



# Welcome!

**The next few slides will give some basic information on how the Clarus Fusion Sewage Treatment Plant works, followed by a few case studies / practical applications – including how Fusion can solve existing problems**

# Fusion Sewer Treatment Plants

The Clarus Fusion is a factory-built activated sludge sewer treatment plant.

It follows the exact same treatment process as municipal activated sludge plants.

It is **NOT** a typical package plant.



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# **What differentiates the Fusion from other plants?**

- ✓ **Low power consumption** – up to 90% less than most other plants
- ✓ **Single tank construction**
- ✓ **Tank installed completely underground**
- ✓ **Low noise factor**
- ✓ **Easy installation**
- ✓ **Low maintenance**
- ✓ **No downtime during service / maintenance**
- ✓ **Alarm panel – self monitoring**
- ✓ **Full nitrification / de-nitrification cycle**
- ✓ **Effluent meets South African DWA General Std**
- ✓ **Small Footprint**
- ✓ **Solar options available**



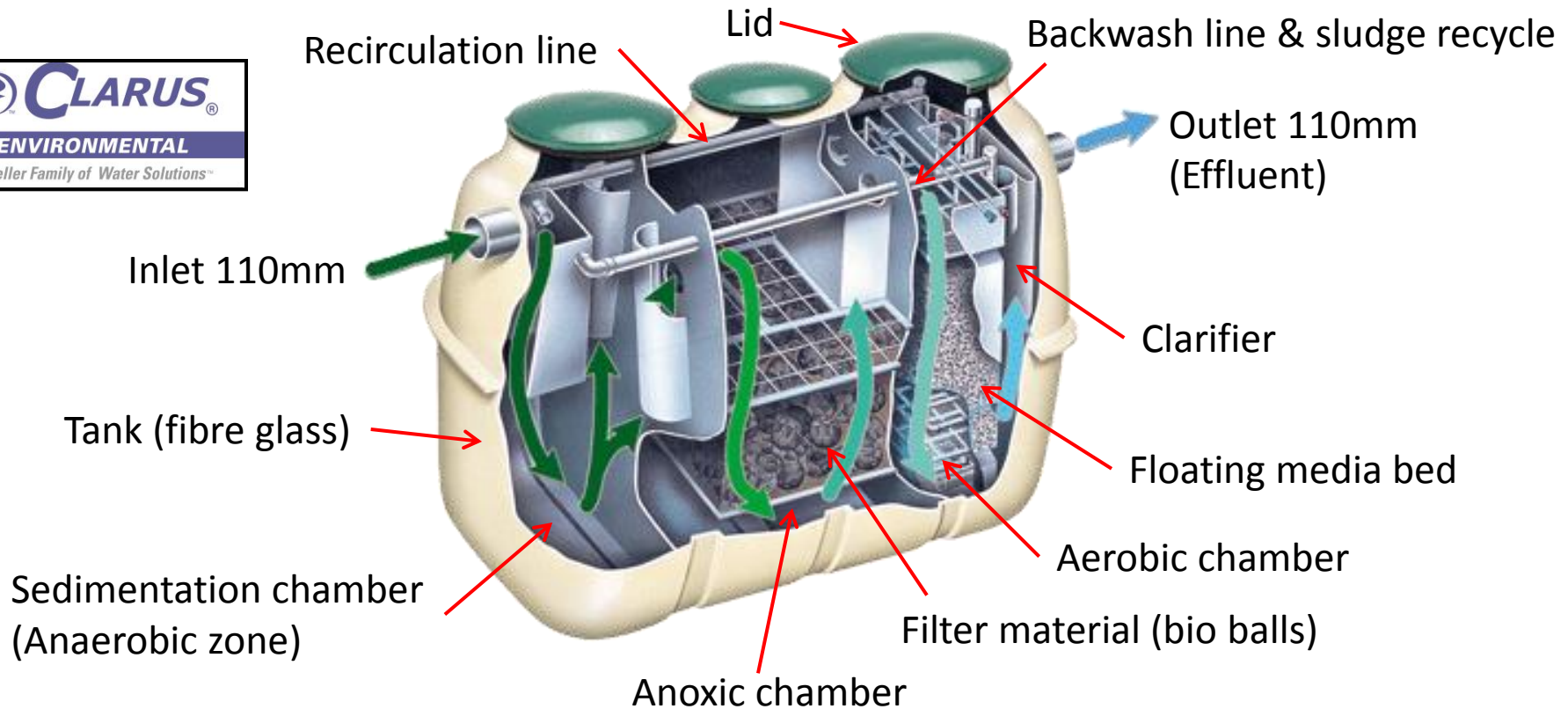
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# The Fusion System



- **Treat your sewage from as little as 60 watts**
- **Solar options available.**
- **Different models available, from 1 person to 100 people**
- **Parallel installations can cater for bigger communities**
- **Outflow water is good for irrigation or to discharge to nature**



# Different sizes to match any application



# Available models

Clarus Model	Litres per day Black & Grey Water Combined	Number of people (based on 150 litres per person per day)	Length (mm)	Width (mm)	Height (mm)	Power consumption (Watts) Excluding disinfection
ZF-450	1700	10	2000	1100	1600	60
ZF-800	3000	20	2500	1450	1850	60
ZF-1120	4200	27	3600	1650	1950	120
ZF-1440	5400	35	3750	1800	1950	124
ZF-2000	7500	50	4150	1950	2200	160
ZF-2400	9000	60	4200	2150	2120	261
ZF-3200	12000	80	4600	2250	2400	285
ZF-4000	15000	100	4750	2450	2550	336





# ***Final Grade***



**ZF450 (1700 lpd)**



**ZF2400 (9000 lpd)**



# Applications....

Case studies





Incoming water holding tank  
Treated effluent holding tank



Purification system

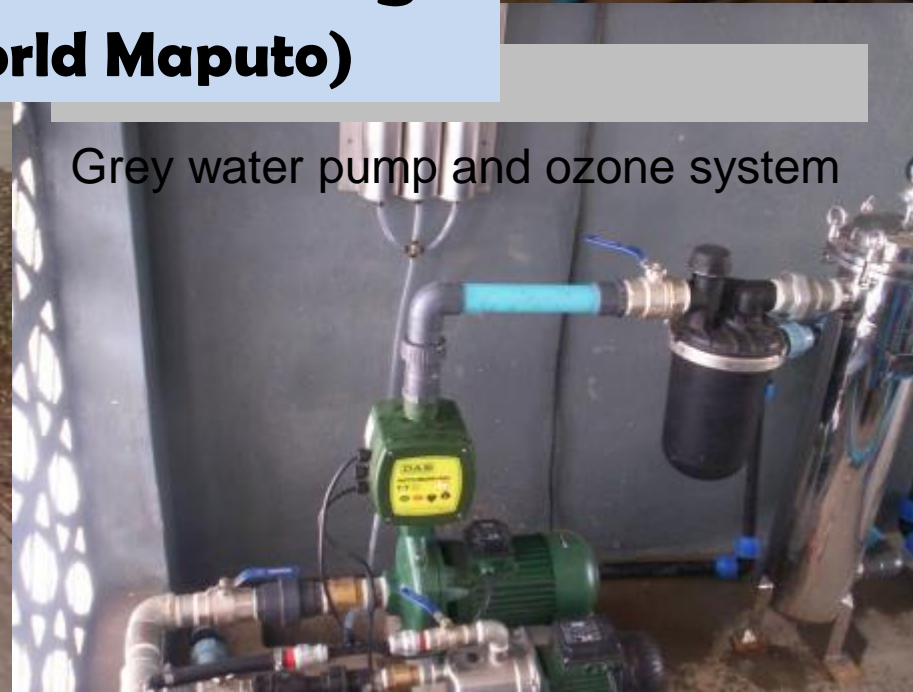


## Commercial Buildings (Barloworld Maputo)


Clarus Fusion Sewage Treatment Plant



Grey water pump and ozone system







Clarus Fusion and storage tanks




Final Grade

## **Guest Houses (La Cabrière Franschoek)**



The View after installation



Pump & control room





# Farms & private residences (Kuruman, Stellenbosch, Dullstroom)







Old conservancy tank

A photograph of an old conservancy tank, which is a large, circular, open-air concrete structure. The ground inside the tank is dry and dusty. The tank is surrounded by a fence and some trees in the background.



UV for disinfection of effluent

A photograph showing a person in a blue shirt and jeans working in a field of tall, green, grass-like plants. The person is holding a blue container, possibly for collecting samples or adding material. The plants are dense and appear to be part of a natural or semi-natural water treatment system.

**Saving Money (Conservancy Tanks are not “green”)  
(Fred Whelpton Stellenbosch)**



Clarus Fusion STP



The Dam

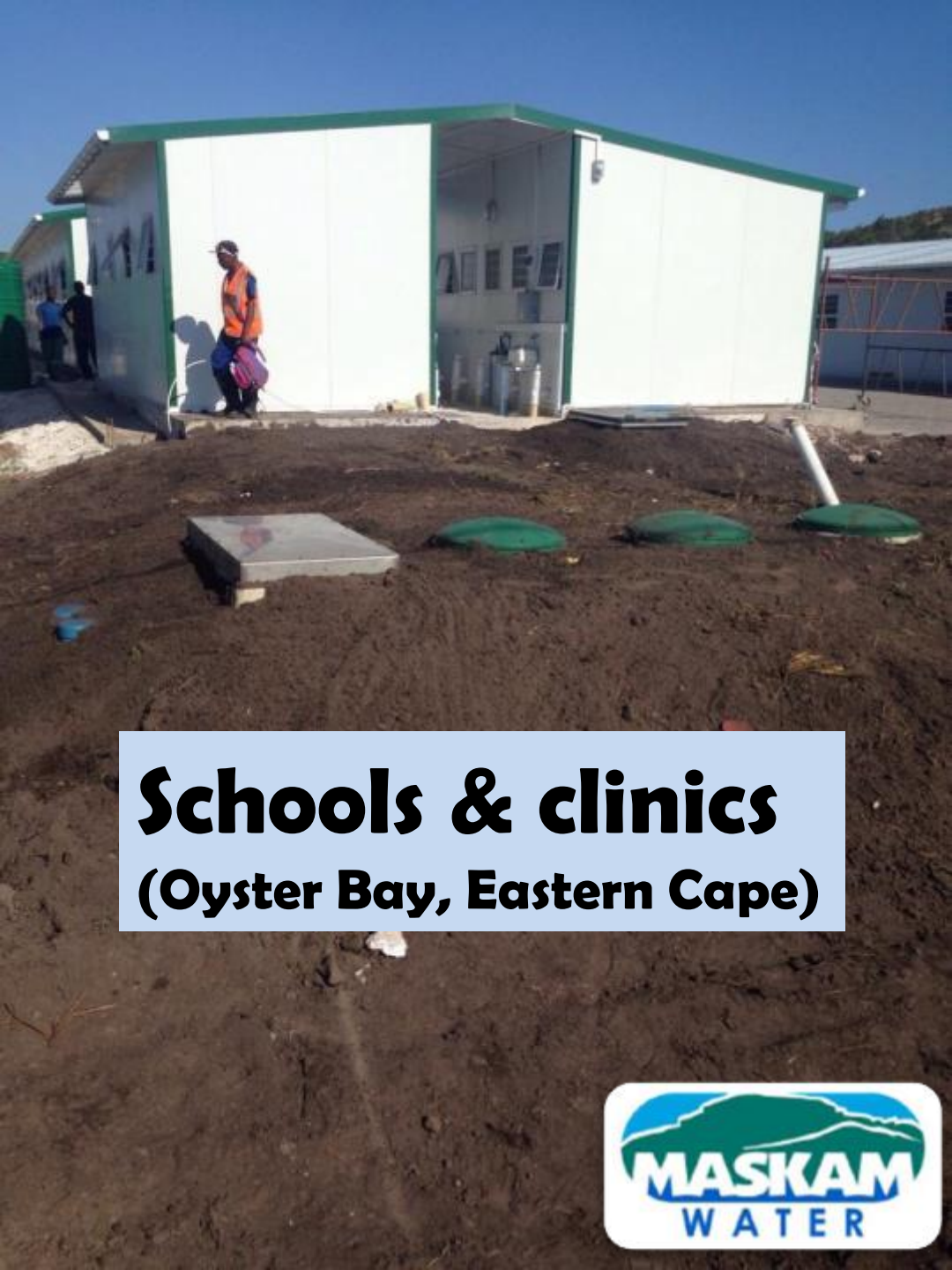


# Lodges and Tented Camps

## (Camp Kanana, Botswana Delta)







# **Schools & clinics**

**(Oyster Bay, Eastern Cape)**







## New developments (decentralised)



**Lekki Island, Lagos**



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## Informal settlements



Dignified sanitation installed in less than a week....

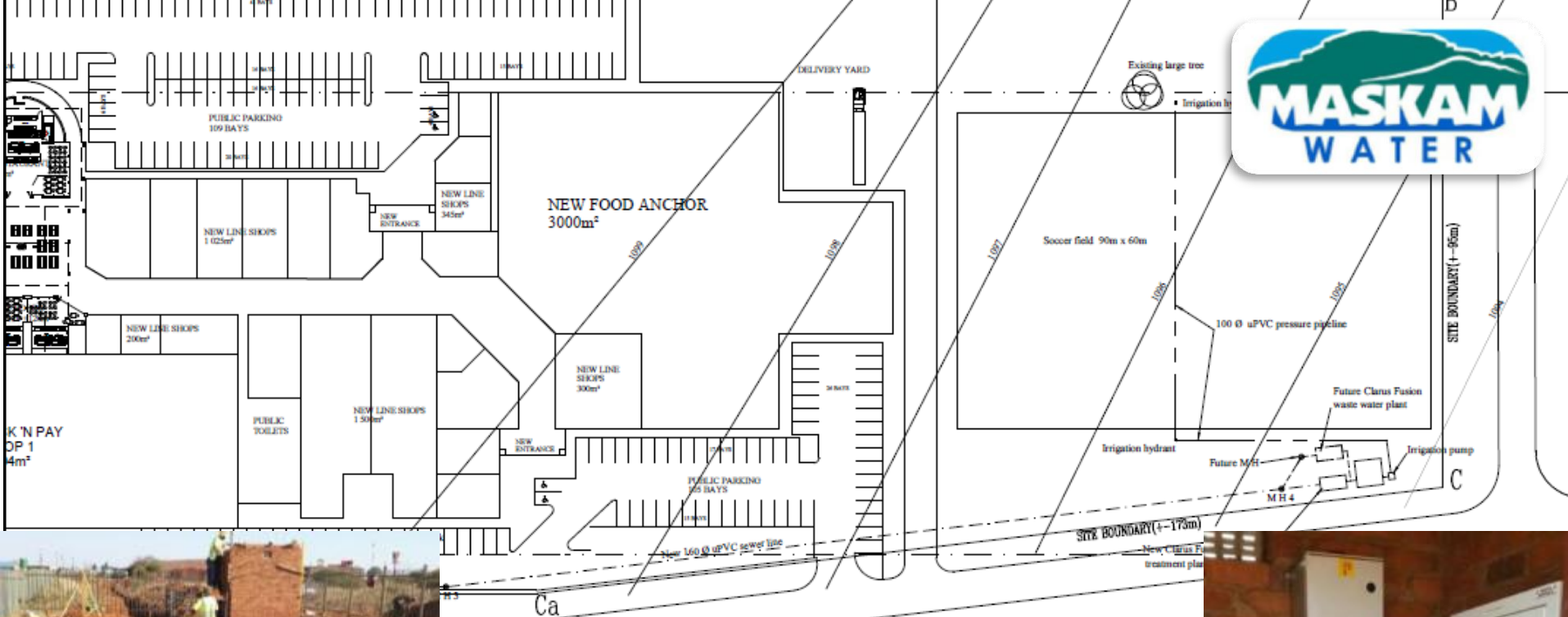


Treated water can be stored and re-used



Kayaloos built by:





## Shopping centres (Botlokwa, Polokwane)







**Petrol stations (Shell Ultra City Lobatse, Botswana)**



# Industrial Effluent (COD reduction) (Foodcorp Centurion)



# Mines

(Staff village, Copper mine, Maun Botswana)







# Fusion goes mobile

## AACU

*Advanced Ablution Container Unit*



- **Built in an ISO registered container frame**
- **Transportable internationally**
- **Treated effluent is used for toilet flushing, thus saving water**



Effluent filter



WW1  
&  
WW4

Screen out non-degradable  
items in gravity fed systems

Multi zone valve



Mechanical diaphragm valve change to  
new zone each time pump starts

2 – 6 zone



# Accessories

Bull run valve



STEP system

Pump from a tank to  
the Fusion, screen  
out non-degradable  
items



## Tru Flow Splitter



Divides flow evenly between  
2 – 5 outlets / Fusions



# Accessories

## Screens



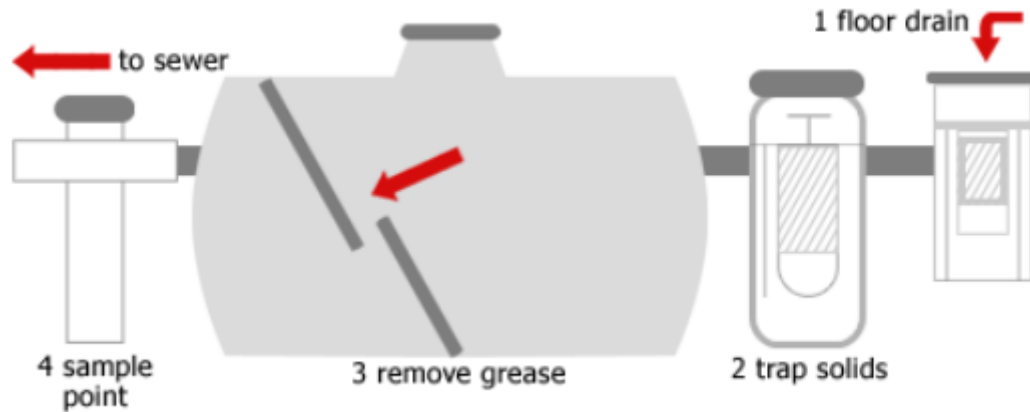
Removes plastic and rags  
from sewage before the plant





# Accessories

Good Quality Grease Traps are essential to the performance of your Fusion!!



Model No.	Item	Capacity (litres)	Length (mm)	Height (mm)	Diameter (mm)	Mass (kg)	Flow* (l/sec)
SG-01#	Grease trap	380	1200	790	640	20	1,0
SG-03#	Grease trap	550	1200	950	800	40	1,5
SG-06#	Grease trap	1000	1570	1150	950	60	3,0
SG-09#	Grease trap	1500	1878	1317	1060	100	4,5
SG-14#	Grease trap	2500	2200	1370	1400	125	6,0
SG-36#	Grease trap	6000	2970	1895	1665	305	16,0
KD/FT	Floor drain	10	N/A	600	250	18	N/A
US-01#	Under-sink unit	75	700	400	400 (square)	7	N/A
US-02#	Under-sink unit	115	1000	400	480 (square)	10	N/A
CSPNT	Sample point	12	N/A	800	200	2	N/A
NS 17	Sample point	19	N/A	1000	250	4	N/A

# [www.maskamwater.com](http://www.maskamwater.com)

- Air purification equipment
- Drainage and de-watering equipment
- Pumps and controls
- Variable Speed Drives
- Sewage lifting stations
- Air pumps
- Water purification
- Water feature equipment
- Floating fountains
- Pond and Koi products
- UV water treatment
- On-site sewage treatment plants
- Eco-friendly swimming pool water treatment

