



Water Sustainability

Current Status

- SAPREF has two main water supply sources – potable water from the municipality and Reclaimed Water from the Durban Water Recycling Plant.
- The cost of reclaimed water is a third of the cost of potable water.
- SAPREF's move to reclaimed water use in 2001 reduced the refinery's consumption of potable water. Main uses are in Cooling Towers, caustic dilution and production of boiler feed water.
- Our RO plant was built to treat reclaimed water to produce demineralized water for boiler feed water.
- Due to poor quality of the reclaimed water and the absence of adequate pre-treatment of the reclaimed water, the RO unit is currently treating potable water.

Current Initiatives

- Extraction of water from municipal stormwater canal to fill fire water dam.
- Reduction in Steam Use - avoid steam venting, fix leaks and faulty steam traps & minimise process requirements.
 - A total of 330 steam leaks repaired in 2018.
 - Maintenance have a dedicated team identified to focus on steam leak repairs. The main challenge is the development of new leaks which is related to integrity of steam lines. SAPREF currently has 278 active steam leaks.
 - Target is to complete 90% of all leaks that can be repaired on the run in 2019

Future Initiatives

- Use of borehole water
- Divert stormwater from Clean Stormwater Unit after first flush to Cooling Water & Firewater tank (storage capacity = 25000m³)
- Opportunities to maximise the use of reclaimed water as fresh water make up in the main and satellite cooling towers.
- Investigate options for use of reclaimed water in place of fresh water for other applications.
- Rain water harvestings from office block buildings
- Change to 100% reclaimed water on RO plant.

Return RO plant to 100% Reclaimed Water Use



- **Scope:** Installation of a 145m³/h Ultra Filtration unit upstream of the RO unit. This pre-treatment step will enable the operation of the RO unit on reclaimed water.
- **Water Utilization:** This opportunity will result in a 20% reduction in potable water consumption with an immediate cost saving of R1 720 440 per month.