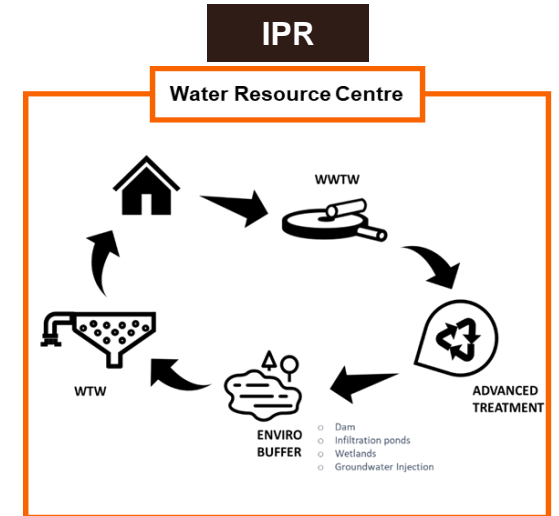
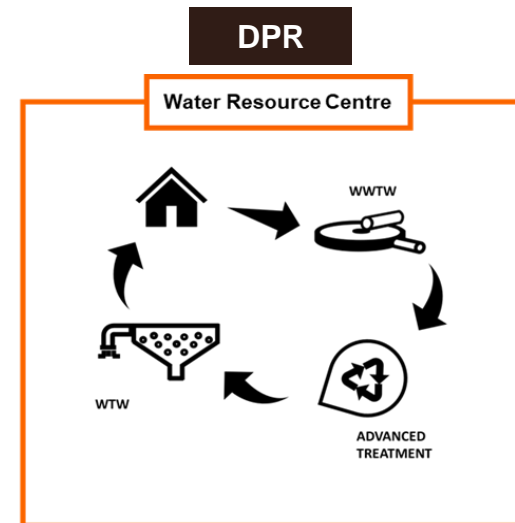
THE MECHANICS

Eligibility criteria, grant and loan mechanisms, and the process to form part of the WRP

MARKET STUDY

Archetypes

- **The Water Resource Centre Concept:** WWTWs may be viewed as potential sources of valuable resources such as water, energy and nutrients. As such, WWTWs may be viewed as Water Resource Centres, where one is able to extract these resources and reuse them within a city environment, thus reducing the pressures placed on non-renewable and other stressed resources.
- **Water reuse archetypes:** Several water reuse archetypes may be considered as potential project implementation options within the WRP. These include
 - Direct Potable Reuse (DPR)
 - Indirect Potable Reuse (IPR)
 - Industrial Reuse (IND)
 - Irrigation Reuse (IRR)



MARKET STUDY

Project pipeline criteria, outputs and initial focus projects

- **Project Pipeline Criteria:** In the development of the initial project pipeline, several exclusionary criteria were applied to ensure projects selected would be able to make a strong case for inclusion into the WRP. These criteria include:
 - **Treatment plant size:** The size of the WWTW was selected as a criterion as it directly impacts on the size of a potential water reuse project and the associated investment costs for that project. WWTW with a capacity of > 20MI/d were included.
 - **WWTW compliance:** The compliance of a WWTW was selected as a criterion as it can be used to determine which municipalities are likely to be more viable from a technical perspective, based on their overall effluent compliance as per published reports from the Department of Water & Sanitation. WWTW's with a chemical compliance of >50 were included.
 - **WWTW type:** Given that biofiltration plants are not recommended for potable or industrial reuse projects, only activated sludge plants were considered for inclusion.
 - **Reuse status:** A municipality that has already initiated reuse projects has clearly indicated their favourable appetite for reuse and thus these municipalities were included.

- **Initial Output from the application of this criteria**
 - **27 potential projects in 19 municipalities across all 9 provinces of South Africa**
 - **Total potential reuse flow of up to 1,067 MI/d**

MARKET STUDY

Project pipeline criteria, outputs and initial focus projects



■ Initial Focus Projects:

- The **WRP will be developed in phases** whereby the first phase targets projects with the highest probability of being implemented. There is likely to be only a few projects within the first 3 years to prove the concept and build confidence in the WRP as well as the technology
- The initial list of projects is likely to come from those Municipalities that have **already started planning for reuse and have initiated feasibility studies**. There are also a few that have a strong wastewater and water treatment capability who may also be interested but may not have initiated a project just yet
- The first phase of projects could thus come from the following:
 - City of Cape Town;
 - Nelson Mandela Metropolitan Municipality;
 - City of Ekurhuleni;
 - City of Johannesburg Metropolitan Municipality;
 - City of Tshwane Metropolitan Municipality;
 - eThekweni Metropolitan Municipality;
 - Buffalo City Metropolitan Municipality;
 - Mangaung Metropolitan Municipality
 - City of uMhlatuze
 - Sol Plaatje LM
 - Emfuleni LM
 - Polokwane LM
 - Drakenstein LM
 - Mbombela LM
 - Steve Tshwete LM
 - Msunduzi LM
 - Emalahleni LM

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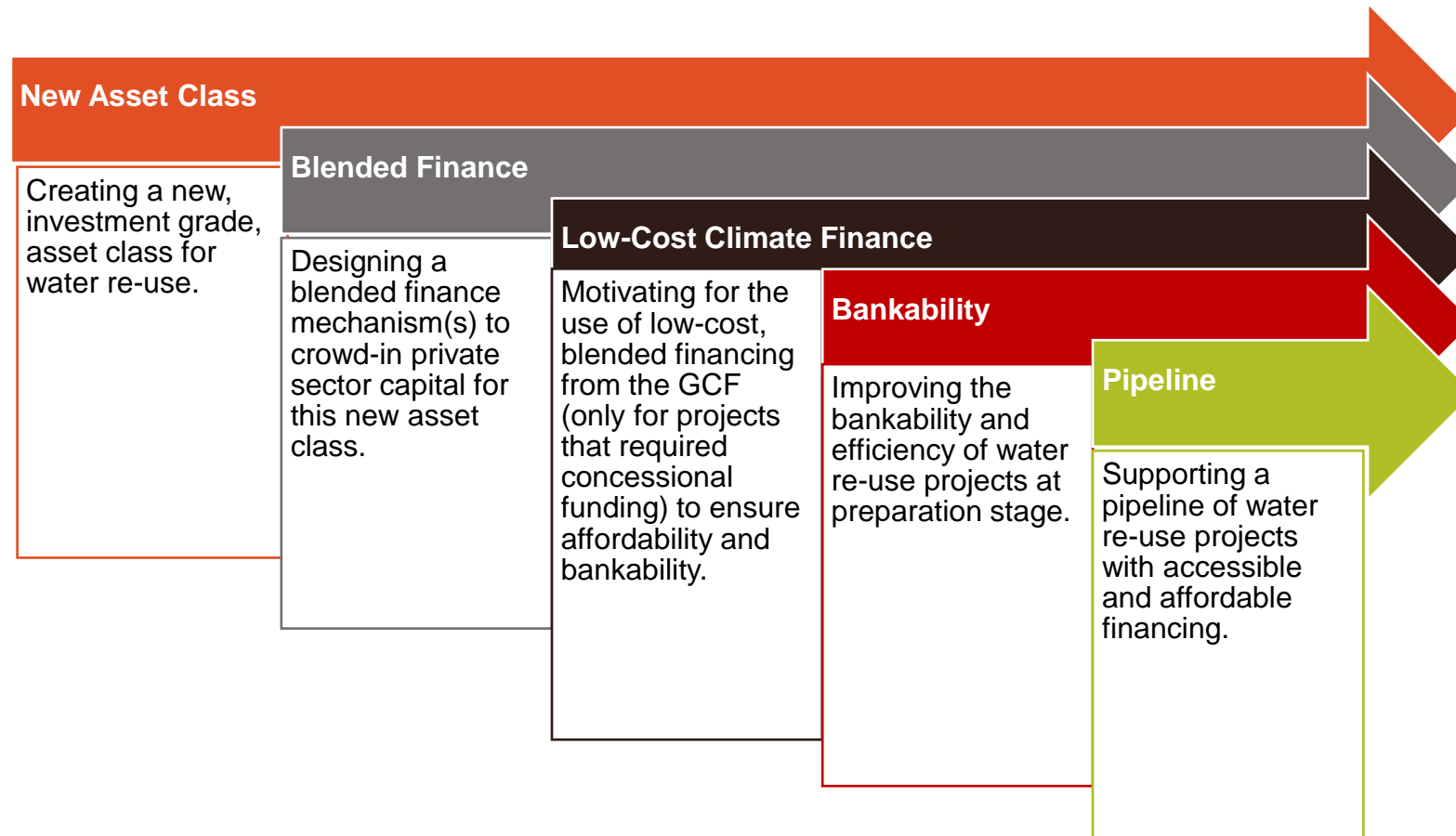
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BLENDING FINANCE APPROACH

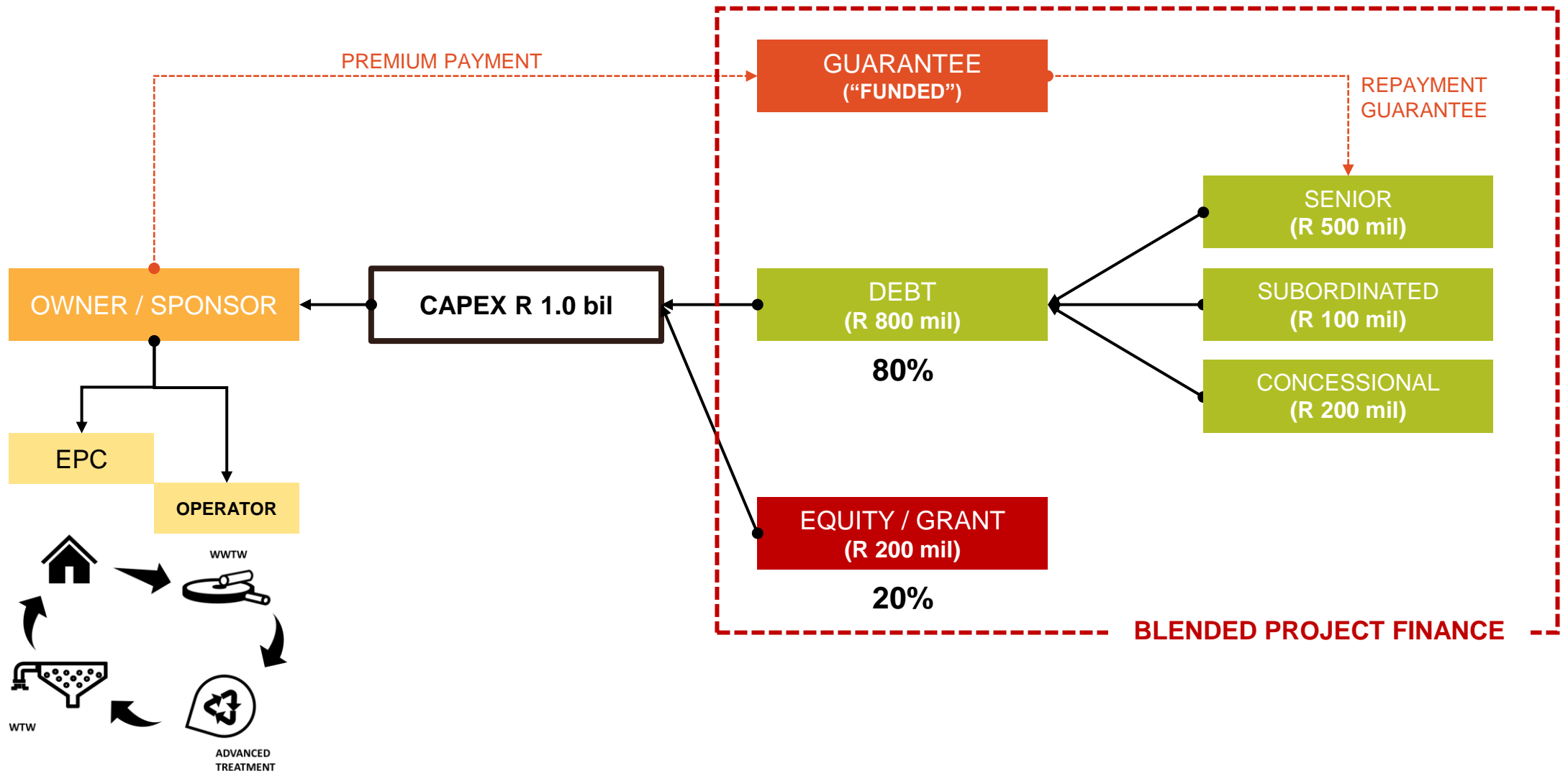
Creation of a new asset class

- Five key objectives for the financial architecture, to create a programme that is ready for operationalisation and investment



BLENDING FINANCE APPROACH

Blended finance solution – general project finance approach



WATER REUSE PROGRAMME (WRP)

Proposed funding solution



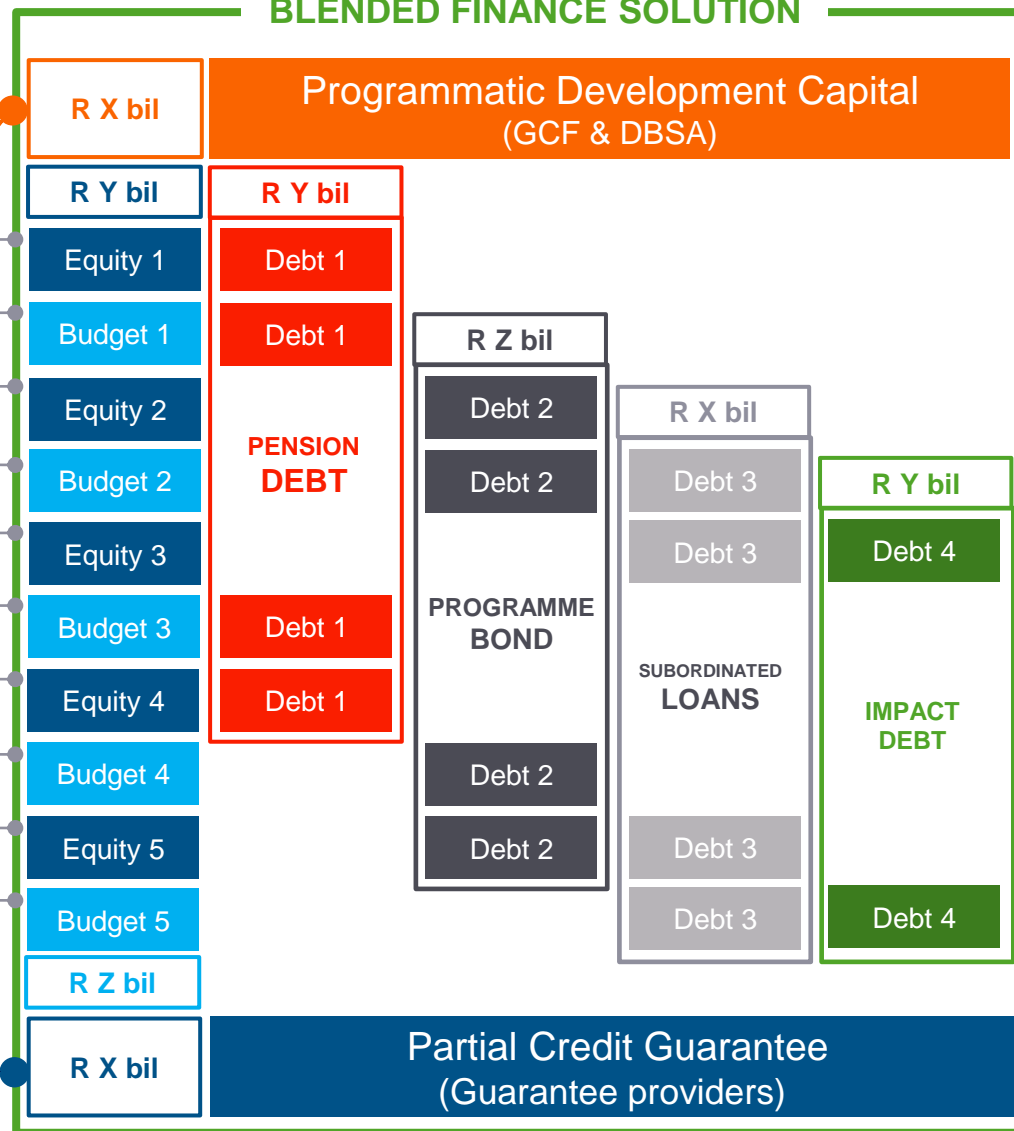
PORTFOLIO OF PROJECTS

No.	CAPEX	TARIFF	WACC
1	R X b	R XX	<12.5%
2	R Y b	R XX	<10%
3	R Z b	R XX	<9.5%
4	R X b	R XX	<8.5%
5	R Y b	R XX	<6%
6	R Z b	R XX	<12.5%
7	R X b	R XX	<10%
8	R Y b	R XX	<9.5%
9	R Z b	R XX	<8.5%
10	R X b	R XX	<6%
TOT.	R 22 bil	-	-

DELIVERY MODEL

- SPV 1
- Munic 1
- SPV 2
- Munic 2
- SPV 3
- Munic 3
- SPV 4
- Munic 4
- SPV 5
- Munic 5

BLENDED FINANCE SOLUTION



BLENDED FINANCE APPROACH

GCF capital – what are the parameters



- The **first phase** of the WRP is **estimated at around R22 billion**
- The funding approved by the GCF includes the following instruments:
 - a. A grant component of around R630 million (USD 35m @ R18/USD)**
 - i. Project preparation component of around R540m (USD 30m @ R18/USD)
 - ii. Capacity building component of around R90 million (USD 5m @ R18/USD)
 - b. Concessional loan component of around R3.6 billion (USD 200m @ R18/USD) – primarily intended for capex and to lower the blended cost of debt on qualifying projects**
- We need to meet the **6 investment criteria of the GCF**
- **MUST DEMONSTRATE** how the GCF funding will be used to achieve **CLIMATE BENEFITS**
- **MUST DEMONSTRATE** the **ADDITIONALITY** of the GCF Capital, which is rooted in the financial viability of delivering projects through a WPO

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ELIGIBILITY CRITERIA

Approach

- Selection of Sub-Projects (Public and Private):
 - Sub-Projects that apply for support will be required to pass first the **primary climate change screening** process (using the Screening and Governance Toolkit)
 - Whether a Sub-Project applies for project preparation support or where a Sub-Project is already prepared and requires funding for implementation, the application (and passing) of the **primary climate change screening** is a pre-requisite to assess the strength of the project's climate basis
 - After the primary climate change screening, all approved Sub-Projects will be required to also undertake a comprehensive **climate risk vulnerability assessment (CRVA)** (this could include undertaking these assessments from the start, or updating and strengthening an existing study)
 - Depending on the score achieved during the primary climate change screening, the climate risk vulnerability assessment may be required prior to the secondary screening to determine a Sub-Project's eligibility for WRP's further support during its implementation
 - Should a Sub-Project not meet the **secondary assessment criteria**, it will not be eligible for further WRP funding
 - The **tertiary criteria** are applied only to assist in providing a short list of priority projects and are not exclusionary



ELIGIBILITY CRITERIA

Overview of primary, secondary and tertiary screenings



Criteria	Value	Requirement
Primary Screening (Exclusionary)		
Water insecurity driven by climate vulnerability	Scorecard includes climate change and risk vulnerability, drought exposure, resilience benefits and adaptation optimization Post screening climate risk vulnerability assessment to be completed.	Clear climate vulnerability with the screening scorecard scores greater than 60% Only Sub-Projects where 70% or more of the water supply deficit is driven by climate change
Secondary Screening (Exclusionary)		
Wastewater Treatment Works (“WWTW”) Design Capacity	Greater than 20 Ml/d	Yes, greater than 20-Ml/d
Regulatory Compliance (Chemical)	Greater than 50% regulatory compliance	Yes, greater than 50% compliance
WWTW Technology Type	Only activated sludge plants will be supported to ensure the consistency of effluent quality required	Yes, incorporates an activated sludge plant
Environmental Safeguards	All projects shall comply with both GCF and DBSA Environmental and Social Safeguards Standards, with only Category B and C levels of impact being acceptable.	Yes, meets the safeguard requirements of GCF and DBSA and risk is at levels B and C.
Financial viability	All Sub-Projects that move beyond project preparation into implementation must be financially viable, and this will be required to be demonstrated in the project-specific feasibility studies / project information memorandums to be undertaken prior to Programme funding commitment.	Yes the Sub-Project is financially viable
Tertiary Criteria (Prioritisation)		
Beneficiation	Priority will be provided to Sub-Projects that provide for mitigation including biogas, solar power, sludge management and sludge beneficiation.	
Linkage to strategic projects	Priority will be provided to water reuse projects in supporting of strategic projects.	
Offtake agreements	Priority will be afforded to Sub-Projects where the existence of confirmed offtake agreements	

GCF FUNDING

General



- Environmental and social:
 - no Category A projects may be supported
 - Comply with environmental and social management framework (ESMF) for the WRP and the Sub-Project
 - For each sub-project develop an environmental and social impacts assessment (“ESIA”) and environmental and social management plan (“ESMP”)
- Gender:
 - Comply at all times with the recommendations and requirements of the Gender Action Plan
- Project preparation funding from co-funders (municipalities own funding, national government grants, DFIs, other providers of project preparation funding) available as grants or reimbursable grants
- The GCF Loan is in the form of a limited recourse loan channeled through the DBSA (as Accredited Entity of the GCF) into Sub-Projects – GCF therefore takes project risk on the Sub-Projects
- GCF funding availability:
 - Funding is available and must be commitment over a period of 10 years (until 2033)
 - Maximum loan tenor of 20 years
 - Total programme funding therefore 30 years

PROCESS AND APPROACH

Steps to become part of the WRP



1. A municipality, water board or private sector entity to **express an interest** to the WPO for project preparation and/or implementation support for their water reuse projects (letter signed by municipal manager plus council resolution will be required)
2. Party requesting support must indicate **co-funding contribution** for project preparation
3. WPO to enter into an **agreement** with the recipient (municipality/water board/private sector) which will govern the relationship and the process of receiving support under the WRP
4. The WPO to **conduct the primary screening (incl CRVA), secondary- and tertiary screenings** to determine whether a project **meets the eligibility criteria and qualifies (for both project preparation and implementation)** to form part of the WRP (the WPO will procure and appoint a service provider to conduct the CRVA)
5. Continue with **project preparation activities (bankable feasibility studies)** for projects that meets the eligibility criteria – WPO to procure service providers for project preparation or work with service providers already appointed by a municipality or water board
6. Continue with **financial structuring, arranging of funding (following DBSA processes) and procurement** for implementation (projects ready for implementation)

THANK YOU

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