

**Western Cape
Government**

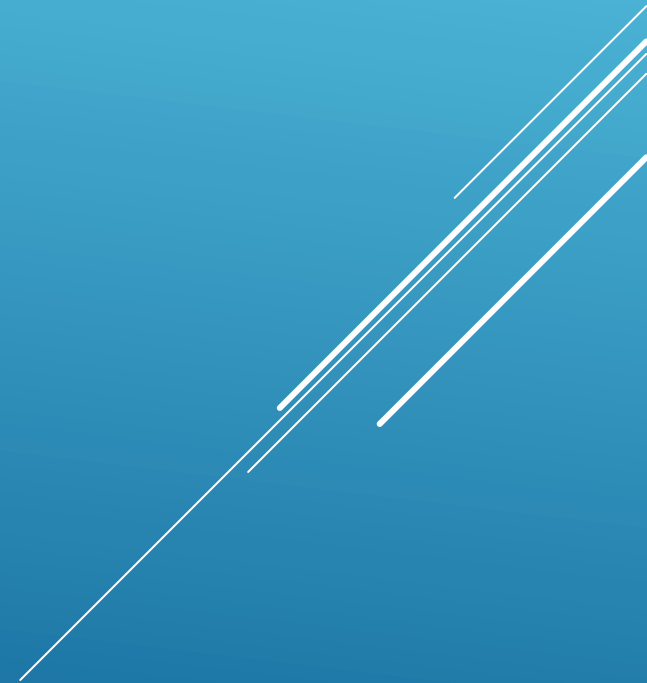
Health

WHY INNOVATE IN HEALTHCARE? SAFHE JUNE 2026



- ▶ The action or process of innovating
- ▶ Defines the process of bringing about new ideas, methods, products, services or solutions that bring about significant and positive impact and value.
- ▶ It involves transforming creative concepts into tangible outcomes that improve efficiency and effectiveness , or addresses an unmet need.

WHAT IS INNOVATION



WHAT DRIVES US TO INNOVATE



- ▶ **Necessity**
- ▶ **Cost Saving**
- ▶ **Saving the Environment**
- ▶ **External Factors**
- ▶ **People**
- ▶ **Sooooooooo.....**



?? ? WHY



CHANGE

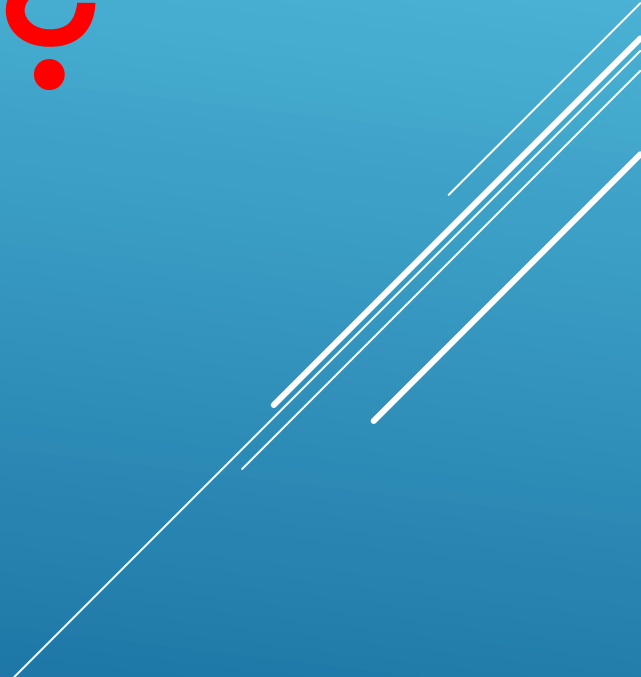


PEOPLES'



BEHAVIOUR???

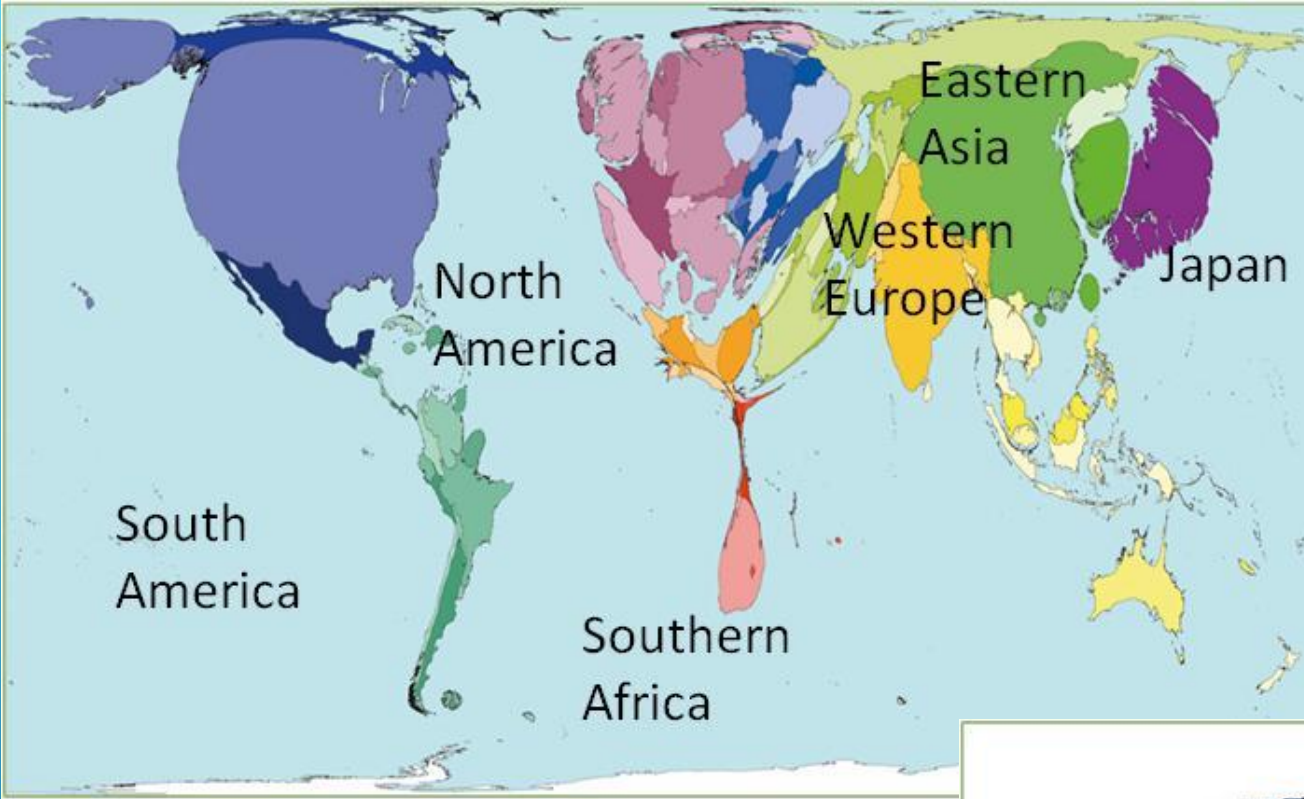
???



- ▶ Unless we care a whole awful LOT:
- ▶ Nothings going to get better;
- ▶ ITS NOT!

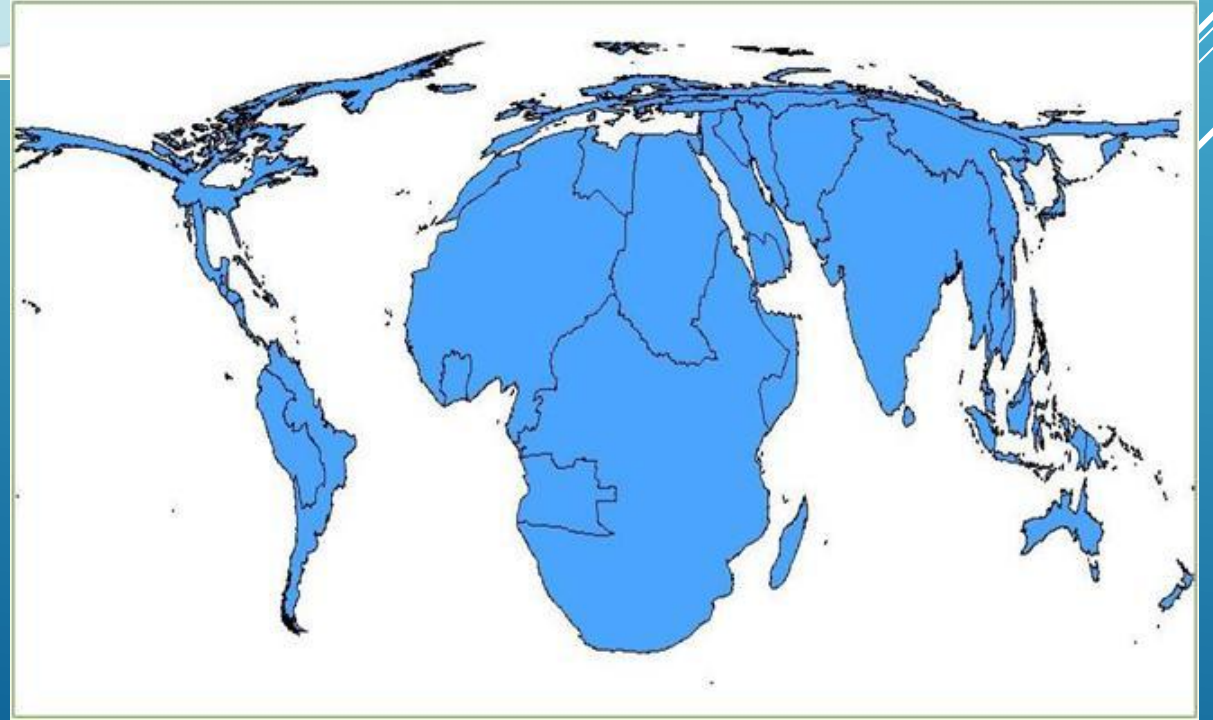
▶ From: The Lorax by Dr Seuss

BECAUSE.....



GREENHOUSE GAS EMITTERS

Climate-related
mortality



- ✓ I meant no harm. I most truly did not.
- ✓ But I had to grow bigger. So bigger I got.
- ✓ I biggered my factory. I biggered my roads.
- ✓ I biggered my wagons. I biggered the loads...
- ✓ ...I went right on biggering...selling more Thneeds.
- ✓ And I biggered my money, which everyone needs.

► From: The Lorax by Dr Seuss

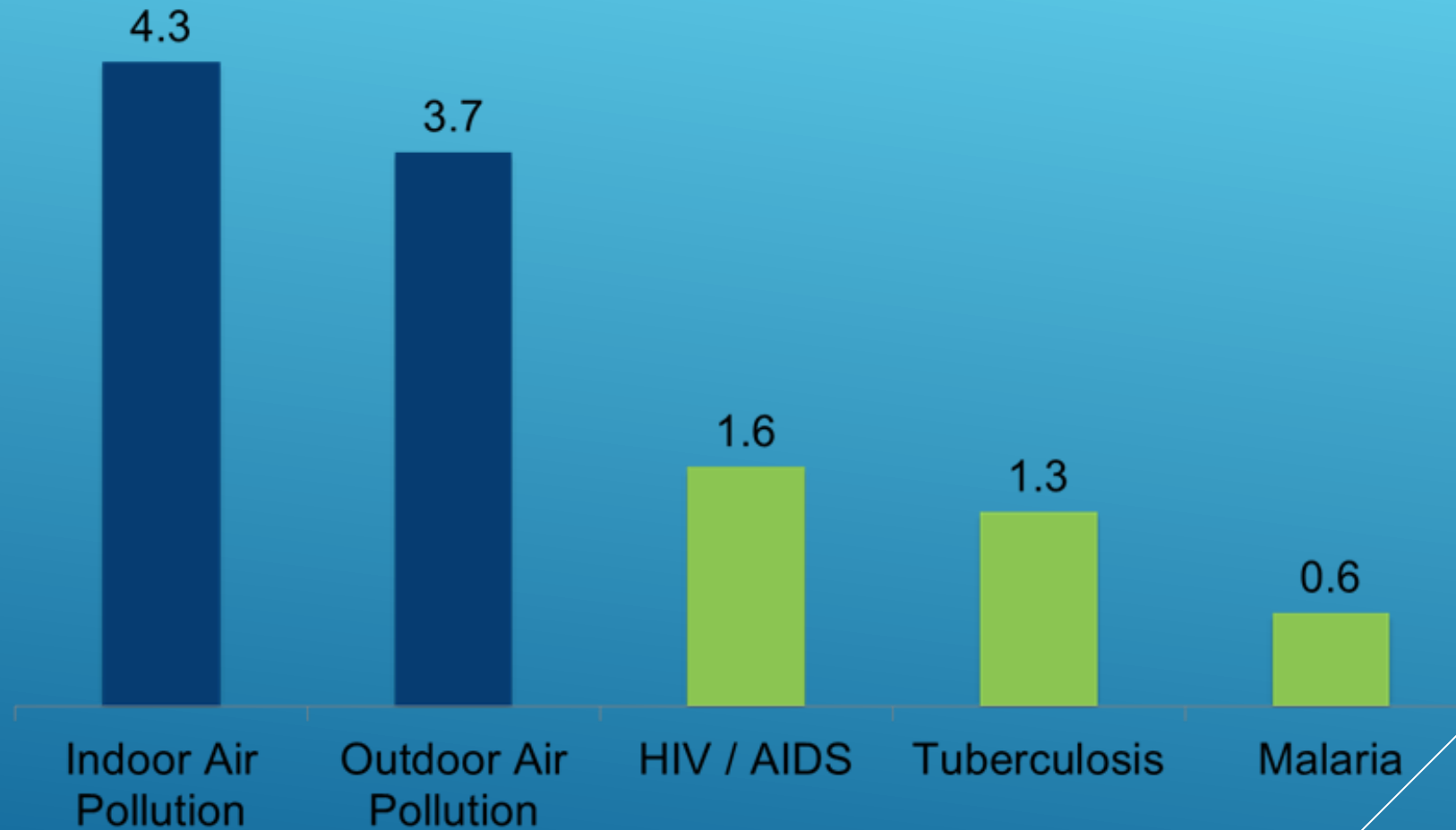
- 
- ▶ Less consumption = Less waste
 - ▶ Less waste = Less Pollution
 - ▶ Less pollution = Less death and illness
 - ▶ Less death and illness = less burden on society
 - ▶ Less burden on society = happier People
 - ▶ Happier People = Improved Efficiency
 - ▶ Improved Efficiency = Less Consumption.....

SO.....WHY CHANGE BEHAVIOUR



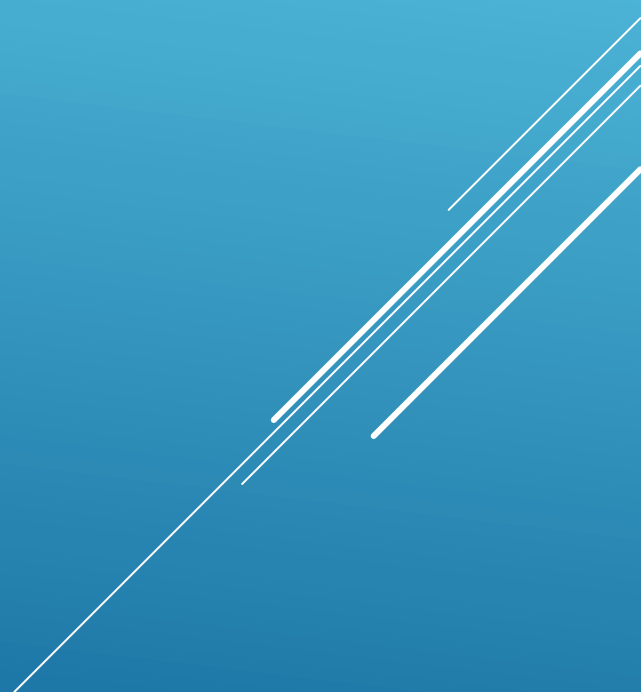
Annual Global Deaths in 2012

(millions)



Source: World Health Organization

WHAT HAS GROOTE SCHUUR HOSPITAL IMPLEMENTED?



- ▶ As a Student Technician I worked on Autoclaves
- ▶ I noticed that they consume huge amounts of water
- ▶ This water is clean
- ▶ Surely it could be reused...

THE CONCEPT



- ▶ Items are placed in the chamber
- ▶ Steam is injected into the chamber 5 times
- ▶ Each time the steam gets exposed to clean water to generate a vacuum and remove any air
- ▶ The chamber is then injected with steam to pressurize and raise the temperature in order to sterilize
- ▶ Pressurized steam exposed to more clean water to create final vacuum to dry the items in the chamber

AUTOCLAVE CYCLE



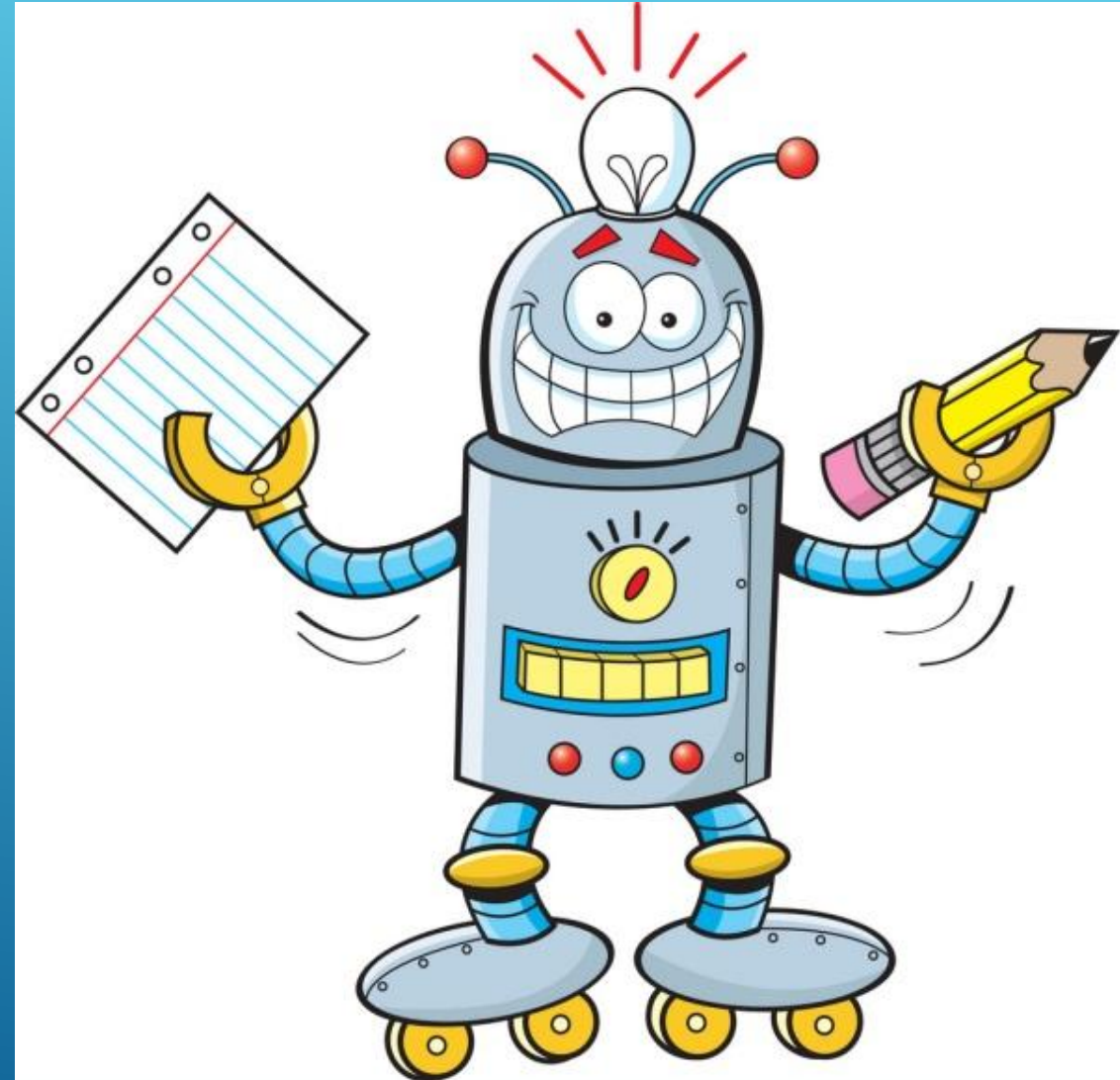
- ▶ Running costs of Autoclaves High
- ▶ Huge amounts of water going to waste

THE PROBLEM



- ▶ We will get the money to proceed
- ▶ This project be easy to implement
- ▶ This project will be largely self sufficient

ASSUMPTIONS



► Finance

BARRIERS



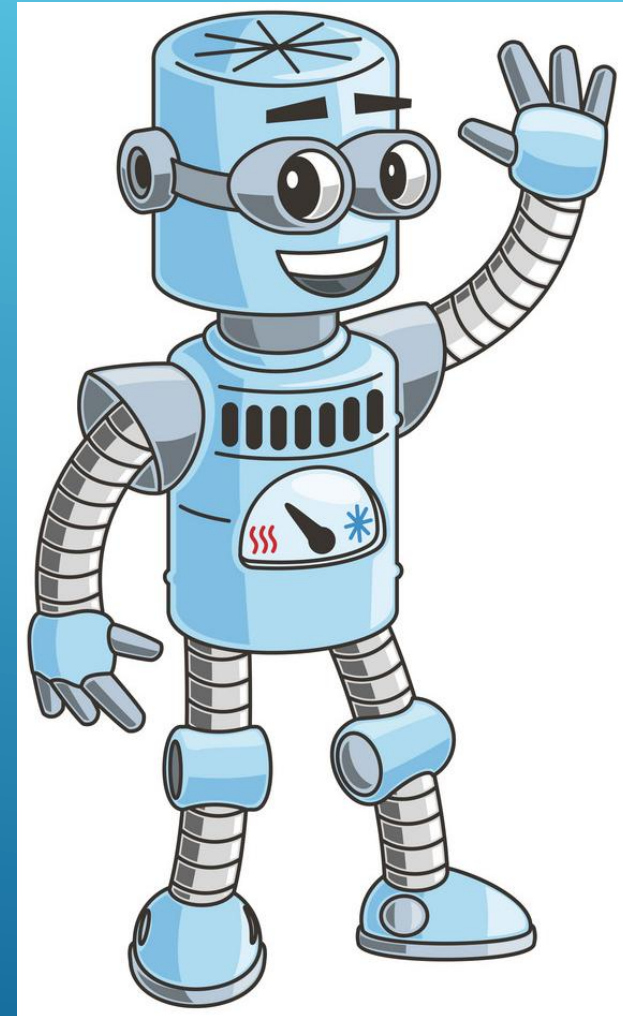
- ▶ End of Financial Year and we must spend or lose
- ▶ A slight underspend on the Hospital Budget
- ▶ Sneaked in under the radar

THE BIG BREAK



- ▶ Waste water from the Autoclave cycle is discharged into a hot water holding tank
- ▶ Hot Water Holding tank pumps water to the intercooler and on to the...
- ▶ ...cool water holding tanks
- ▶ Cool water is then pumped from the cool water holding tanks back to the Autoclave
- ▶ This is effectively a never ending closed loop water reuse system similar to what is used in a power station.

HOW IT WORKS

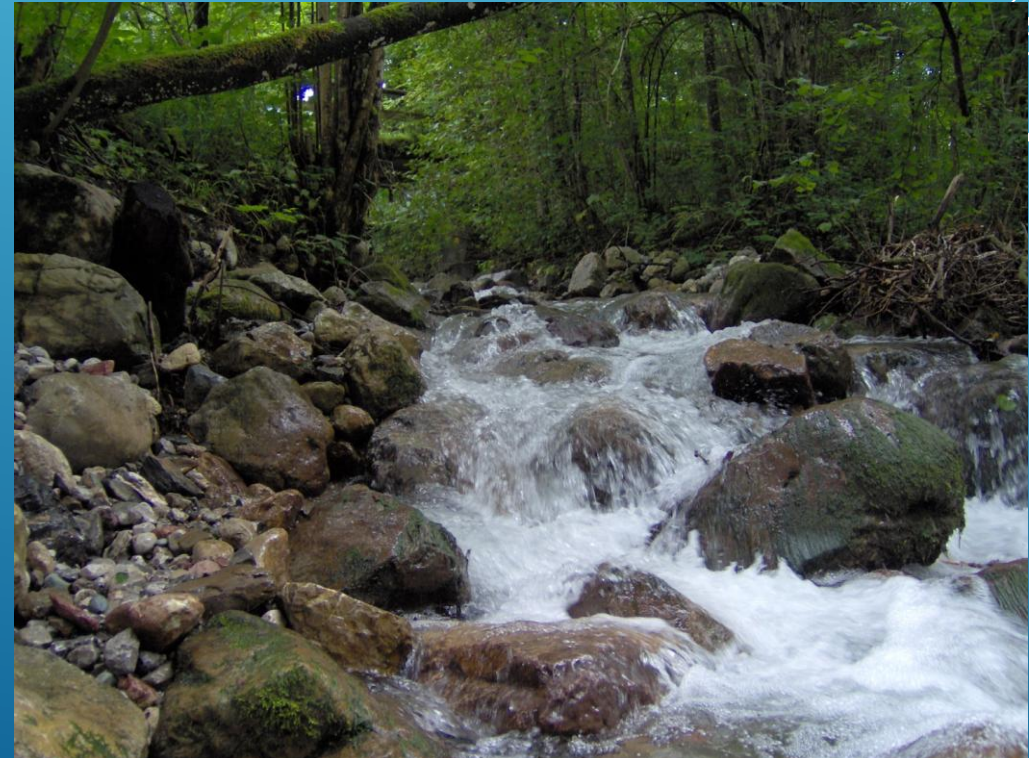


- ▶ R245 000 total installed cost (installed and commissioned in March of 2017)
- ▶ Includes: Pumps, Pipes and Valves, Hot Water Storage Tank, Cold Water Storage Tanks and electrical Installation.
- ▶ This system caters for 11 Autoclaves of medium and large size
- ▶ All items are stock “off the shelf” plumbing fittings and tanks.

COSTS INVOLVED

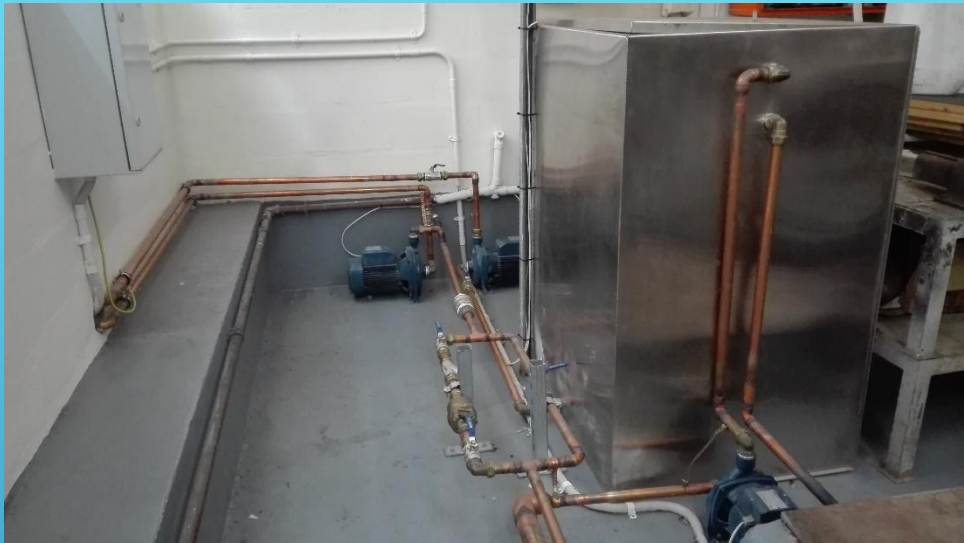
- ▶ No real need for Municipal Water
- ▶ Municipal water only used if recycling system is off line for annual maintenance
- ▶ We save on average 1000 000 liters per week
- ▶ Interesting Fact: 1Kl of Municipal Water = 0,149kgCO₂e
- ▶ CO₂e savings are 35 760kgCO₂e (October 2023)
- ▶ Paying less for Municipal Water

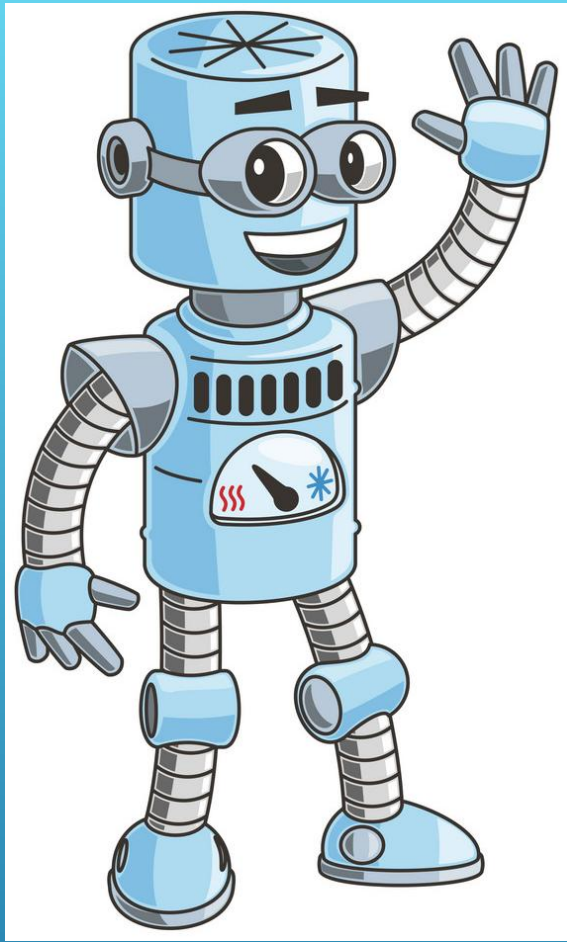
THE RESULTS



WATER RECYCLING IN CPD RECYCLING PLANT @ 29TH MAY 2017







😊 THANK YOU 😊