

SPIROTECH
INTERNATIONAL
(Pty) Ltd

SES

Enviro Solutions

Process Solutions

WHAT WE WILL DO FOR YOU

- Optimize plant performance - giving maximum return on investment, prioritising Environmental impact as an integral part of the solution.
- Understand your process
- Understand your challenges and potential problem areas
- Use our hands on experience to add value to the end output
- We strive for our solutions to be
 - *Practical*
 - *Long term*
 - *Cost - effective*



HOW WE DO IT

- From our premises in Factoria on the West Rand.
 - We Supply all process related components and solutions
 - Valve solutions
 - Piping solutions
 - Control and Automation Solutions (PLC thru to IoT)
 - Materials Handling
 - Crushing and Milling
 - Effluent and Water Remediation

BIO-REACTORS

BEFORE



These microbes set to perform the task of remediation. This method is particularly effective against organic contaminants such as VOC's i.e. Benzene.

The bio-reactor is a proprietary machine which houses a biomass which produces inoculum. This inoculum is returned to the body of water, or soil, being treated and wakes up the dormant, naturally occurring microbes.

AFTER



HYDRO-CARBON ENCAPSULATION

This process provides **immediate remediation** of contaminated soils in-situ.

The contaminated soil is excavated and thoroughly mixed with measured doses of a product which encapsulates the hydro-carbon portion in an organo-silicate (sand).

The product is non-leaching, this process provides immediate results and a permanent solution. It also can be used on hard surfaces such as concrete, brick work & steel.



BIOLOGICAL SOIL REMEDIATION

This is a system of methodically ploughing contaminated soil in-situ, and impregnating that contaminated soil with a blend of hydro-carbon consuming microbes.

Over a period of approximately ninety days the soil is remediated.

This process needs to be micro-managed as an ideal environment needs to be maintained for the microbes by means of a constant regimen of watering, aeration and nutrition.



EFFLUENT REMEDIATION SYSTEMS

Our design team is able to produce a unique solution for each customer for every contamination type.

1. Sweet water sources (river, wells and boreholes)
2. Grey water remediation
3. Black water remediation
4. Oil/Water Separation (with hydro carbon collection or remediation)
5. pH correction (Acid to neutral / Alkali to neutral)
6. Metal coagulation
7. Desalination

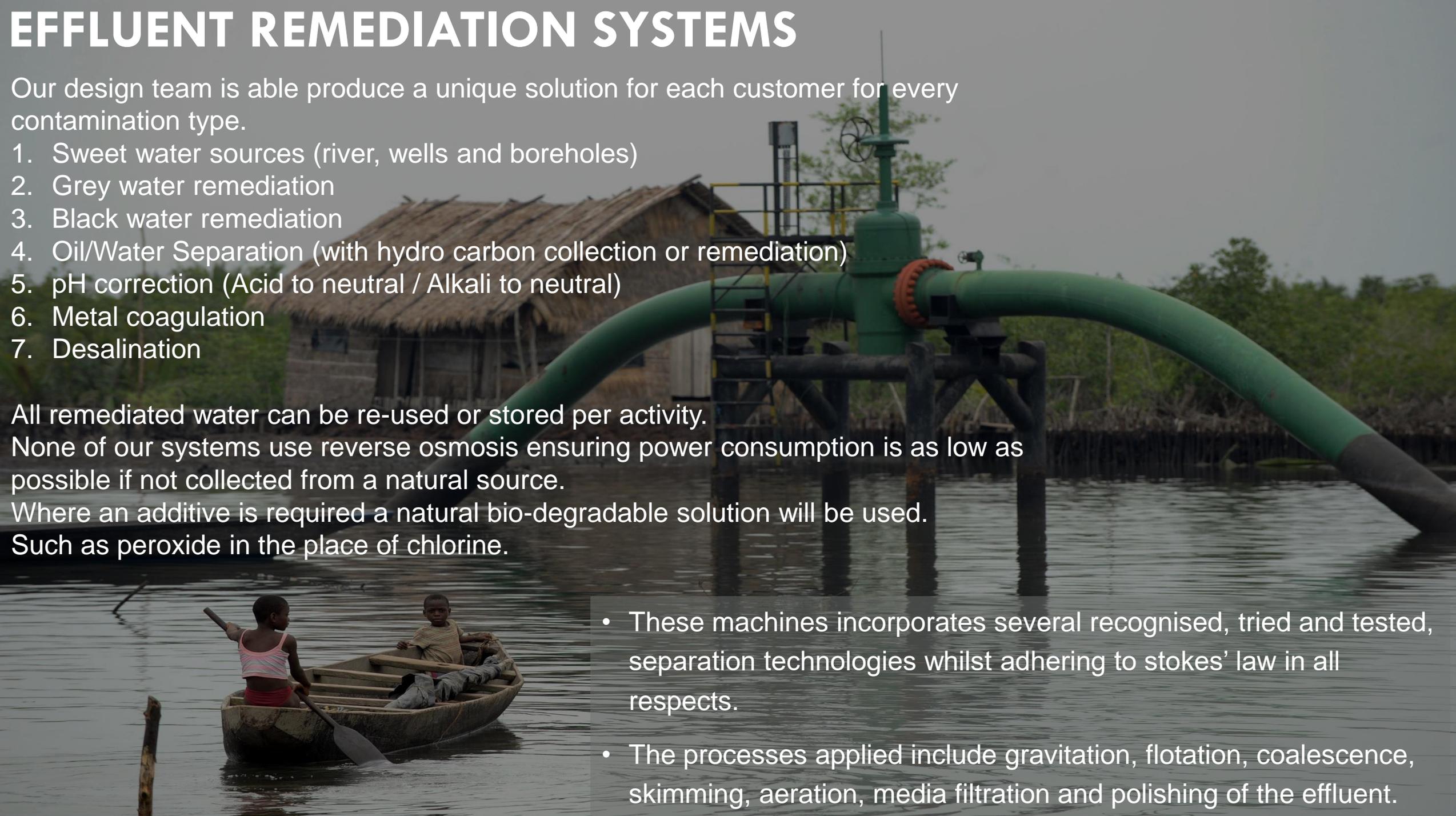
All remediated water can be re-used or stored per activity.

None of our systems use reverse osmosis ensuring power consumption is as low as possible if not collected from a natural source.

Where an additive is required a natural bio-degradable solution will be used.

Such as peroxide in the place of chlorine.

- These machines incorporate several recognised, tried and tested, separation technologies whilst adhering to Stokes' law in all respects.
- The processes applied include gravitation, flotation, coalescence, skimming, aeration, media filtration and polishing of the effluent.



CONCLUSION

The background image shows an industrial plant with large, shiny metal pipes in the foreground. In the distance, there are several large storage tanks and a tall, striped chimney stack under a blue sky with scattered white clouds. The ground in the foreground is a green field.

SES have the relevant expertise, experience and technologies to provide the required solutions to all Process situations