



Size Does Matter!



Size Matters

- For water and sewage the size of the problem is of **gargantuan** proportions.
- Johannesburg, the business capital of Africa's most advanced economy, is facing Day Zero.
- 66% of the municipal wastewater systems in South Africa are in poor or critical condition.
- According to the World Bank, the country risks running out of surface water resources in the near term.



Big Solutions for Big Problems?

- South Africa's water and wastewater treatment network built on **large bulk centralised systems**, are both collapsing and not covering huge sections of society.
- Capital costs of repair let alone installing new centralised systems across the country is mind boggling.
- **IF** it is done, unlikely to keep up with population growth and urbanisation.
- Serious impact on general economic growth, which in turn will make financing even more challenging.



Comfort Zones are Dangerous

Clinging to known solutions may provide comfort – for a short while.

- IBM dismissed the impact of the agile PC, clinging to its **behemoth systems**... it is only now recovering after a painful acceptance of a New World.
- Xerox clung to the copier.... need I say more?
- Mainline phone providers completely missed out on the impact of the mobile phone.



Trailing the Solar Revolution

- We only have to look at the decentralization of the energy grid globally to meet energy demand.
- Big power plants and long power lines are being replaced by solar and batteries providing “local” solutions that can circumvent costly long-haul wiring and placed directly onsite to support significant load growth over the coming decades.
- Currently approximately 140,000 jobs have been created in SA through the Solar Revolution, this is expected to become **+/- 550,000 jobs by 2030**.
- This has unleashed a diverse offering of financing solutions to fund these onsite facilities.
- **The 21st century** will mark a shift towards decentralized energy AND water sources.



KaackKai

KaackKai's dynamic and flexible world of water treatment harnesses the **proven** technological advances that have been made and packages this into decentralised modular systems – Danish technology used successfully for nearly 20 years with almost two decades of incremental improvements.

- Does not use chemicals, mimics nature
- Uses minimal power – can work with solar power
- Easy to maintain, very economical to run and install
- Treats sewage with no smell
- Is flexible, produces water to the highest Danish / EU standards
- Massive job creation (550 000 by 2030)
- Saves water and money
- Has an attractive IRR



Decentralised Systems on the Rise

- Decentralised wastewater treatment using modular set ups directly onsite eliminates the cost and time for extensive piping and increases efficiencies by generating water at source.
- Decentralised systems can expand with a project.
- In South Africa, the **policies and regulatory framework** for wastewater treatment are still geared towards centralised solutions. Elsewhere in the world there is a rapid move to decentralised systems.
- One example is San Francisco, which triggered the initiation of the National Blue Ribbon Commission for Onsite Non-potable Water Reuse Systems.

Changing the Game

- Since launching KaackKai in 2021, a primary focus has been on **improving Standard Operating Procedures and the regulatory framework** for onsite wastewater reuse through real time case studies, with the City of Cape Town, Johannesburg and other municipalities.
- KaackKai was the first to receive approval from the City of Cape Town for a system in the City since the Day Zero crisis.
- At the same time, we have demonstrated through our installations the significant water and cost savings to residential and commercial property developers.
- Size does matter, and to solve our water problems, I would suggest biggest is not necessarily the best.

Residential Compounds



Mining



Upmarket Guesthouses



In the Basement



Mobile Container



Shopping Centres



Multiple Sites

- **Camissa Farm** was looking for an innovative wastewater treatment solution to supplement its modern-styled eco-off grid chalets.
- **Princess Marina Hotel** uses all its treated water for irrigation.
- **Highlands House Boutique Guest Lodge** for irrigation.



At Home



All-in-One Modular Pods



Larger Set Ups



Even Larger Set Ups



Think Smart



Thank You