



INFRASTRUCTURE INDABA

INFRASTRUCTURE INVESTMENT AND DEVELOPMENT



INNOVATIVE PROGRAMMES AND FUNDING INITIATIVES



A background image showing a person's hands writing in a spiral-bound notebook with a blue pen. A laptop is visible in the background.

1

APPROACH AND PRINCIPLES

Programmatic design approach and principles

2

A PROGRAMMATIC AND BLENDED FINANCE APPROACH

Programme management and blended finance approach

3

INFRASTRUCTURE PROGRAMMES AND INITIATIVES

Programme currently being developed as national infrastructure programmes

APPROACH AND PRINCIPLES

PROGRAMMATIC DESIGN APPROACH AND PRINCIPLES

1

NATIONAL PROGRAMMES

Initiatives to be developed and established as National Programmes and in support of priority programmes such as the DDM, the NWSMP, etc.

4

INNOVATIVE AND ALTERNATIVE TECHNICAL SOLUTIONS

Consider innovative and alternative technology to respond to climate change and which is more cost effective than conventional technology and service delivery mechanisms

2

PRIORITY / PILOT PROJECTS

Identify and implement priority/pilot projects in parallel to establishing the Programmes

5

PRIVATE SECTOR PARTICIPATION

All Programmes designed to facilitate private sector participation (funding, implementation, etc.)

3

INFRASTRUCTURE FUND

Initiatives being designed as Blended Finance Solutions with potential establishment under the Infrastructure Fund

6

O&M

All programmes designed to address O&M

OUTLINE

1

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PROPOSED PROGRAMME COMPONENTS

Underlying success factors and motivation for a programmatic approach



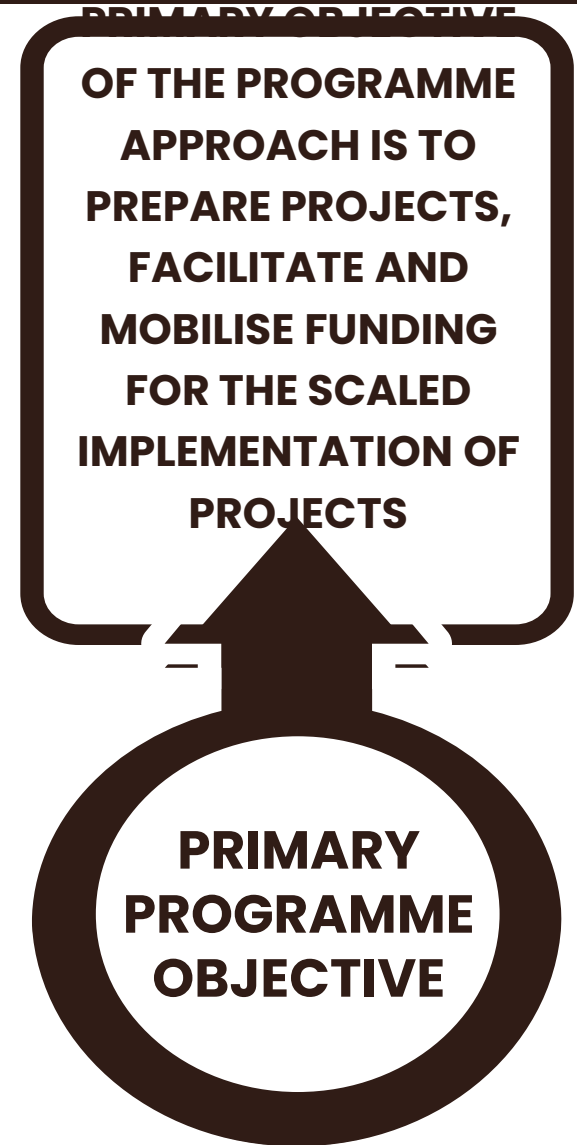
Programme Management Office:
Create a centralized “center of excellence” to drive preparation, facilitate funding and monitor implementation



Customised funding solution to support the implementation of a specific asset class

MOTIVATION FOR A PROGRAMMATIC APPROACH

1. The scope of individual projects is often too limited to deal with the complexities associated with infrastructure planning & delivery
2. Water infrastructure programmes enable a group of projects to achieve benefits that would not have been realised had the projects been undertaken independently
3. A programmatic approach allows different services / solutions to be deployed under one engagement in a standardised and transparent manner
4. The approach is more effective in attracting private and/or donor capital into infrastructure development



PROGRAMME MANAGEMENT

Centralise capacity and excellence

1



MONITORING, REPORTING & CONTRACT MANAGEMENT

Mobilise funding, monitor and report on implementation

TECHNOLOGY & INNOVATION

Centralise expertise to consider, test and vet new technology and innovation

COMMUNICATION

Manage public education and awareness campaigns

ENABLING ENVIRONMENT

Policy and regulatory considerations

PROGRAMME MANAGEMENT OFFICE

PROJECT PREPARATION

Project scoping, preparation and design to create bankable projects
Create a pipeline of projects (supply and demand)

PROCUREMENT

Centralised procurement of consultants, contractors, operators via appropriate procurement mechanisms such as panels or framework contracts

STANDARDISATION

Standardisation of procurement documents, contracting documents, loan agreements, etc.

BEST PRACTISE

Incorporate international best practice & lessons learnt

FUNDING SOLUTION

Blended finance approach

2

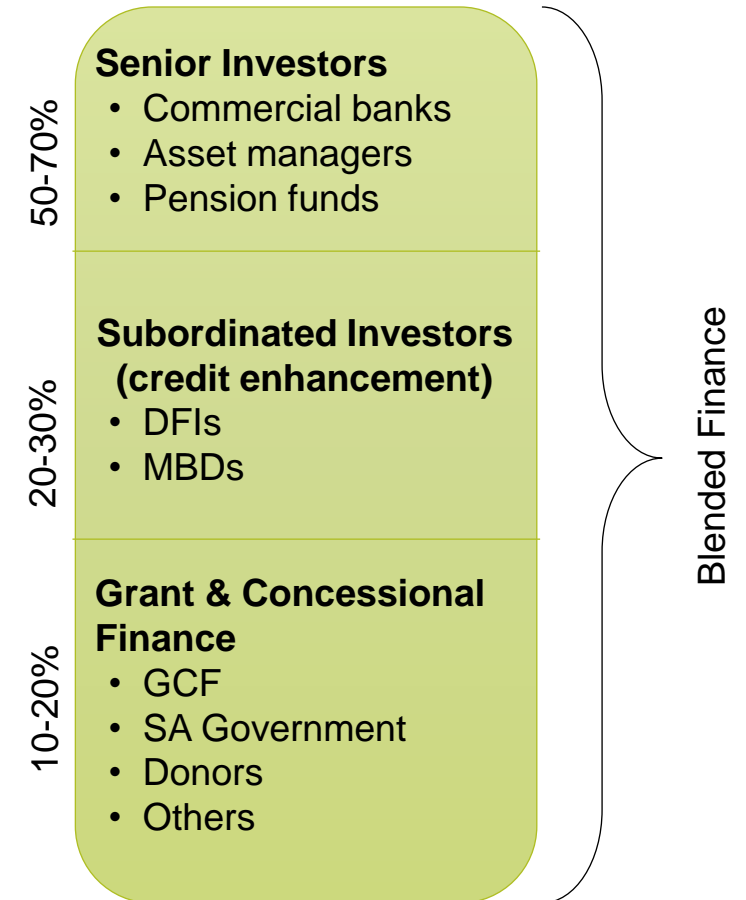


Blended finance principles:

- Credit enhancement, concessional & grant funding to crowd in private sector funding making use of debt capital market instruments
- All funding (senior, subordinated, concessional) procured on a competitive basis (example bond auction programme)
- Programmatic approach and finance option used to create specific and dedicated asset classes
- Different programmes will have different funding options, structures and solutions

Role of Development Finance Institutions:

- Innovative product and instrument design to address market failure
- Credit enhancement (only if competitive) with other DFIs and MDBs
 - 1st loss / subordinated facilities
 - Tenor extension
 - Guarantee products
- Crowd in private sector investment
- Catalyze infrastructure projects and programmes



A background image showing a person's hands working at a desk. One hand is holding a pen over an open spiral notebook, while the other is holding a smartphone. A laptop is also visible in the background.

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Programme currently being developed as national infrastructure programmes

NON-REVENUE WATER PROGRAMME

WATER CONSERVATION, WATER DEMAND MANAGEMENT & COST RECOVERY PROGRAMME

WATER

| | |
|---------------------------------------|---|
| Initiative | <p>Description</p> <ul style="list-style-type: none"> Water conservation and water demand management and cost recovery programme |
| Description | <p>Municipal water services turn around strategy focussing on:</p> <ul style="list-style-type: none"> Reducing Losses Reducing Over Consumption Improving Cost Recovery |
| Potential developmental impact | <ul style="list-style-type: none"> Reduction in physical losses Reducing excessive water consumption (over consumption) Enhancing and improving cost recovery A holistic WCWDM programme will defer for a considerable period investment(s) in water supply bulk infrastructure and new water resource(s) requirements |
| Partners | <ul style="list-style-type: none"> SALGA Dept. of Water and Sanitation COGTA and MISA National Treasury |

Programme status

Status: In discussions with Gov to establish a **National NRW Programme**

Various projects being considered and to be implemented in parallel with the establishment of a National NRW Programme

Target areas:

Water – bulk and reticulation

Target clients: All municipalities

Existing projects: City of Tshwane

Potential projects: eThekweni Metro, Polokwane, Sol Plaatje, others

Funding structure:



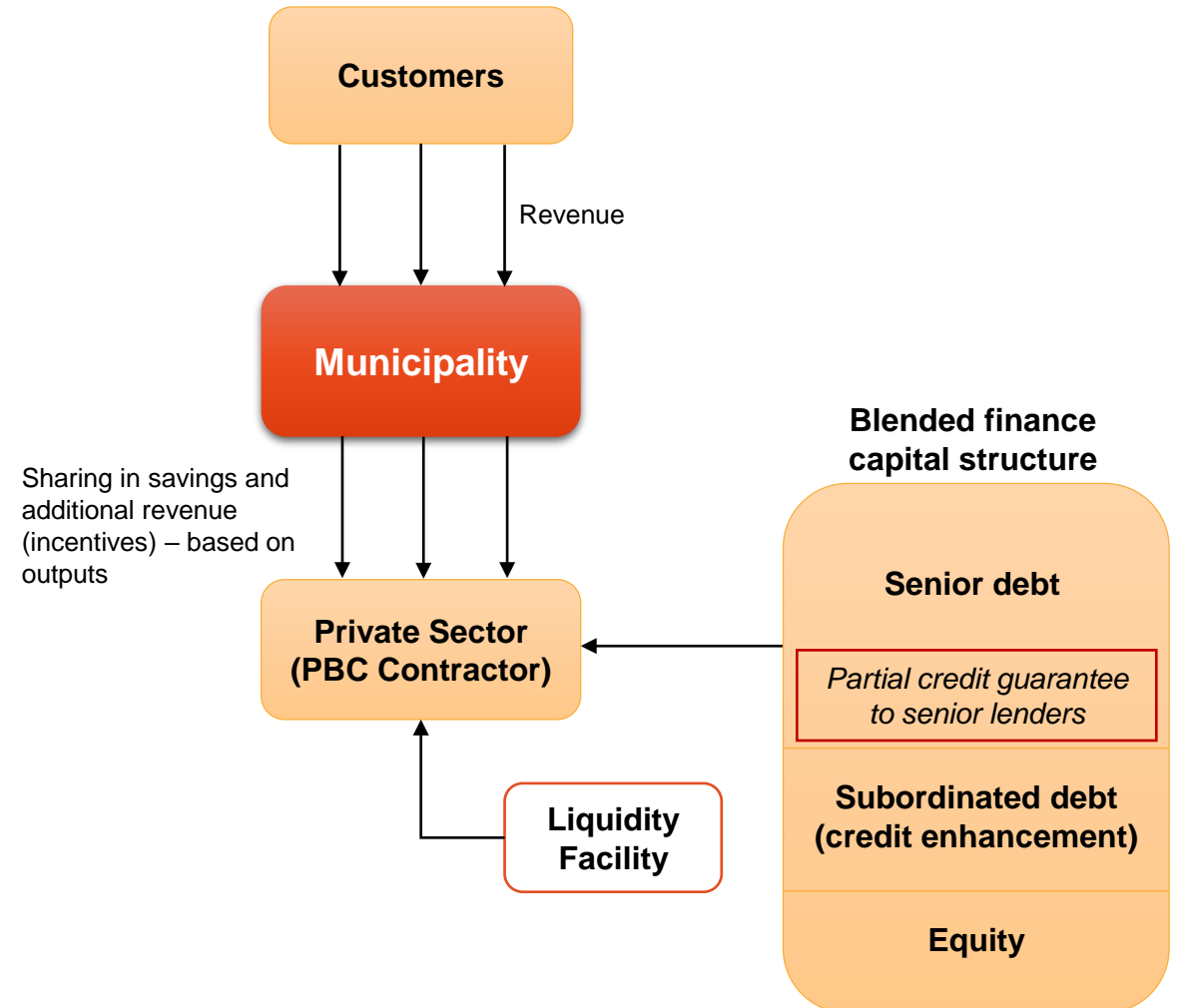
- Municipal Balance Sheet
- Municipal Special Purpose Vehicle
- Performance Based Contracting

NON-REVENUE WATER PROGRAMME

Blended finance solution: Leverage private sector investment through PBCs

Performance based contracting models:

- Takes advantage of the expertise and incentivized performance of specialized private sector firms
- An incentivized form of outsourcing technical and construction activities related to NRW reduction
- A municipality will retain control of utility operations and assets
- Partner with the World Bank Group to develop/customize PBC models for NRW in South Africa
- Leverage private sector investment through PBCs
- Blended finance solution:
 - Introduce a potential liquidity facility to mitigate against delay in payment
 - Introduce a Partial Credit Guarantee (PCG) to further credit enhance a portion of the Senior Debt
 - Leverage funding via the Infrastructure Fund?



Note: PBCs are about 68% more effective than NRW reduction programs implemented by utilities

Source: WB presentation on PBCs

WATER REUSE PROGRAMME (WRP)

MUNICIPAL WATER (EFFLUENT) REUSE PROGRAMME

WATER & SANITATION

Initiative

Description

- A programme and funding solution that will allow municipalities to scale their water reuse projects and enable the creation of a new asset class

Description

- SA is facing a projected **17% water deficit by 2030**
- Need to place **more value on water** as a scarce resource
- Significant potential to **extract maximum value** from this **scarce resource** by **using it more than once**

Potential developmental impact

- Creation of a **“new” source of water**
- Improved **water responsibility**
- Water available to support **social and economic development**
- Positive **environmental impact**
- Maximise the use of grant and concessional funding through a **blended finance solution**
- Crowding in** of private sector funding

Partners

- DHSWS
- NT
- COGTA
- SALGA
- GCF

Programme status

Status: In discussions with Gov to establish a National Water Reuse Programme

Opportunity for the City of uMhlatuze reuse PPP project to be the first project funded by a DCM blended finance solution

Target areas:

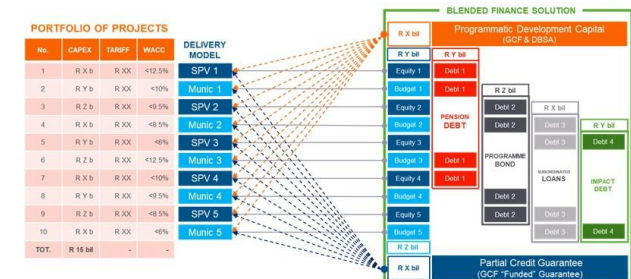
Sanitation – waste water treatment works, bulk sanitation infrastructure

Target clients: Metros and Intermediate Cities

Existing projects: none

Potential projects: City of uMhlatuze, eThekweni Metro, City of Tshwane, Ekurhuleni Metro (ERWAT), City of Johannesburg, Mangaung, Emfuleni, Polokwane

Funding structure:



WATER REUSE PROGRAMME (WRP)

Proposed funding solution



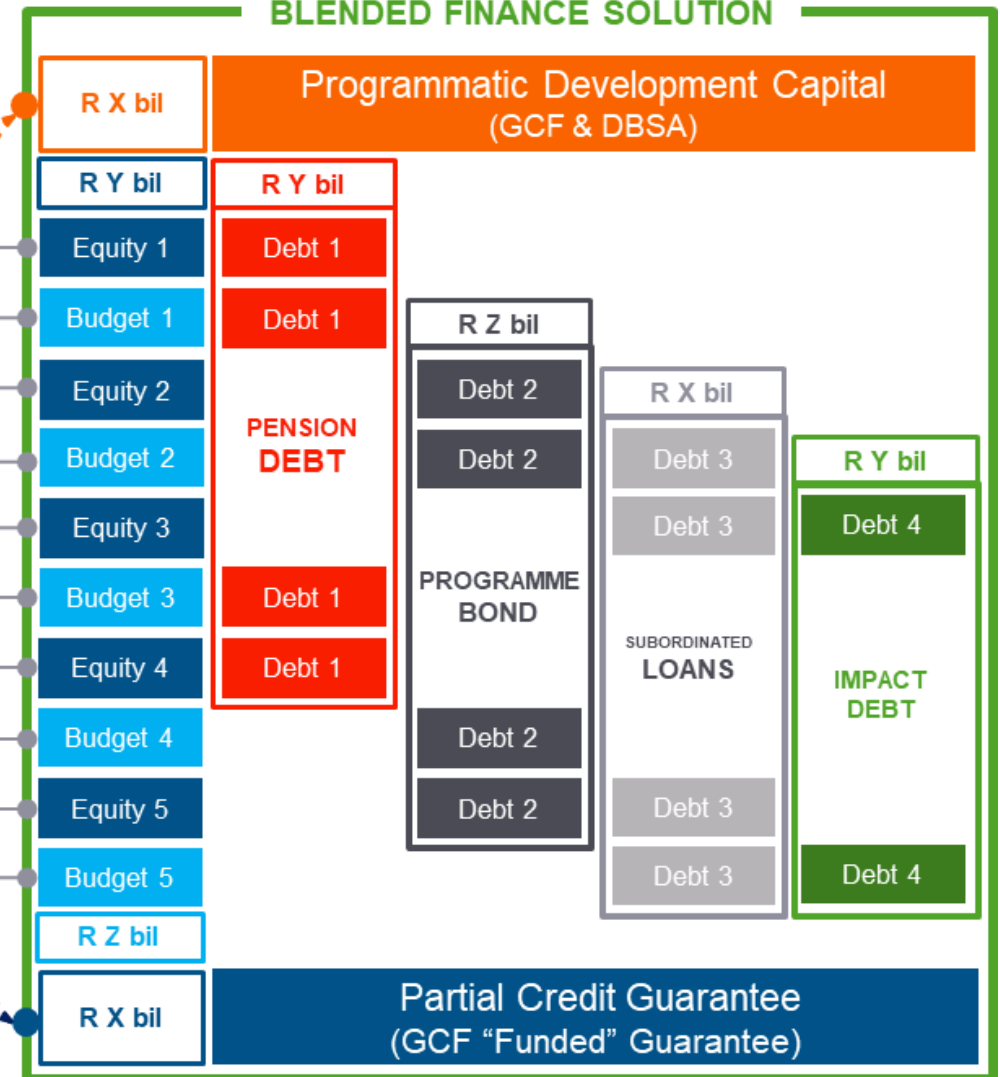
PORTFOLIO OF PROJECTS

| 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 15 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



Partial Credit Guarantee
(GCF "Funded" Guarantee)

PSP MODEL

PRIVATE SECTOR PARTICIPATION MODEL

WATER & SANITATION

| Description | |
|---------------------------------------|--|
| Initiative | <ul style="list-style-type: none"> An interventionist model to allow private sector participation (PSP) in the provision of municipal water and sanitation services |
| Description | <ul style="list-style-type: none"> Many under-resourced municipalities and some intermediate cities are struggling with the provision of water and sanitation services The PSP Model aims to (i) make use of private sector skills and expertise in the provision of services and (ii) access private sector funding for such projects |
| Potential developmental impact | <ul style="list-style-type: none"> Unlocking major infrastructure projects and investments in the water sector in Intermediate Cities and under-resourced municipalities Improved service delivery in constrained municipalities Efficient use and gearing of government grants Access private sector expertise and capital Capacity building, skills development and transfer to municipal officials Proper operation and maintenance of infrastructure created to maximise the life of the assets |
| Partners | <ul style="list-style-type: none"> NT, COGTA, MISA, DWS, SALGA, BBC, ASISA, BASA, NBI |

Programme status

Status: Position Paper prepared and discussed with NT. Agreement reached on key principles of the PSP Model. Agreed to test the principles on pilot projects. A shortlist of 17 potential pilot projects identified. Currently engaging with all municipalities to identify potential pilot projects

Target areas:

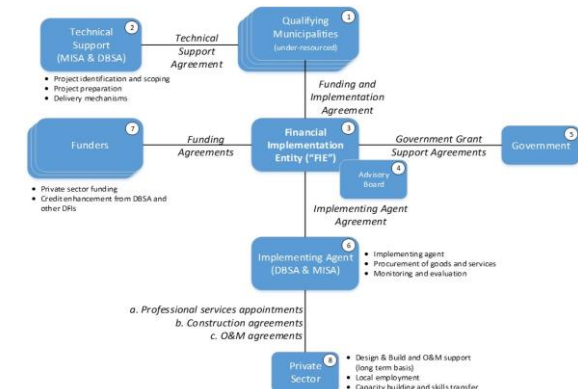
Water – bulk and reticulation
Sanitation – bulk and reticulation

Target clients: Certain ICMs and under-resourced municipalities

Existing projects: none – looking for pilot projects (ready for implementation)

Potential projects: Pilots identified above incl ORT and Waterberg districts as part of the DDM

Funding structure:

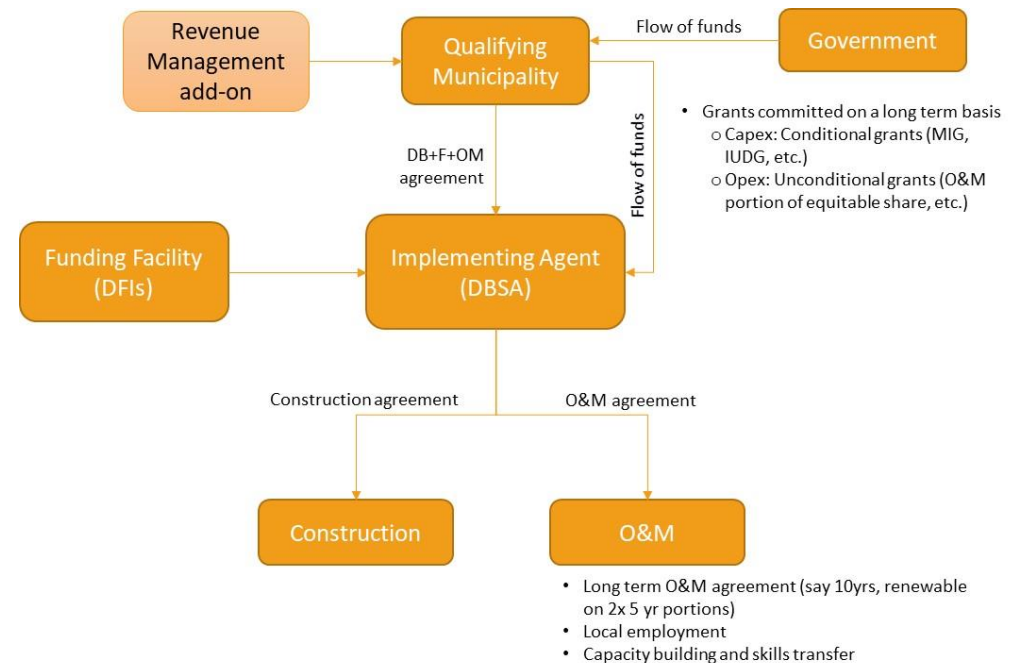


THE PSP MODEL

Financing and implementation of W&S projects in under-resourced municipalities

- The PSP Model is based on the following approach:
 - Involvement of the private sector:
 - Implementation – Design & Construction by private sector and Operations & Maintenance Support to municipalities on a longer term contract basis
 - Financing – crowding in of private sector funding on a blended finance basis. This will be complemented with alternative revenue sources, grants and other CSI initiatives
 - Effective application and discounting of future government grant funding to ensure infrastructure is properly constructed, operated and maintained to ensure effective and sustainable service delivery
- The PSP Model is a Programmatic Approach to address some of the challenges facing the municipal water services sector
- The PSP Model is intended to raise funding for the fast track implementation of projects, against a portion of future grant funding flowing to a municipality
- The PSP Model is structured on a long term contract basis (and not a loan) making use of S33 and S48 of the MFMA

Proposed Pilot Project Structure



Pilot projects

- A project(s) that can be ring-fenced and “handed over” to the private sector to operate and maintain (ownership of the asset remains with the municipality) over a long term period. Examples include a WTW, a WWTW, a water supply scheme, etc.
- Project(s) must be “ready for implementation” i.e. preparation and designs should have been completed for:
 - Construction (new asset) or upgrading or refurbishment of existing assets/infrastructure
 - Operation and maintenance of the asset

INFRASTRUCTURE

| | Description |
|---------------------------------------|---|
| Initiative | <ul style="list-style-type: none"> A Mechanism for the Funding and Implementation of Municipal Bulk Infrastructure to Unlock Large Scale Catalytic Property/Housing Developments |
| Description | <ul style="list-style-type: none"> Metros and intermediate cities are often unable to provide the bulk infrastructure necessary to unlock large scale catalytic property developments (integrated housing projects) The Vumela initiative is both a financing and implementation solution intended to address this gap |
| Potential developmental impact | <ul style="list-style-type: none"> Catalytic investments Will unlock major development Trigger significant job creation Trigger significant LED opportunities Enhance lives of a significant number of communities through housing, services and amenities Unlock private sector investments Support both greenfield and brownfield developments |
| Partners | <ul style="list-style-type: none"> Metropolitan Municipalities Intermediate Cities National Treasury Presidency - ISA |

Programme status and key numbers

Status: Financial model and architecture being developed to enable assessment of projects. Engaged with NT to test some of the key principles. NT expressed interest and support. Identify potential pilot projects and engage with relevant municipalities to determine interest

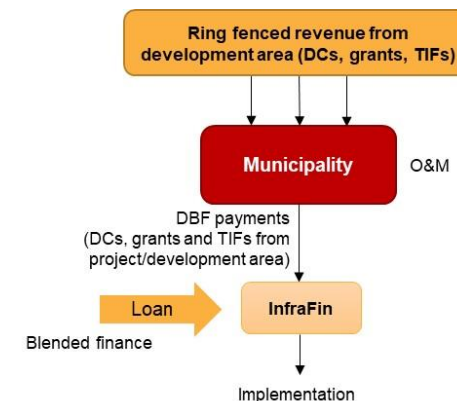
Target areas:
Water, sanitation, roads, electricity, solid waste

Target clients: Metros and intermediate cities

Existing projects: none

Potential projects: Lanseria, Masingita City, Rand West City Mega Projects, Drakenstein

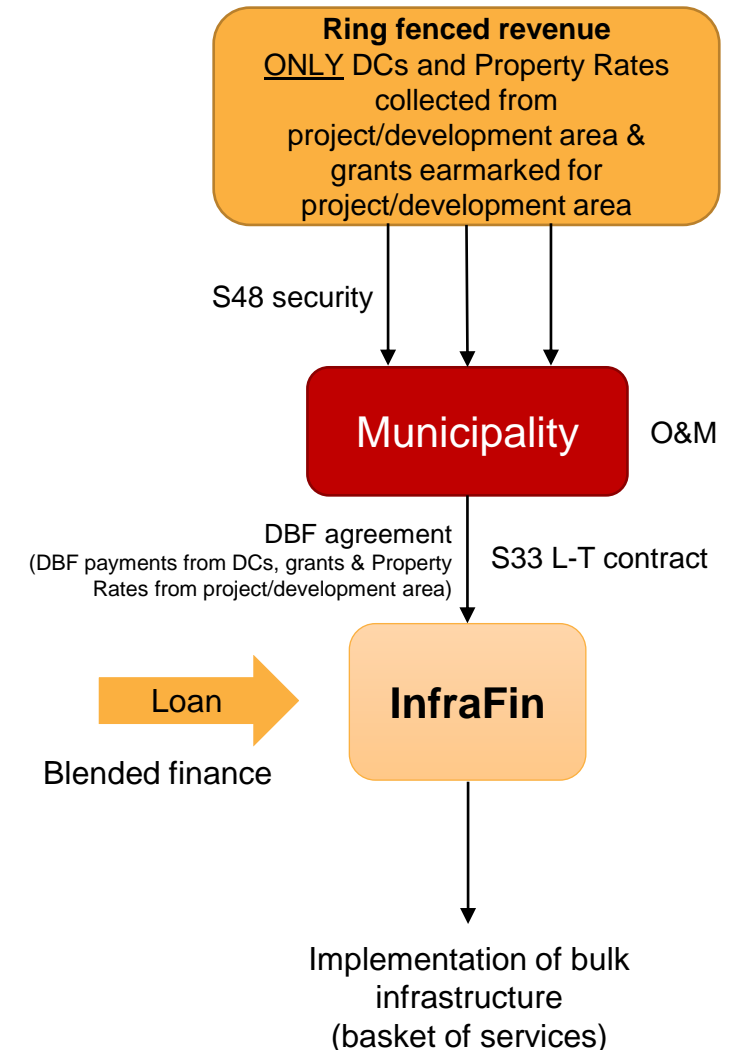
Funding structure:



THE VUMELA PRODUCT

Financing of bulk infrastructure to unlock property/housing/real estate developments

- The Vumela product is designed to assist municipalities to **provide the bulk infrastructure** that is required to unlock large scale property/real estate/housing developments
- Funding for bulk infrastructure (**basket of services** incl water, sanitation, roads & sw, electricity, solid waste) will be secured against **future revenues** emanating from these developments including **Development Contributions (DCs), grants allocated by a municipality to the project, and property rates**. Note that tariff revenue will not be used – used by a municipality to provide for the O&M of the infrastructure
- Funding for the bulk infrastructure will be **raised in an entity, Infrafin**, established for this specific purpose, on the back of a **Design, Build and Finance (DBF) agreement** between Infrafin and a municipality
- It is intended to use one entity (Infrafin) for all bulk infrastructure projects across the country and not necessarily an entity per project/development
- Once the bulk infrastructure is constructed/implemented, it will be **handed over to the municipality** who will be responsible for the **operation and maintenance of the infrastructure**



DISTRIBUTION ASSET MANAGEMENT

APPROACH TO DISTRIBUTION ASSET MANAGEMENT (ADAM)

ENERGY

| | Description |
|---------------------------------------|---|
| Initiative | <ul style="list-style-type: none"> A Programmatic funding and implementation approach towards improved reliability and system sustainability in municipal electricity distribution assets |
| Description | <ul style="list-style-type: none"> Current state of Electricity Distribution Infrastructure poses a significant risk to sustainability and economic growth, especially in urban growth centers Electricity distribution grid is suffering from a lack of investment and recapitalisation of its ageing infrastructure and the condition of aging and poorly maintained distribution infrastructure has steadily worsened A significant and meaningful national intervention is required to halt the asset deterioration process and bring the network back into full working order |
| Potential developmental impact | <ul style="list-style-type: none"> ADAM Programme targeted at municipal electricity distribution networks, specifically: <ul style="list-style-type: none"> asset maintenance strengthening of networks refurbishment |
| Partners | <ul style="list-style-type: none"> DMRE NT CSP COGTA SALGA |

Programme status and key numbers

Status: Concept being formulated with the DMRE

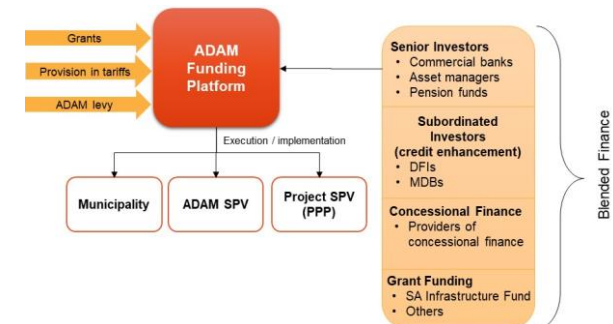
Target areas:
Electricity distribution infrastructure

Target clients: Municipalities

Existing projects: none

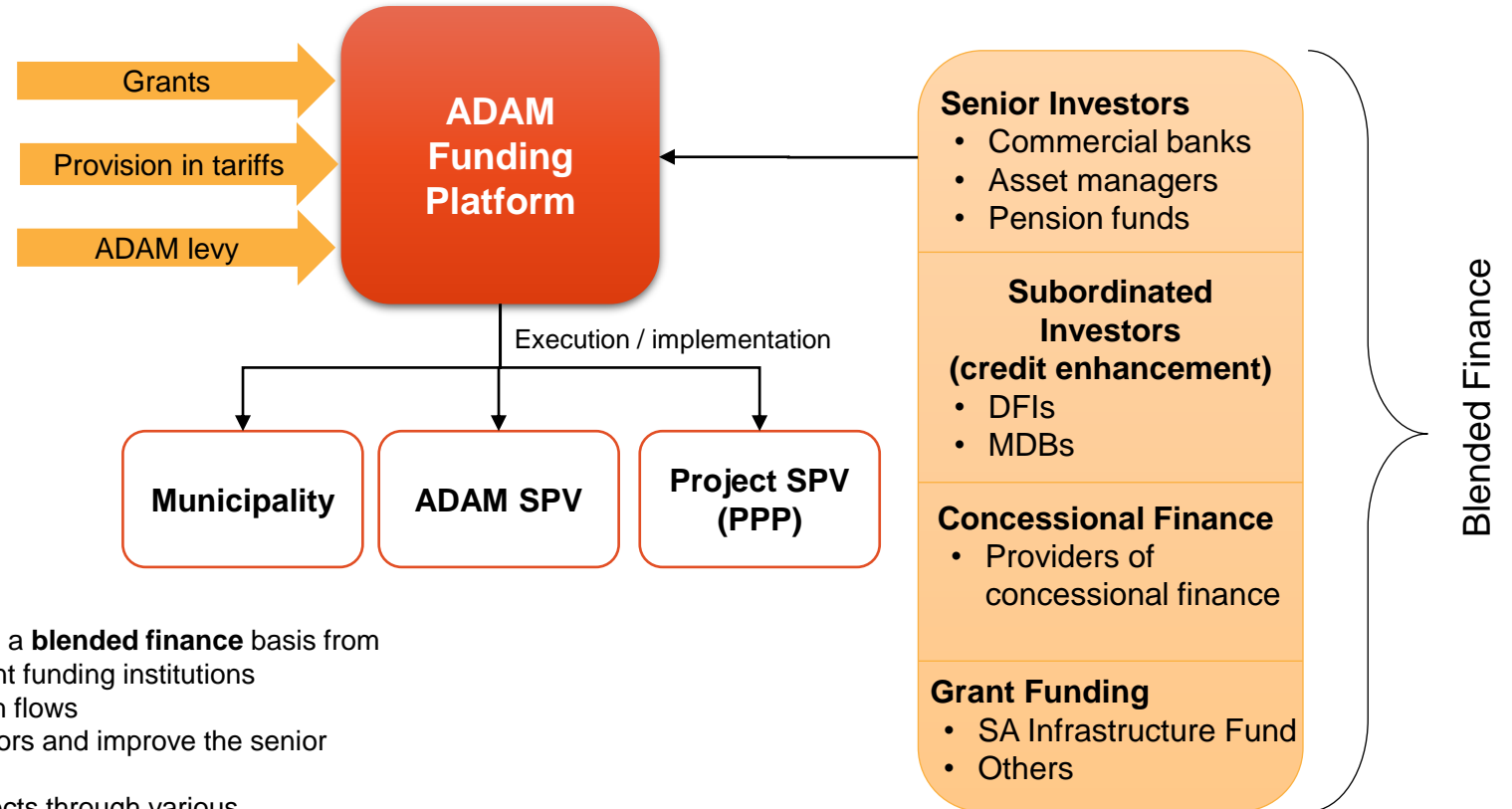
Potential projects: To be identified

Funding structure:



DISTRIBUTION ASSET MANAGEMENT

Possible blended finance solution



1. The ADAM Funding Platform will be the **borrower** and raise funding on a **blended finance** basis from the **lenders** being private sector investors, DFIs, concessional and grant funding institutions
2. Capital raised against identifiable and secured (ring-fenced) future cash flows
3. Credit enhancement will improve the attractiveness to the senior investors and improve the senior instrument ratings and risk profiles
4. The Funding Platform will make the funding available to individual projects through various implementation structures and options:
 - i. Implementation by a municipality themselves
 - ii. Implementation through a dedicated SPV
 - iii. Implementation through a project SPV (PPP)
 - iv. Others
5. Proven O&M structure and capacity to be demonstrated

PROVINCIAL ROADS FUNDING PRODUCT

PROVINCIAL ROADS FUNDING AND IMPLEMENTATION MECHANISM

TRANSPORT (ROADS)

| Description | |
|---------------------------------------|--|
| Initiative | <ul style="list-style-type: none"> An innovative Product to assist provincial governments to finance and implement provincial roads infrastructure projects |
| Description | <ul style="list-style-type: none"> Most provinces are struggling to cope with the demands of upgrading, rehabilitating, refurbishing and maintaining their road networks due to: <ul style="list-style-type: none"> Budget and funding constraints – forced short term prioritisation Capacity constraints This results in most provinces experiencing: <ul style="list-style-type: none"> Rapidly deteriorating road networks Reduced ability to stop and turn around the deterioration Exponentially increasing capital and maintenance costs |
| Potential developmental impact | <ul style="list-style-type: none"> A comprehensive and targeted roads capital and maintenance programme will result in: <ul style="list-style-type: none"> Significant benefits to road users and the larger economy Cost savings to all spheres of government and contractors |
| Partners | <ul style="list-style-type: none"> To be identified |

Programme status and key numbers

Status: Concept identified and scoping investigation completed in the NW Province. To obtain Government support. Need for the identification of a pilot project – NW Province as a proposal

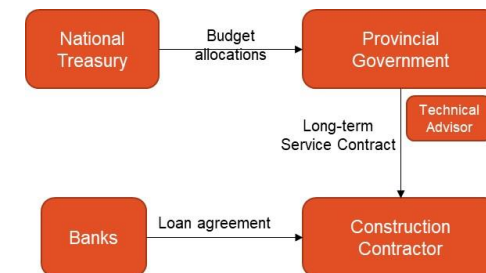
Target areas:
Provincial road infrastructure

Target clients: Provincial Governments

Existing projects: none

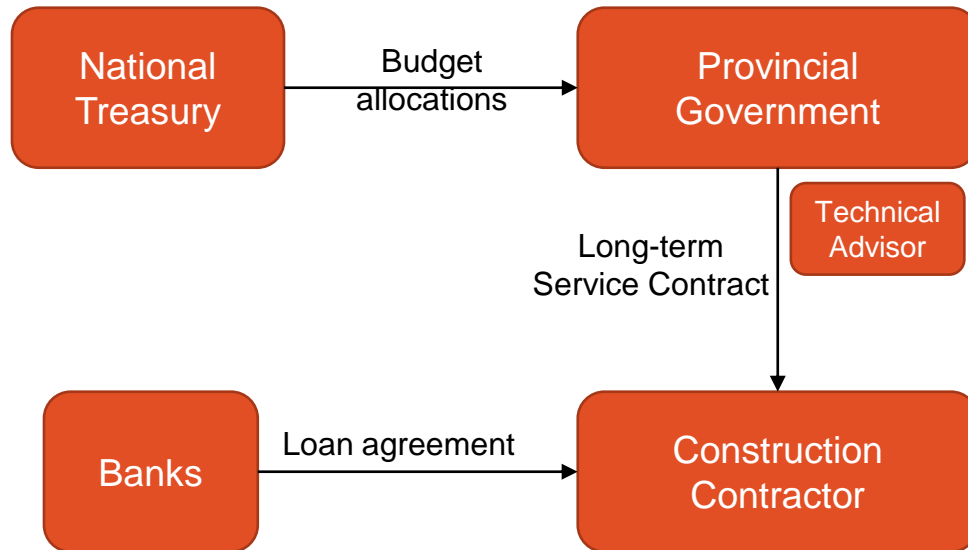
Potential projects: NW Province, Gauteng Province, WC Province

Funding structure:



PROVINCIAL ROADS FUNDING PRODUCT

The product in a nutshell



The Product

- Province receives annual allocation (capex and opex) from NT
- Province enters into long-term service contract (10,15,20 yrs) with a contractor for a portfolio of roads
- Contractor invests equity and borrows balance to perform its Service Contract against future annual payments from Province
- Province commits a portion of its annual budget allocation over the contract period for payment to the contractor under the Service Contract
- Measure contractor performance with road condition tracking – penalties for non-performance

Key risks

- Traffic risk
 - mitigate through appropriate mechanism
- Payment risk
 - Acceptable portion of budget allocation committed
 - DBSA credit enhancement in favour of the contractor

The numbers (North West Province scoping results, 2018)

- 4 portfolios with an estimated expenditure of R4.5 bn (capex and opex)
- ±1 000 km (21% of paved network – class 1 and 2 roads) fully restored and maintained for 20 years
- ±31% of NW Roads Dept's budget absorbed over the 20 yrs (R305m per annum)

MUNICIPAL FUNDING VIA DCM

A MECHANISM TO ALLOW MUNICIPALITIES TO ACCESS FUNDING VIA DEBT CAPITAL MARKETS

INFRASTRUCTURE

| | Description |
|--------------------------------|---|
| Initiative | <ul style="list-style-type: none"> A mechanism to crowd in private sector long term funding at competitive pricing to develop infrastructure projects in the municipal sectors that are sustainable and have socio-economic benefits for the municipalities |
| Description | <ul style="list-style-type: none"> The creation of a funding platform to support a more programmatic approach to municipal infrastructure development based on catalytic and strategic infrastructure development projects and programmes |
| Potential developmental impact | <ul style="list-style-type: none"> Reduced reliance of National Treasury grants Proper “use of proceeds” for infrastructure related projects “Crowds in” Private Sector funding Infrastructure = Socio Economic benefits Competitively priced long term funding of between 10-15 years |
| Partners | <ul style="list-style-type: none"> National Treasury (NT) Commercial Banks (Standard Bank). |

Programme status and key numbers

Status: Roadshow to lower tier Metros and selected Intermediate Cities completed. Strong interest shown. Proposal also submitted to the WC Government. Need to identify implementation ready/prepared projects in these municipalities

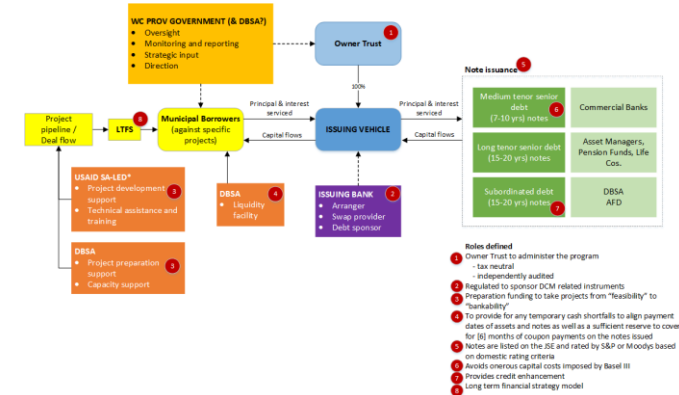
Target areas: Intermediate City Municipalities (ICMs)

Target clients: Municipalities

Existing projects: none

Potential projects: 8 municipalities in the WC

Funding structure:



OFF-GRID SANITATION PROGRAMME

NON-SEWERED SANITATION PROGRAMME

WATER & SANITATION

Initiative

Description

- **Off-grid / non-sewered sanitation** provision to communities/households

Description

- Provision of **alternative and innovative sanitation technology** in support of the **Sanitation Economy** ... toilet economy + circular sanitation economy + smart sanitation economy
- A transformational vision for business engagement in sanitation in SA

Potential developmental impact

- Sanitation solutions for **climate change**
- Sanitation solutions for **water security**
- Sanitation solutions for **food security**
- Sanitation solutions for the **health sector**
- Sanitation solutions for **female health and empowerment**
- Sanitation solutions for **smart city infrastructure**
- **Small business development**
- **Job creation** – women and youth employment
- Opportunity for Government to deliver sanitation services **faster** & at a **lower cost** to approx. 2.8 million households

Partners

- COGTA & DWS
- WRC, SASTEP & Bill & Melinda Gates Foundation

Programme status

Status: DBSA is in the process of conceptualising the Programme. To collaborate with and build on the work done through the SASTEP Programme

In parallel to formulating a National Off-Grid Sanitation Programme, will **pilot projects** to test various **alternative and innovative commercial models**. Intention is to develop a funding model that can be **scalable and replicable**

Target areas:

Sanitation

Target clients: Rural and peri-urban communities + informal settlements

COMMUNITY / RURAL WATER SUPPLY

A PROGRAMMATIC AND INNOVATIVE FUNDING SOLUTION FOR THE PROVISION OF RURAL WATER SUPPLY

WATER & SANITATION

| Description | |
|---------------------------------------|--|
| Initiative | <ul style="list-style-type: none"> A programme solution that will enable quality water to be provided to rural and peri-urban communities |
| Description | <ul style="list-style-type: none"> Rural and peri-urban communities exposed to poor quality and unreliable water supply Consumption of contaminated water leads to chronic diarrhoea, rashes, cholera, etc. and babies and young children are particularly at risk |
| Potential developmental impact | <ul style="list-style-type: none"> Provision of good quality water to poor rural and peri-urban communities Improved health of people (children) living in poor communities Potential for small business development (youth and women owned) Job creation Economic empowerment Support innovative and locally developed point of use technology |
| Partners | <ul style="list-style-type: none"> DBSA Water Research Commission IWMI CSIR |

| Programme status |
|--|
| <p>Status: Idea conceptualised. Product and potential business model (social franchising model based on a user pays principle) being investigated as possible funding solution</p> <ul style="list-style-type: none"> Workshop held with WRC to discuss product-, business case-, technology- and other options Investigating social franchising model to potentially serve as business model Looking for a project to pilot |
| <p>Target areas: Water – purification</p> |
| <p>Target clients: Rural and peri-urban communities Targeting community owned and managed solutions</p> |
| <p>Pilot Project</p> <ul style="list-style-type: none"> Potential to pilot in Vhembe DM (with CSIR) |

THANK YOU

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