

The Durban Water Recycling Project: Creating Value From Waste Water

TIPS 31 May 2019



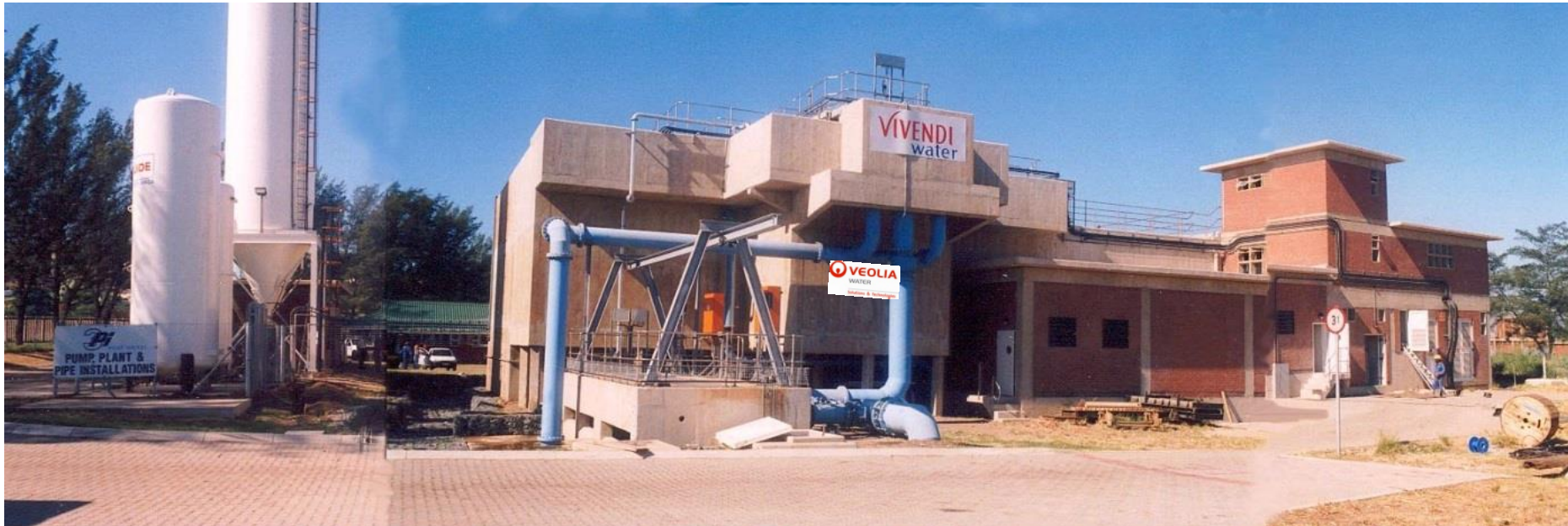


In 2018, the Veolia group supplied 95 million people with drinking water and 63 million people with wastewater service, produced nearly 56 million megawatt hours of energy and converted 49 million metric tons of waste into new materials and energy. Veolia Environnement (*listed on Paris Euronext: VIE*) recorded consolidated revenue of €25.91 billion in 2018 (USD 30.6 billion).



Project Objective

- To treat 47.5 Ml/d of municipal wastewater to a near potable standard for direct reuse in industrial processes.



Project Motivation

- Alternative to augmentation of the city's Southern Wastewater Treatment Works marine outfall.
- Mondi Paper and Sapref were the largest consumer of Potable water in the region
- The city of Ethekwini was facing water shortages to the population
- The City did not want Industrial expansion halted because of the shortage of water
- Re-used water would be sold at a reduced rate which would stimulate production of the 2 plants

The Project Consortium



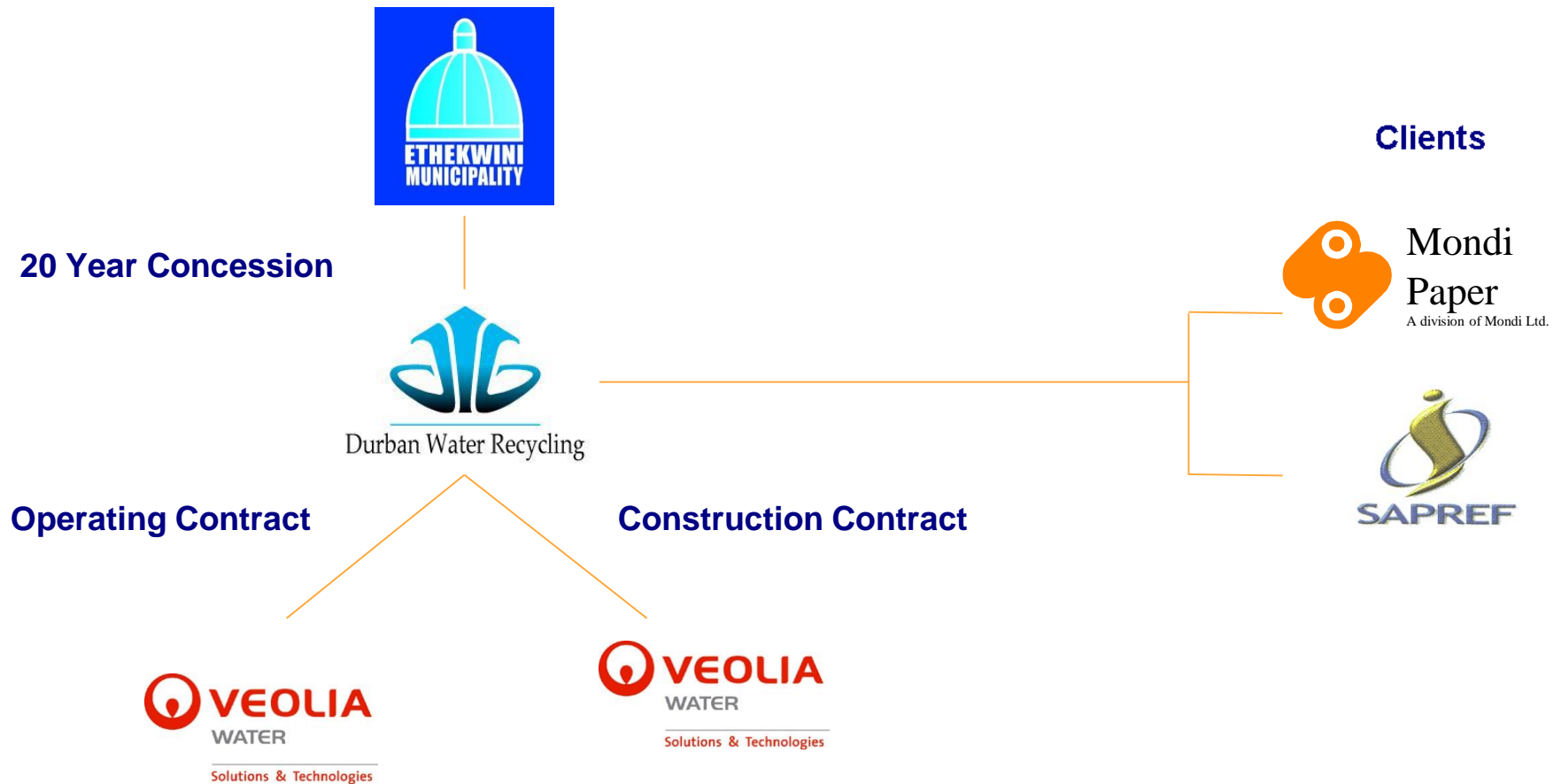
Durban Water Recycling



Marubeni



Contractual Framework



Project Achievements

Sustainable Development of Water Resources

- At capacity the plant reduces the city's water consumption by 7%.
- Extends the life of the city's water catchment resources.
- The volume of Potable Water saved on a daily basis can be redistributed to 220 000 households.
- The 20 year concession is the first PPP of its kind in South Africa.
- Strong reliance on the relative expertise of the partners.
- A model of success for PPP's in South Africa

Project Achievements - Economics

The City

- Delayed capital investment for increased marine outfall pipeline capacity.
- Delayed capital investment for future bulk potable water supply infrastructure.
- No capital investment for the construction of the recycling plant.
- Creation of a long term revenue stream from a levy raised on the production of recycled water.
- Reduction in the city's operating costs.
- Consequently reduced cost of water services to Durban's citizens.

Project Achievements - Economics

Mondi Paper and Sapref

- > 60 % saving in water tariff
- Lower escalation of recycled water compared to potable water.
- Significantly enhanced drought supply security.



Project Achievements - Technical

- Treatment of wastewater to a very high quality standard
- Extensive re-use of existing infrastructure
- Compact design
- Fast track design and construction
- Waste minimisation - 98% water utilisation efficiency

Social Benefits

- All plant staff including management are from the local community
- 36 Bursaries for Tertiary Studies have been handed out in the projects history
- DWR has been the training ground for new staff – once trained these staff are moved to new contracts.



The impact of the Durban Water Recycling Project on the development of Veolia Water Technologies activities in the area

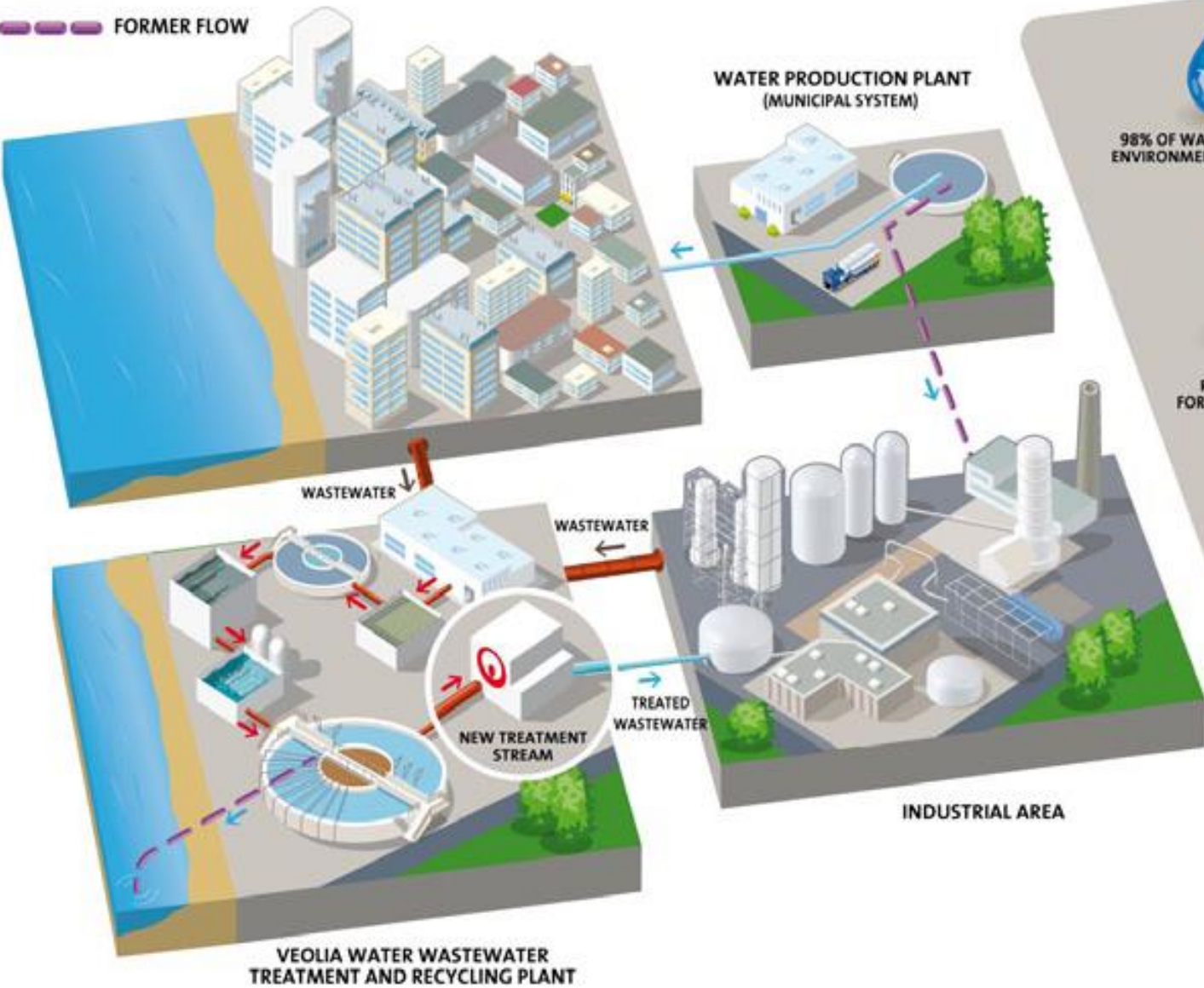


Impact of DWR on the development of Veolia Water Technologies Business



DURBAN, WASTEWATER RECYCLING

NEW FLOW
FORMER FLOW



98% OF WASTEWATER RECYCLED,
ENVIRONMENTAL IMPACT REDUCED

€5
MILLION YEAR
SAVING

RECYCLED WATER SOLD TO INDUSTRY
FOR 60% OF THE COST OF DRINKING WATER

40,000 M³/DAY DRINKING WATER
FREED UP FOR THE CITY'S INHABITANTS

€ 700,000 PAID
BACK TO THE CITY

VEOLIA WATER WASTEWATER
TREATMENT AND RECYCLING PLANT



In South Africa, in the municipality of eThekweni, Veolia has provided a solution that improves Durban residents' access to drinking water by reusing the city's wastewater in local industry.



PRIOR TO 1999, THE CITY OF DURBAN FACED:

<p>3.6 MILLION PEOPLE</p>	<p>SOUTH AFRICA'S 2nd MOST POPULOUS URBAN AREA</p>	<p>THE COUNTRY'S 2nd MOST IMPORTANT ECONOMIC ZONE AFTER JOHANNESBURG</p>	<p>HIGH WATER STRESS</p>
			<p>TENSIONS LINKED TO CONFLICTS OF USE AND TO WATER-INTENSIVE INDUSTRY</p>
			<p>RESOURCES POLLUTION</p>

CONTRIBUTION TO A WATER GOVERNANCE TO THE BENEFIT OF ALL STAKEHOLDERS

DURBAN CITY Partnership initiated in 1999



A PRESERVED RESOURCE & PROTECTED ENVIRONMENT



Where do we go from here?

- *Get the buy in from Government to direct water re-use for industrial or potable consumption*
- *Ensure upgrades (technology) are done to waste water plants to facilitate this resource*
- *Sensitise the public to this long-term water security guarantee*
- *Duplicate the DWR PPP model where financing might be an issue for municipalities*





Thank You



AMBITIONS FOR
AFRICA

