



METSI ENVIRO TECH PVT LTD
Innovative Technological Environmental Solutions



**ENVIRONMENTAL
SUSTAINABILITY**

CLAIRE FONTAINE®

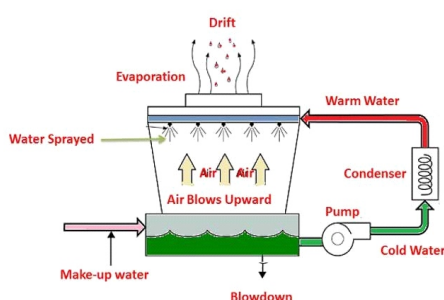
Electrolyt - ionic ERNB Tech

**Electrochemically Reactive Nanobubbles (ERNBs)
FOR COOLING TOWER**

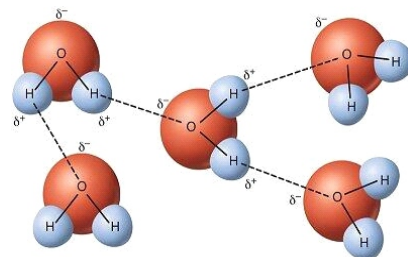
**NON HAZARDOUS
LIQUID**

GREEN CHEMISTRY

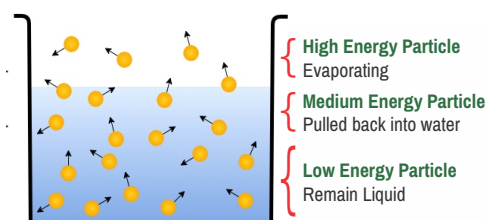
A Typical Cooling Tower



Hydrogen Bonding of Water



Evaporation Causes Cooling



Problems In Cooling Tower



SCALE

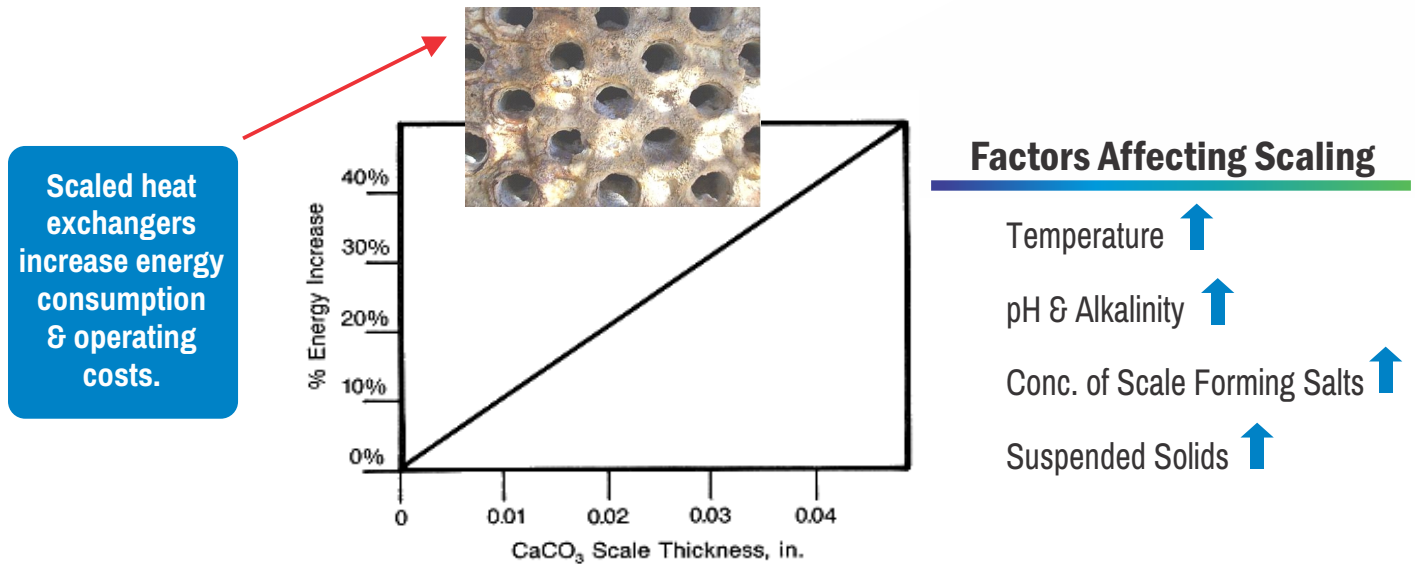


CORROSION



MICROBIAL GROWTH / GENERAL FOULING

How Does Condenser Scaling impact your Energy Consumption?



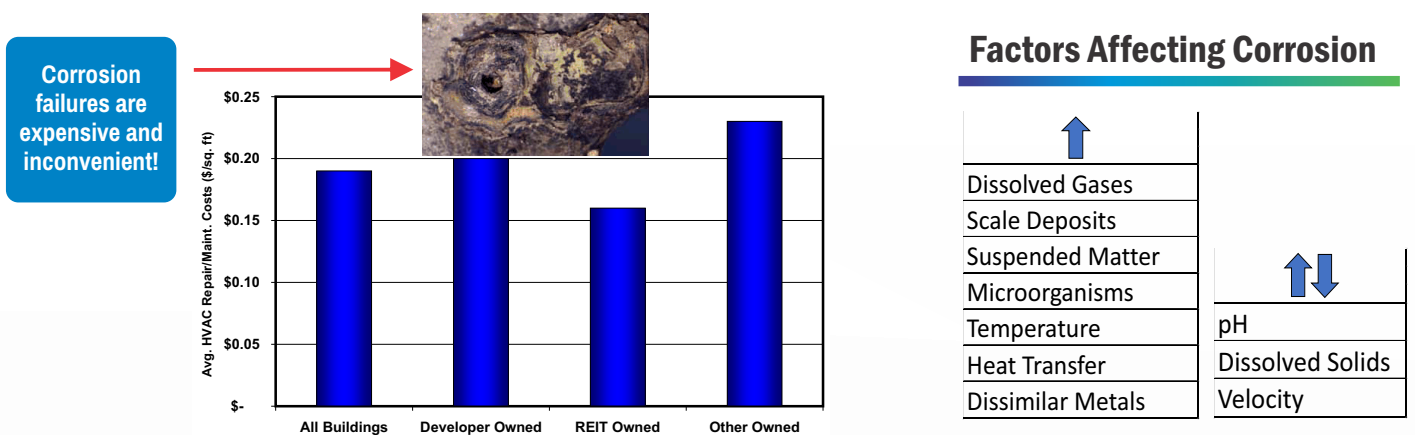
How To Control Scale ?

- Limit The Concentrations of Minerals
- Use Corrosive Acids & Chemicals
- Use Safe Eco Friendly

Corrosion

A natural process converting processed metals to their native state.

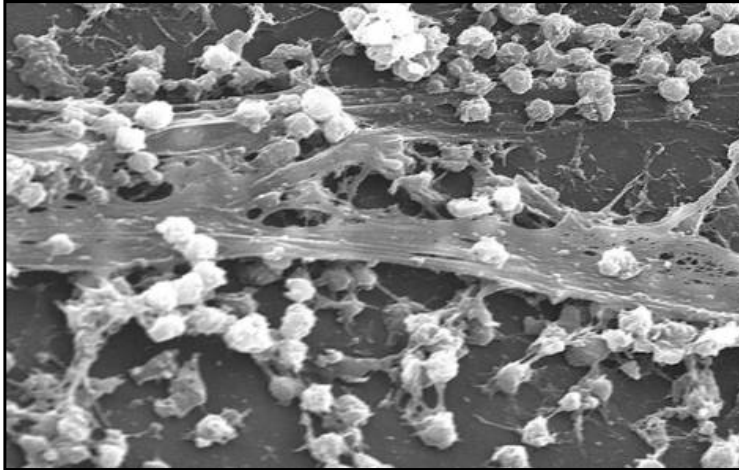
How does Condenser Corrosion impact your Maintenance Costs



How To Control Corrosion?

- Use Corrosion-resistant Materials
- Apply Inert Barriers/Films
- Use Sacrificial Anodes
- Apply Corrosion Inhibitors
- Adjust Water Chemistry with

Fouling



- Loose, non adherent deposits made up of insoluble particulate present in the make up water.
- Introduced to the cooling system by process leaks, wind or microbiological growth.
- Proliferation of microorganisms, which can directly or indirectly reduce the performance of Cooling system.

Biofilm adversely affects Thermal Conductivity

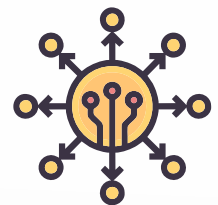
Sl. No.	Material	Thermal Conductivity (BTU/ft ² h °F in)
1	Clean Carbon Steel	310
2	Analcite Deposit	8.8
3	Calcium Phosphate Deposit	25
4	Calcium Sulphate Deposit	16

5	Magnesium Phosphate	15
6	Magnesium Iron Oxide	20
7	Silicate Scale (Porous)	0.6
8	Fire Brick	7
9	Insulating Brick	0.7
10	Bio-Film	0.4

The Team & Know-how

The team has 4 decades of experience in design & developing advanced cooling tower system.

A team of leading academia, alumni and practitioners from leading Institutions developed on the key building blocks.

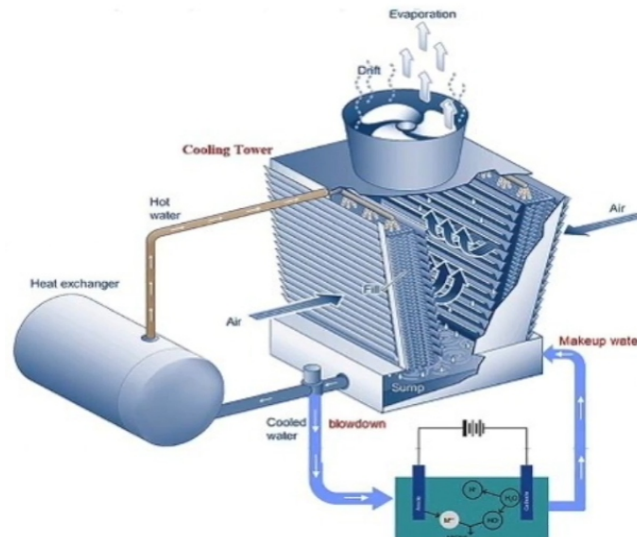


The Key Building Blocks

The Technology differentiates itself via 3 building blocks.

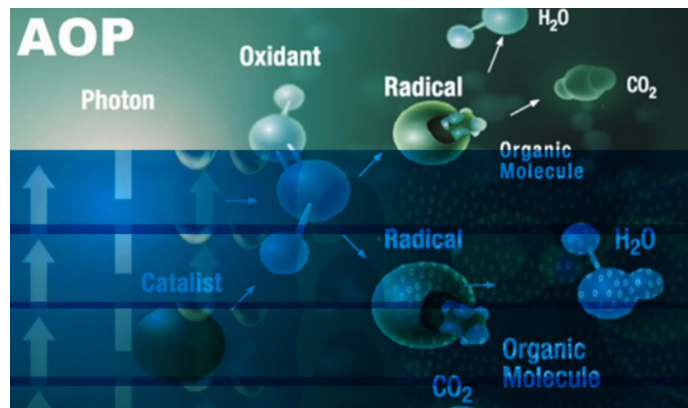
Building
Block 1

Electrolysis



Electrochemically Reactive Nanobubbles (ERNBs)

Building
Block 2



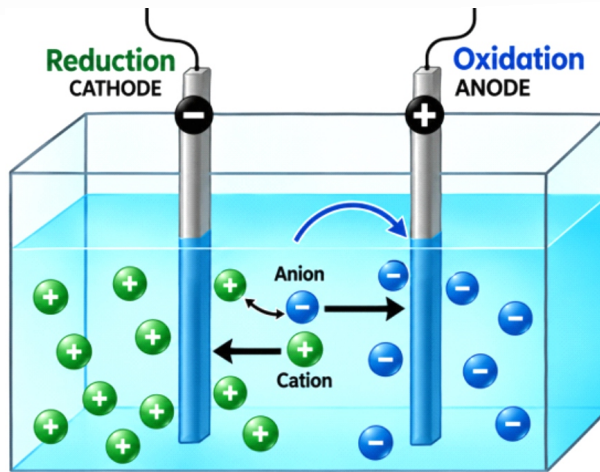
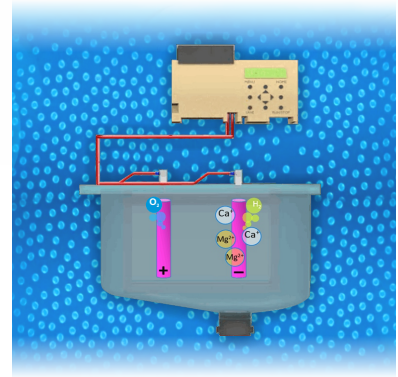
Building
Block 3



Customised Automated Models from 50 TR upwards.

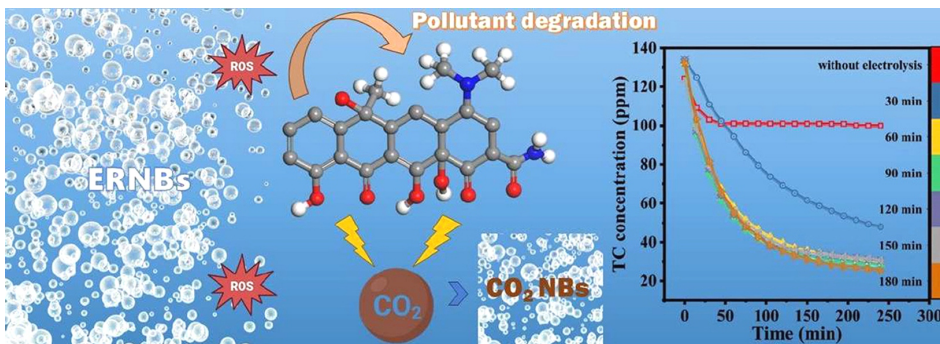
Building Block 1

Electrolysis



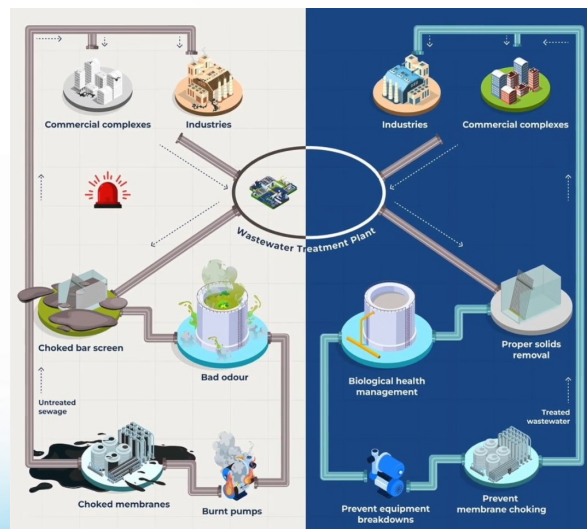
Electrochemically Reactive Nanobubbles (ERNBs)

Building Block 2



- ERNB - An innovative solution for advanced oxidation processes (AOPs) in pollutant degradation & CO₂ utilization.
- ERNBs-based AOPs enable efficient degradation of TC.
- ROS plays a key role in the electrochemical reactivity of ERNBs.
- CO₂ NBs serve as a sustainable electrolyte alternative for pollutant degradation.

Building Block 3



Advantage:

Prevents structural destruction & OPEX Reduction



Acids



Clean Condensor



Lower energy cost



No chemicals



No storing cost



Eliminate Legionella



Green Certification



Innovation



Taking account of the
environmental and social
priorities of the location

The quality of
the indoor
environment



The use of
sustainable
materials



Location and
transport



Energy management



Water management



Attention to preserving
the environment on the site

