

**ENVIROCHEM SERVICES**  
ENGINEERING ENVIRONMENT FOR BETTER TOMORROW

# ENVIROCHEM SERVICES

EnviroChem Services laid its foundation in 2016, to provide services in the field of Environmental and Engineering Solutions, from Inception-to-Completion, working towards its motto of "Engineering Environment for Better Tomorrow".

EnviroChem is Pioneering Consultancy as they focus on continual improvement towards Customer's satisfaction by providing an outstanding solution to their one of a kind Problem. EnviroChem provides Environmental and Process Consultancy for Private & Public Sector Clients around the Globe.

An indication of our success is marked by the number of our satisfied repeated Clients, Recognizing us as a Leading Expert in Environmental and Engineering Solutions, and an organization that delivers high-quality Goods and Services, and Results Exceeding Expectations. We Persist in Building on Our Status as an extremely trusted organization offering innovative and practical solutions.

## THE JOURNEY :

### TECHNOLOGY DEVELOPED





# ENVIROCHEM SERVICES

The projects implemented across India and established track records validate our Potential. EnviroChem is a One Stop Solution for all Environmental (EHS) and Process (Engineering) Requirements.

EnviroChem Services is amongst a selected group of Emerging Environment and Process consultants who are qualified to offer most of the Environmental Projects in India, Nepal, Bhutan, Bangladesh, Algeria, Ethiopia, Nigeria, Philippines, Canada, and Europe.

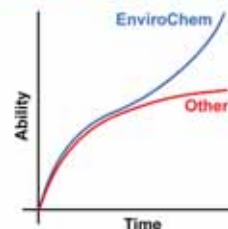
## Our Philosophy



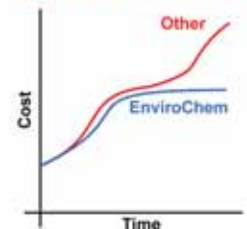
## Our Theory



## Our Services



## Our Products



## SWOT ANALYSIS



## PROFICIENCY



# SERVICES

When it comes to environmental & engineering challenges, We deliver Innovative Solutions for Your unique needs. Our Design extends the Life of Systems and Minimizes OPEX while allowing You to focus on other priorities.

- **AIR POLLUTION CONTROL MEASURES**
- **CLEANER PRODUCTION TOOLS**
- **CIRCULAR ECONOMIC SYSTEM**
- **DESALINATION**
- **EPC CONTRACTS**
- **ENGINEERING & PROCESS DESIGN**
- **ENVIRONMENTAL CONSULTANCY**
- **GREEN BUILDING DESIGN**
- **MARINE ECOSYSTEM**
- **NOISE REDUCTION**
- **ODOUR MANAGEMENT**
- **OPERATION & MAINTENANCE**
- **RESOURCE RECOVERY SYSTEM**
- **RETROFITTING & REVAMPING**
- **RENEWABLE ENERGY**
- **RIVER REJUVENATION**
- **SOLID WASTE MANAGEMENT**
- **SUSTAINABLE PROCESS**
- **TROUBLESHOOTING & STABILIZATION**
- **WASTE OPTIMIZATION & MANAGEMENT**





# PRODUCTS

EnviroChem specializes in commissioning complex, multi-disciplinary environmental, and engineering projects, in collaboration with experts and specialists. Our constant approach to implement innovative, cost effective, and environmentally sound solutions enable any size and type of organization, to accomplish their project objectives and to resolve their Environmental Issues Effectively and Efficiently.

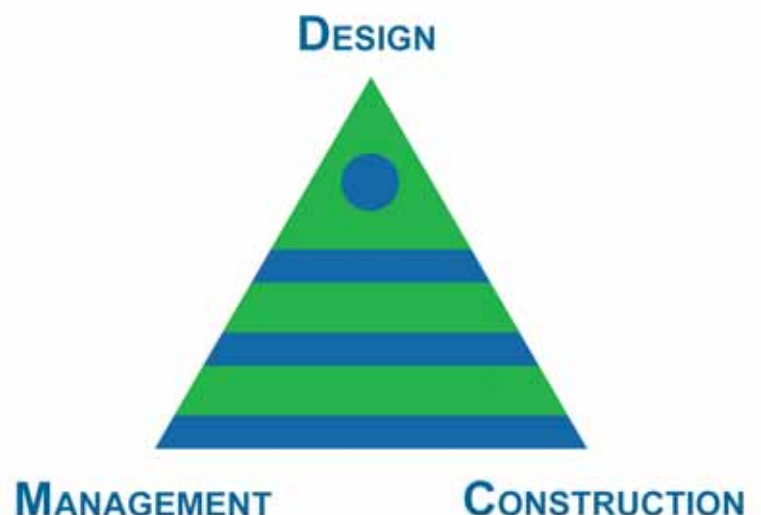
- **AIR DIFFUSION SYSTEM**
- **AIR PURIFIER**
- **ANAEROBIC DIGESTER**
- **ANTISCALANTS**
- **BIOGAS PURIFICATION SYSTEM**
- **BioCNG BOTTLING PLANT**
- **BACKWASHABLE MESH FILTERS**
- **CHEMICAL DOSING SYSTEMS**
- **CLARIFIER (PERIPHERAL / CENTRAL)**
- **CLARIFLOCCULATOR**
- **COAGULANTS/CHEMICALS**
- **COLOR REMOVAL CHEMICAL**
- **CYCLONE SEPARATOR**
- **DEGASSER**
- **ELECTRO-STATIC PRECIPITATOR**
- **SLUDGE DEWATERING UNITS**
- **FLOATING SURFACE AERATORS**
- **FLOCCULANTS/CHEMICALS**
- **GRIT REMOVAL SYSTEM**
- **LAMELLA CLARIFIER**
- **MBBR MEDIA**
- **MECHANICAL AGITATORS**
- **MECHANICAL BAR SCREEN**
- **MECHANICAL DUST COLLECTOR**
- **MECHANICAL FLASH MIXER**
- **MECHANICAL FLOCCULATOR**
- **MS/SS/FRP TANKS**
- **MULTI-CYCLONE SEPARATOR**
- **ODOUR CONTROL SYSTEM**
- **OIL SKIMMERS**
- **OIL RECOVERY SYSTEM**
- **ORGANIC WASTE COMPOSTER**
- **PACKED COLUMN**
- **PARSHALL FLUME**
- **SCUM REMOVAL SYSTEM**
- **STATIC FLASH MIXER**
- **STATIC FLOCCULATOR**
- **TUBE SETTLER**
- **UV DISINFECTION UNIT**
- **VENTURI SCRUBBERS**



# PROJECTS

Our understanding of environmental and engineering issues, faced by organizations, enables us to present life-size rewards to our client, from initial consultation to project completion, we discover possibilities that result in Continuous Operational Enhancements, Decreased Project Management Intricacy and Lower Project Cost.

- **TURN KEY PROJECTS**
- **TREATMENT UNITS**
- **UP-GRADATION**
  
- **ERECTION & COMMISSIONING**
- **INSTALLATION**
- **MODIFICATIONS**
  
- **SUPERVISION**
- **OPTIMIZATION**
- **OPERATION & MAINTENANCE**



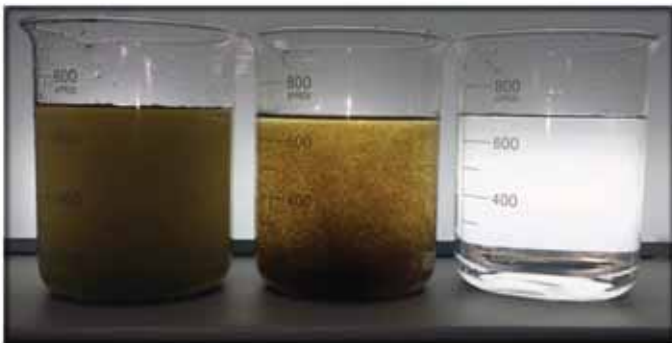
# EFFLUENT TREATMENT PLANT

## ELECTROPLATING INDUSTRIES



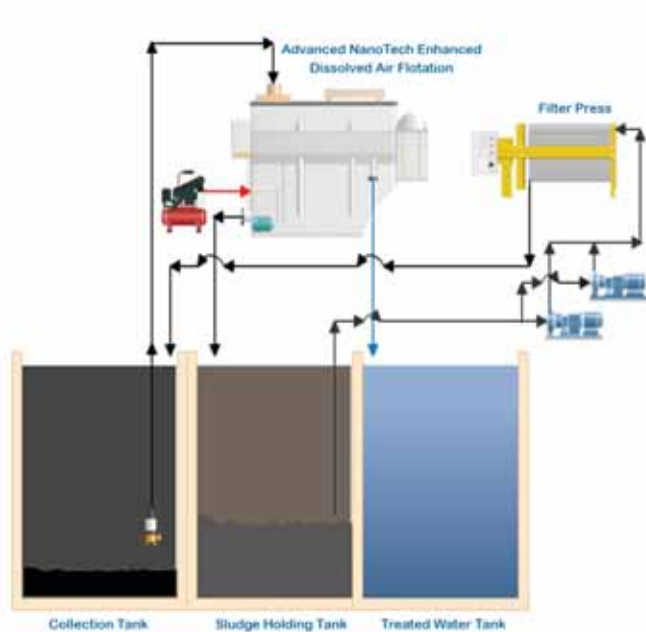
Parameter	Effluent	Treated Effluent
pH :	3 - 6 (Acidic)	6 - 8 (Neutral)
Conductivity (mS/cm) :	4.0 - 5.0	< 3.5
Chemical Oxygen Demand (COD) :	> 500 mg/L	< 100 mg/L
Nickel :	> 375 mg/L	< 2 mg/L
Copper :	> 275 mg/L	< 2 mg/L
Zinc :	> 100 mg/L	< 2 mg/L
Chromium :	> 100 mg/L	< 2 mg/L

## SUGAR INDUSTRIES

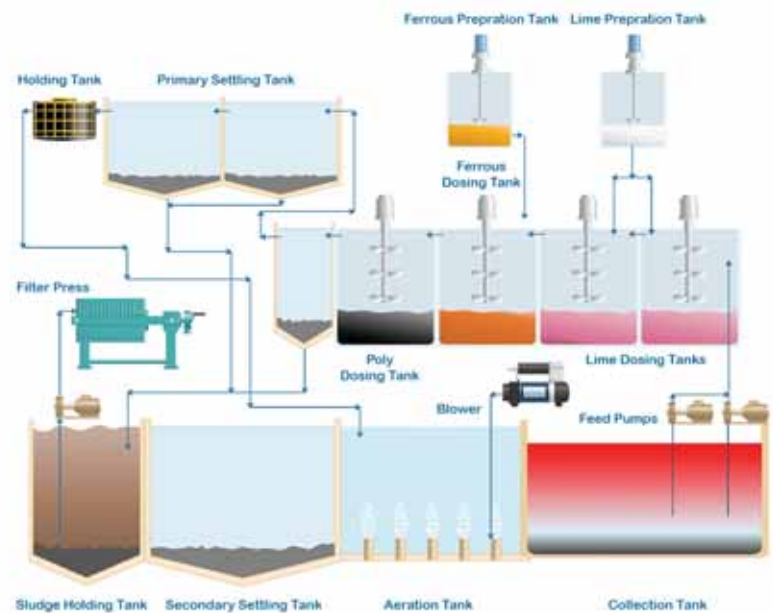


Parameter	Effluent	Treated Effluent
pH :	5 - 6 (Acidic)	6 - 8 (Neutral)
Colour :	Dark Brown / Reddish Yellow	Colourless
Temperature :	> 40°C (High)	~ 30°C (Ambient)
Biochemical Oxygen Demand (BOD) :	> 3,000 mg/L (High)	< 30 mg/L
Chemical Oxygen Demand (COD) :	> 5,000 mg/L	< 100 mg/L
Total Suspended Solids (TSS) :	> 800 mg/L	< 40 mg/L

## TEXTILE INDUSTRIES



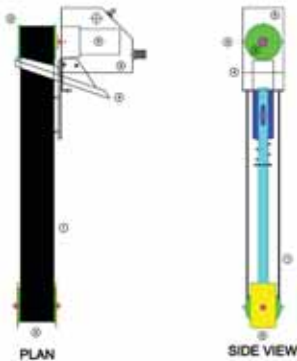
## COLOR INDUSTRIES





# OIL SKIMMERS

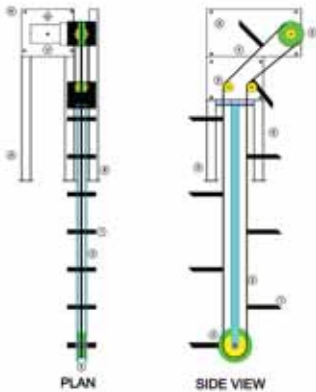
## BELT TYPE OIL SKIMMER



### FEATURES:

- Less Power Consumption
- up to 35 LPH Oil Collection Capacity
- Robust Frame & Body (SS304)
- Temperature Range upto 80 oC
- pH Ranges from 2.0 to 13.0
- Operates Smoothly in presence of Suspended Solids
- Effectively Removes Light, Medium, and Heavy Oil

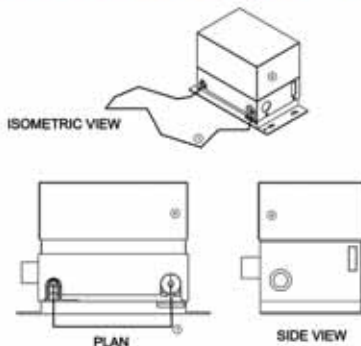
## MECHANICAL SKIMMER



### FEATURES:

- Provides High Level of Surface Cleaning
- Best for Floating Lumps / Grease / Scum Removal
- Automatically Handles Fluctuations
- Operates Smoothly Regardless of Suspended Solids
- Effective for Heavy Oil Removal
- In-situ De-emulsification is Possible
- Require Minimal Operation & Maintenance

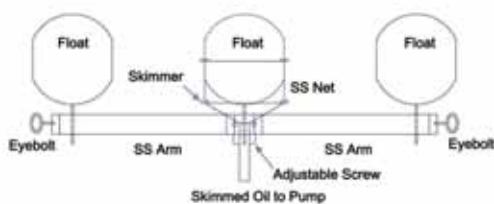
## TUBE/ROPE MOP TYPE OIL SKIMMER



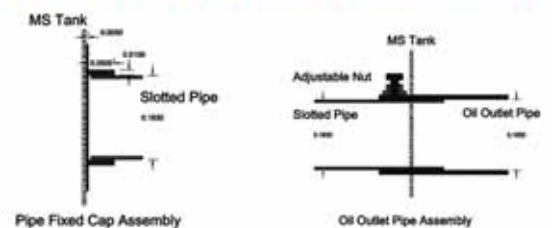
### FEATURES:

- Provides High Level of Surface Cleaning including other Insoluble Floating Substances / Chemicals
- pH Ranges from 2.0 to 13.0
- Automatically Adjusted to Water Level Changes
- Operates Smoothly Regardless of Tank/Creek Shape
- Handles Heavy Oil Content
- Effective for Medium Oil Removal

## FLOATING WEIR SURFACE OIL SKIMMER



## SLOTTED PIPE OIL SKIMMER





# FILTRATION SYSTEM

## SINGLE FILTER ELEMENT HOUSING

We offer wide range Stainless Steel Filter Housing with Female / Male Threaded / Flanged type connection Suitable to Accommodate DOE Type, Code VII Type or One End Threaded Type Filter Elements.



## MULTI-FILTER ELEMENT HOUSING

We offer a wide range of Stainless Steel filter housing for multiple filter elements with effective sealing and ease of operation & maintenance by extending tri-clover clamp fittings.

## SELF CLEANING FILTRATION SYSTEMS

We offer self-cleaning filter systems equipped with an electrical geared motor connected to scraper assembly for removal of deposited solids from the drain line.



## INERTIA FILTERS

Swirl-Clone is a device for solid-liquid separation using the Liquid Flow and the Inertia converted to Swirling Action. The system has No Moving Parts, No Maintenance, and No Element to Clog.

## SINTERED SS FILTER ELEMENTS

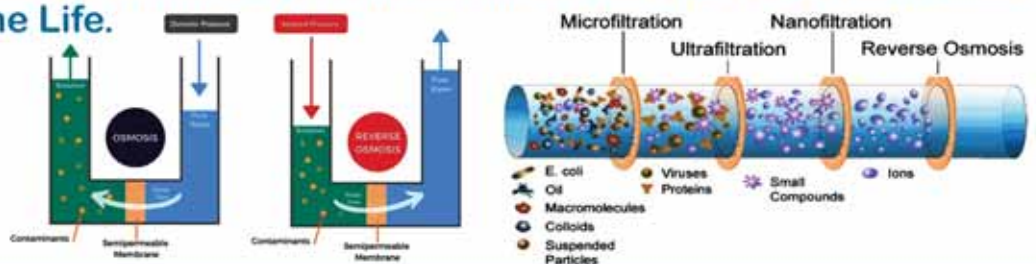
We offer Sintered Metal Filter Cartridges manufactured by using MS/SS 304/SS 316 Powder/Fiber/Woven Mesh.



## MEMBRANE BASED FILTRATION SYSTEM

We offer Membrane Based Filtration System assembled for High Rejection Rates and Longer Membrane Life.

- Micro-Filtration
- Ultra-Filtration
- Nano-Filtration
- Reverse Osmosis
- Osmosis Filtration



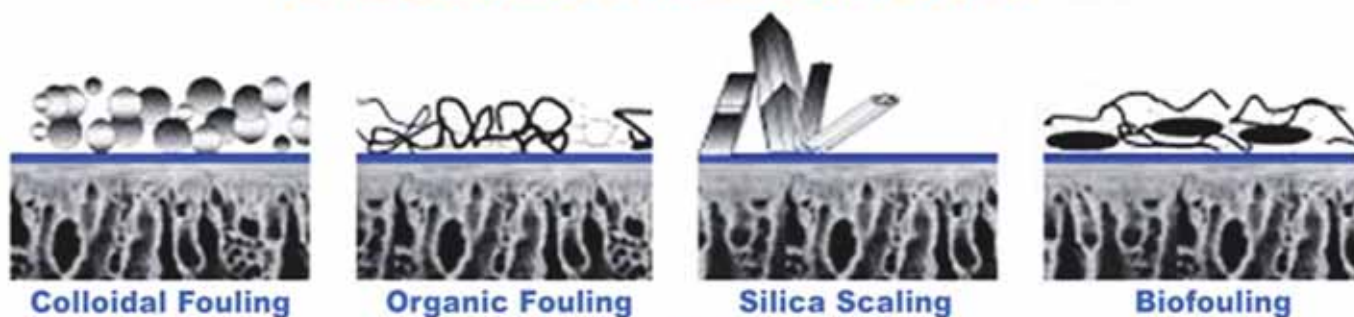


# TERTIARY TREATMENT

## RO MEMBRANE CONDITIONER - NADYA

The Nadya a RO Membrane Conditioner (High Silica Inhibition AntiScalant) is specially designed to restrict Membrane Scaling in Industrial & Domestic RO Membranes, enabling to give the best rejection in high Silica and Iron loading.

## REVERSE OSMOSIS MEMBRANE FOULING



## PROVEN RESULTS

Sr. No.	Parameters	Make Up Water Quality Range	Cooling Tower Blow-Down Water Quality	Treated Water Quality Range
1	pH	7.0 to 7.5	7.0 to 8.5	7.72
2	Conductivity, ( $\mu\text{S}/\text{cm}$ )	250 to 400	2,500	145
3	Turbidity, NTU	5	30	0.5
4	Silica, ppm	17 to 25	175	0.28
5	T. PO <sub>4</sub> , ppm	BDL	100	BDL

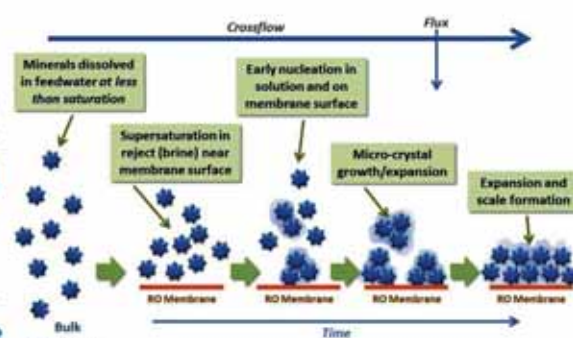
BDL : Below Detection Level

## MEMBRANE FILTRATION

Nowadays, many medium to large-scale industries are adopting the ZLD system to reduce their fresh water consumption, to meet the legislative requirement and social responsibility.

Consequently, usage of RO Treatment as a Tertiary Treatment of the ETP/STP has been increased significantly. However, to meet the lower OPEX of the ZLD System, the pretreatment of the treated effluent/sewage before feeding the RO Unit is required.

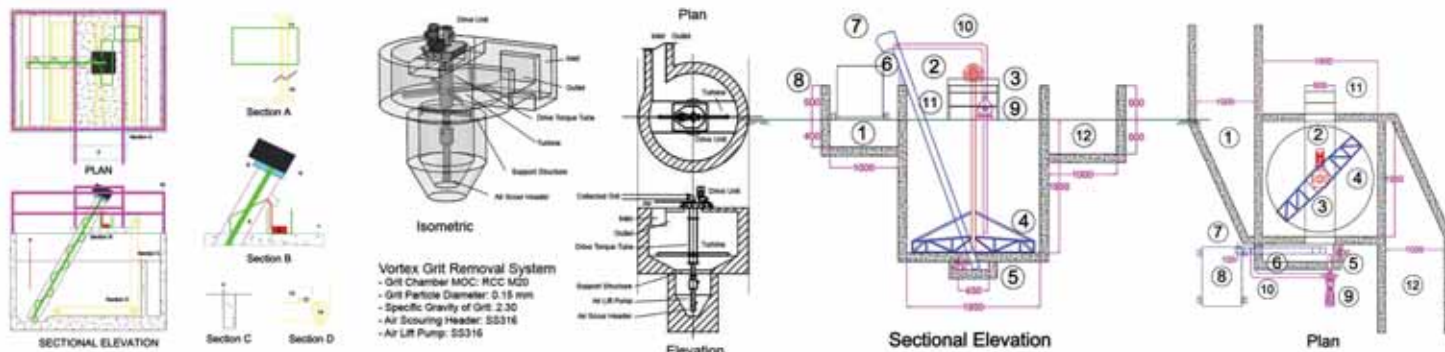
The sustainable Pre-Treatment Unit is required to remove the suspended solids and undesirable dissolved ions from the wastewater before feeding to the RO Unit. This measure also increases the membrane life by reducing the chances of membrane fouling.



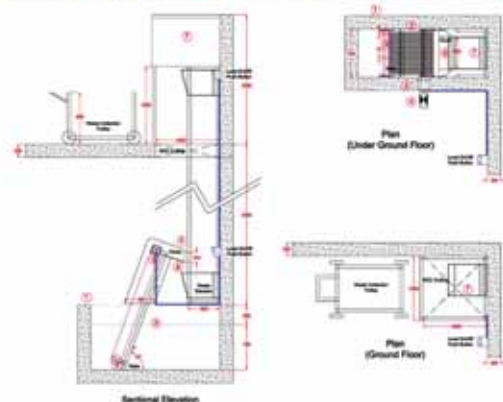


# ELECTROMECHANICAL EQUIPMENT

## GRIT REMOVAL MECHANISM



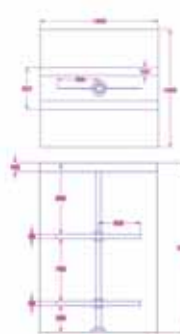
## MECHANICAL BAR SCREEN



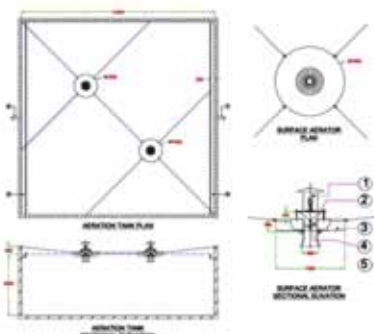
## AGITATOR



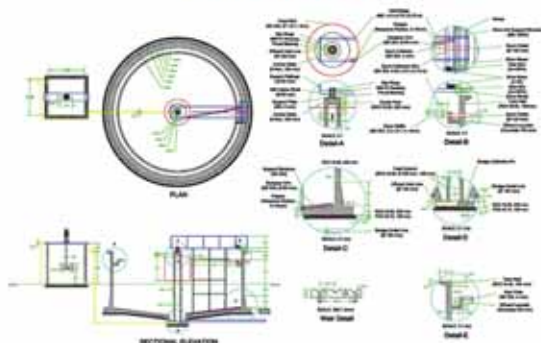
## FLOCCULATOR



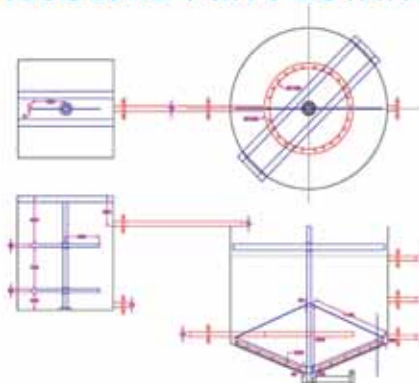
## SURFACE AERATOR



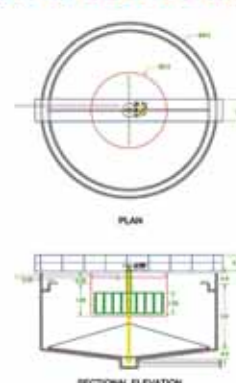
## CLARIFIER



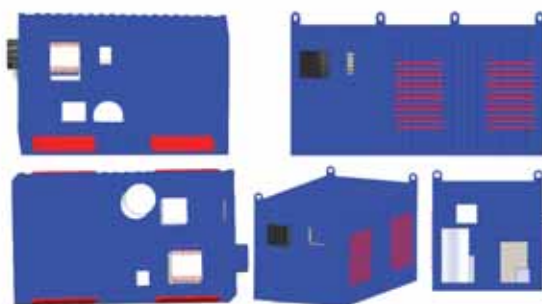
## DISSOLVED AIR FLOTATION



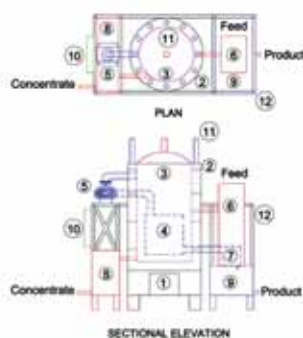
## CLARIFLOCCULATOR



## HYDROGEN GENERATOR



## MVR

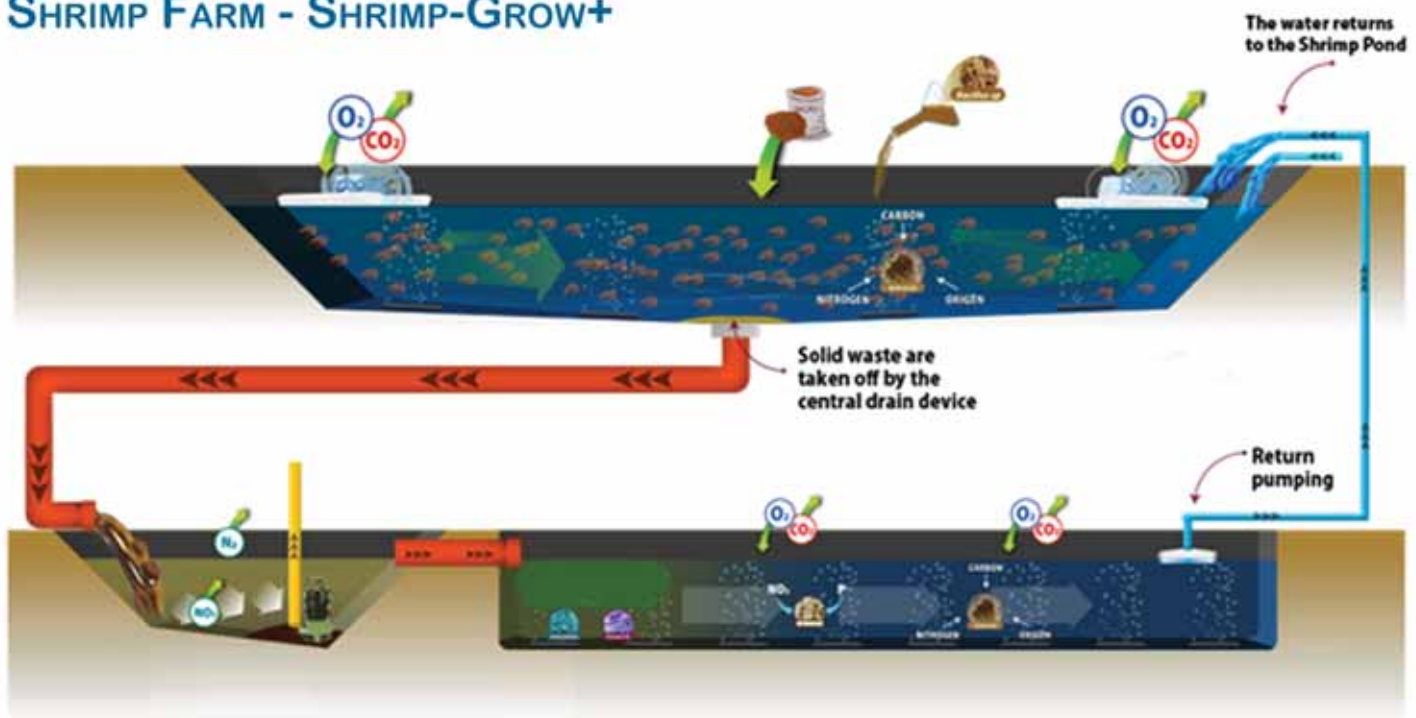


## ZLD SYSTEM

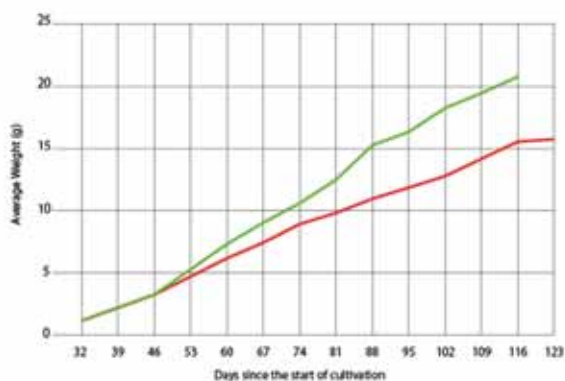


# RECIRCULATING AQUACULTURE SYSTEMS

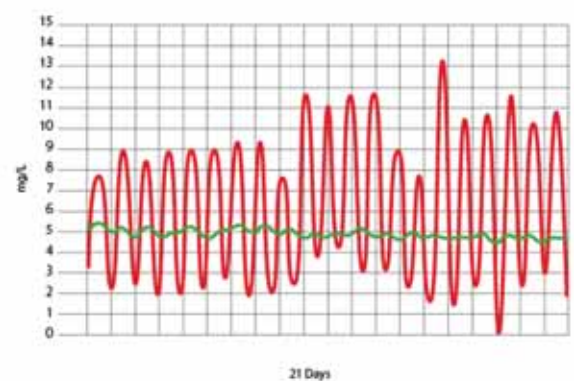
## SHRIMP FARM - SHRIMP-GROW+



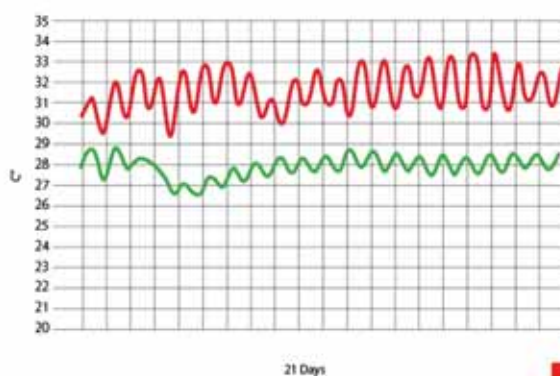
Comparison | **GROWTH**



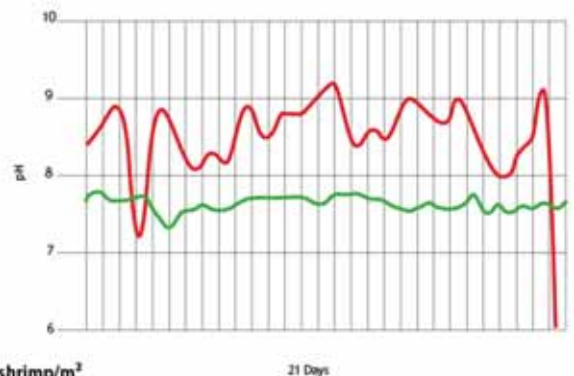
Comparison | **OXIGEN**



Comparison | **TEMPERATURE**



Comparison | **pH**

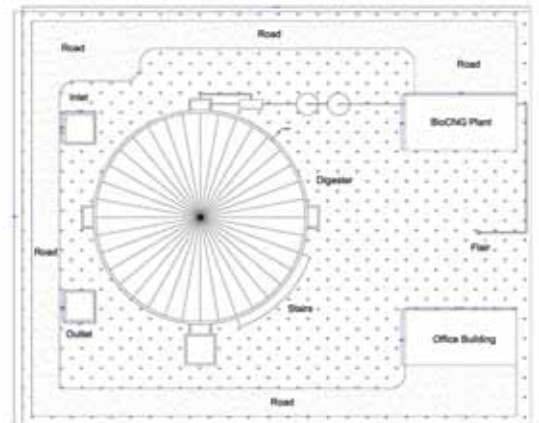
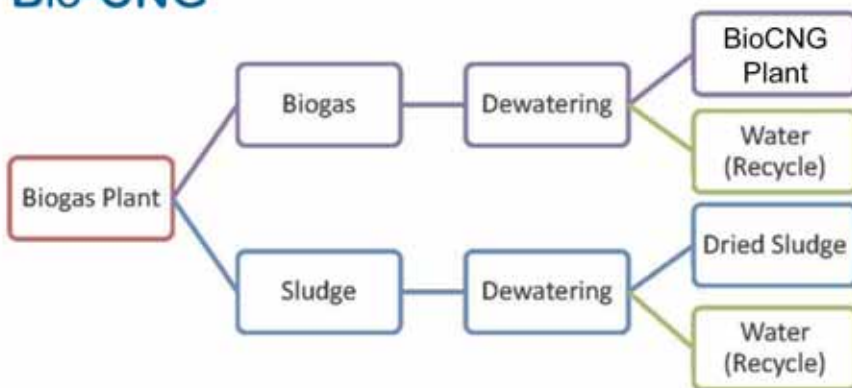


■ Before Implantation | 15 shrimp/m<sup>2</sup>  
 ■ After Implantation | 250 shrimp/m<sup>2</sup>



# ALTERNATIVE FUELS

## Bio-CNG

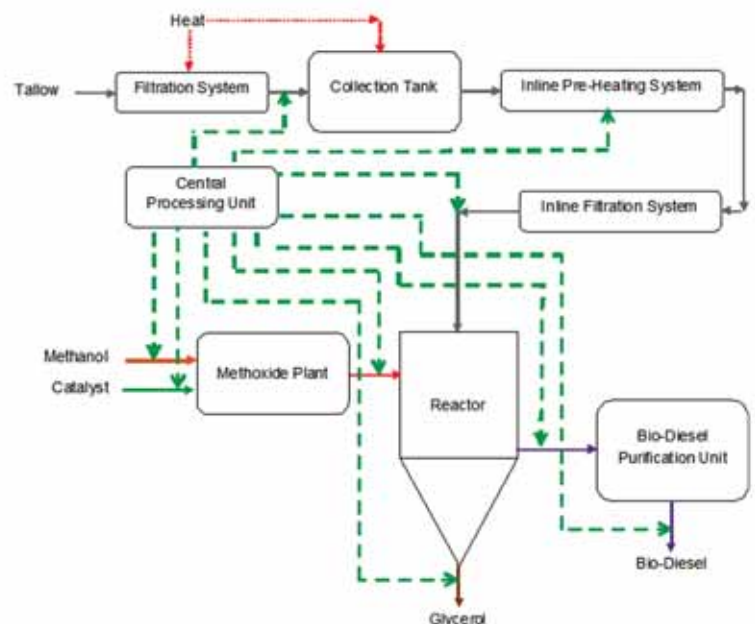


## BioCNG + Bio-ETHANOL

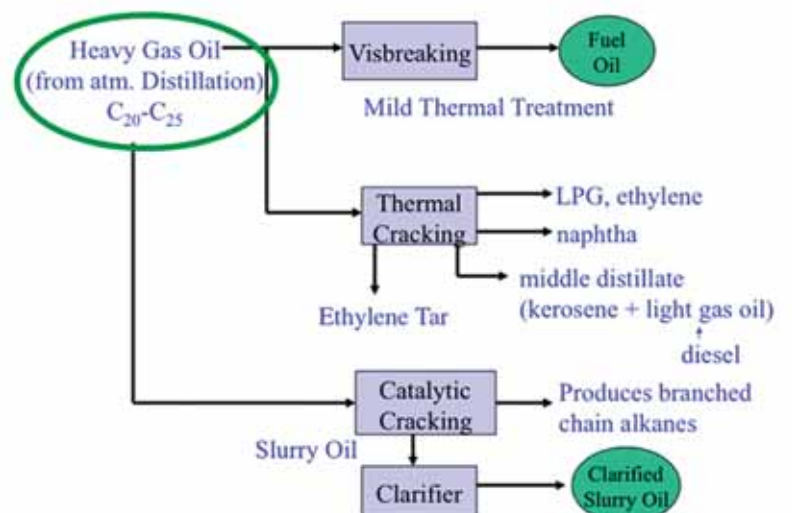
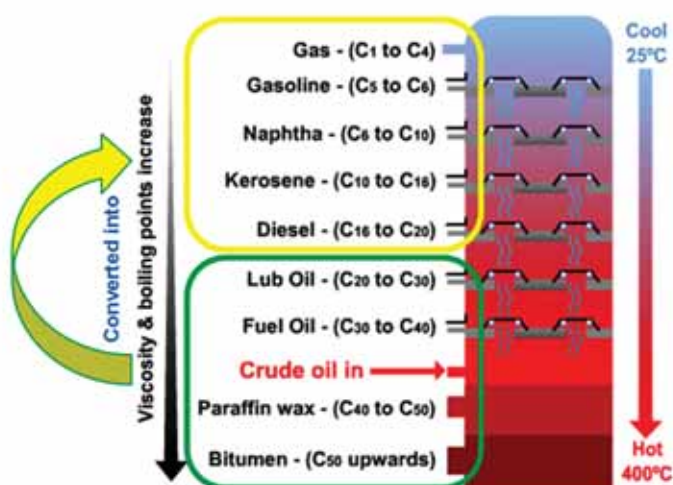
Sugarcane			
Juice		Bagasse	
Sugar	Other	Fibers	Ash
Bio-Ethanol	Bio-CNG	Bio-CNG	Fillers
	Manure	Manure	



## BIO-DIESEL

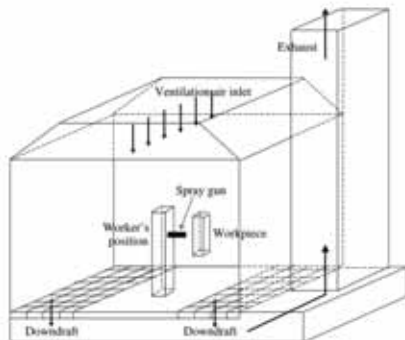


## CATALYTIC CONVERTOR

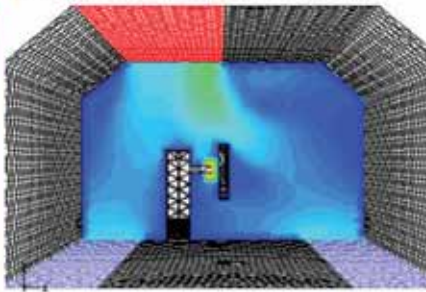


# AIR POLLUTION CONTROL MEASURES

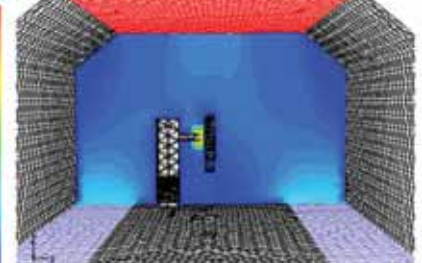
## POWDER COATING BOOTH RECOVERY SYSTEM



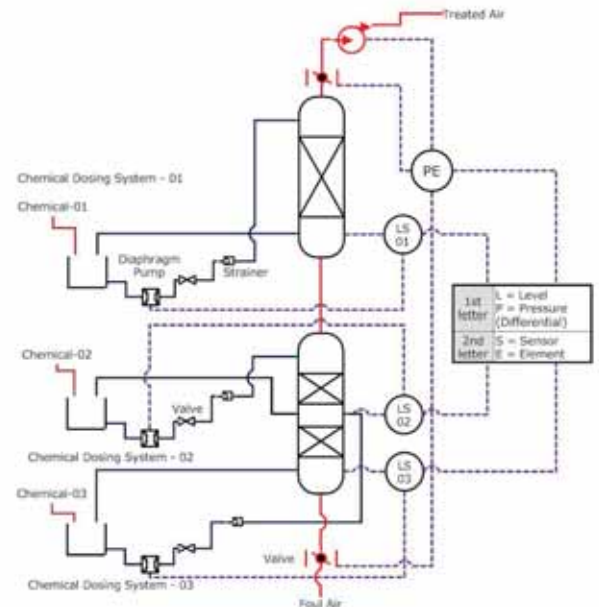
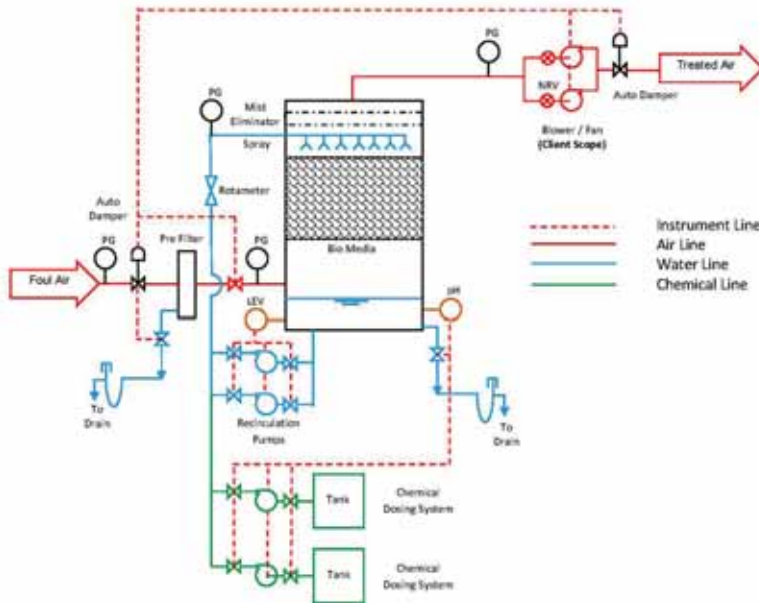
Air velocity (m/s)



Air velocity (m/s)



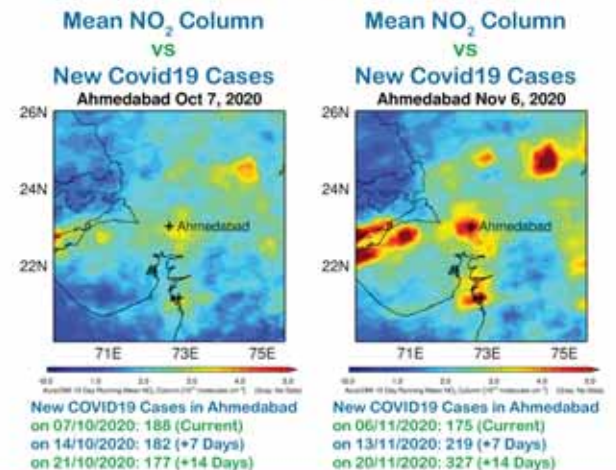
## ODOUR CONTROL UNIT



## NO<sub>x</sub> IMPACT



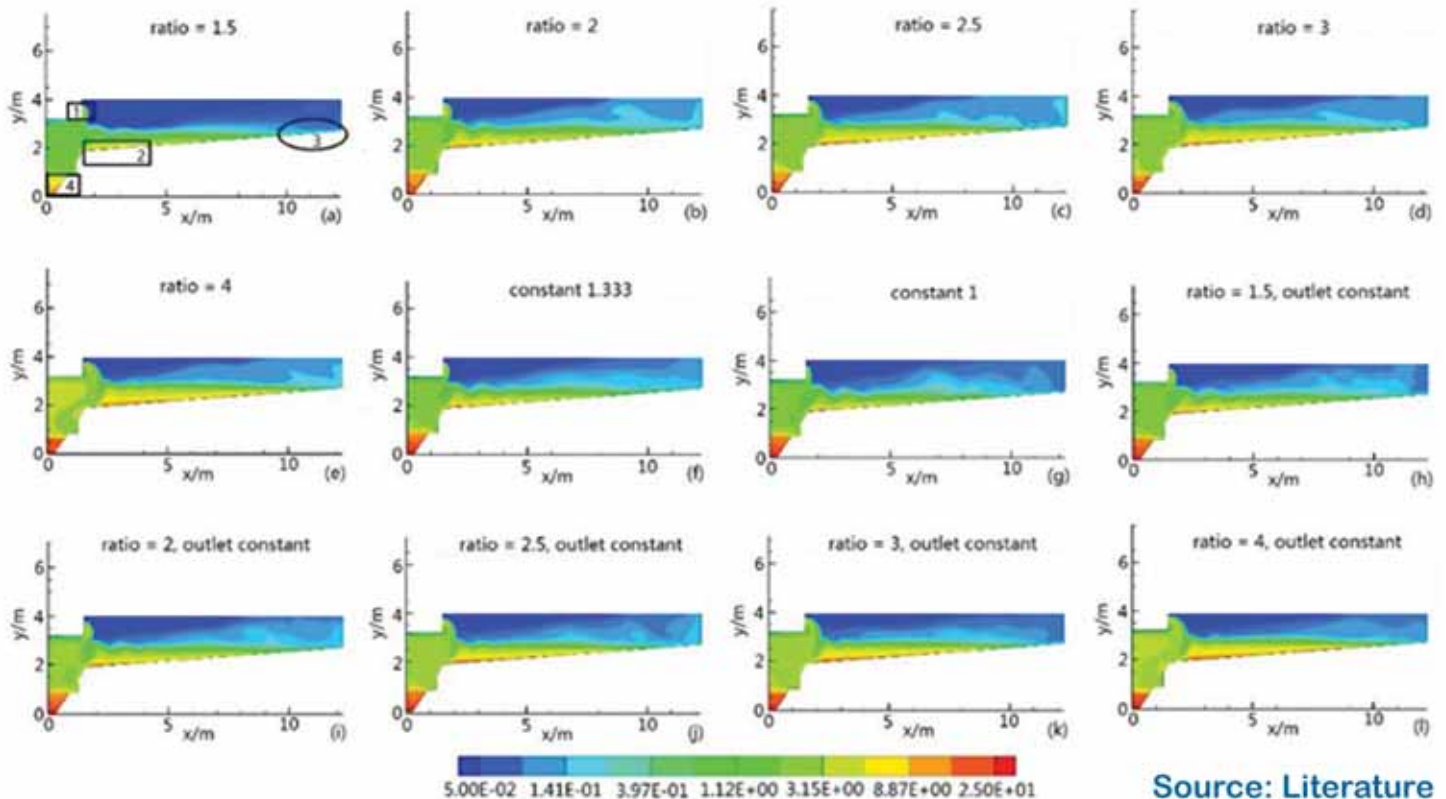
## NO<sub>2</sub> IMPACT



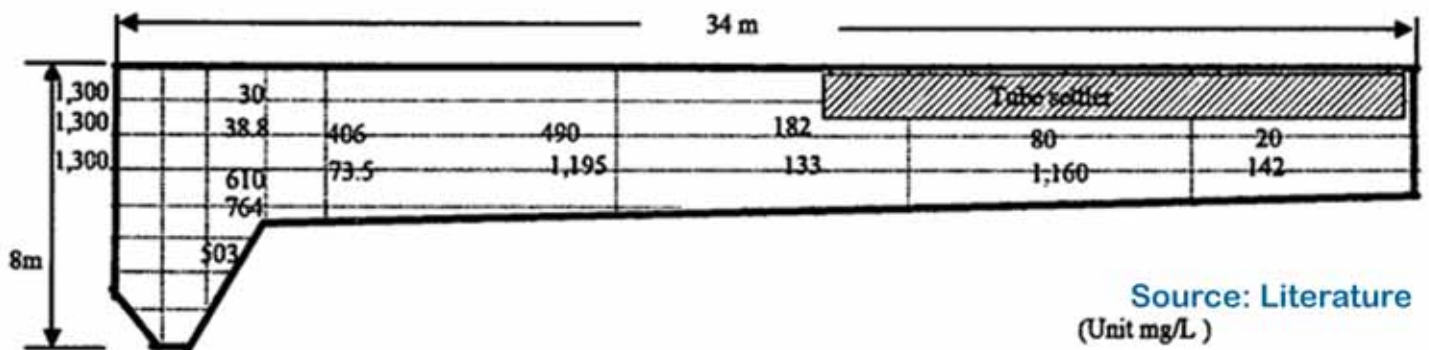


# CLARIFIER UP-GRADATION TO TUBE SETTLER

Based on the literature, for the constant Depth and Surface Area, the increase in the Flow significantly decreases the TSS Retention in Clarifier, consequently decrease the TSS Removal Efficiency.



For the said Flow, Surface Area, and Hydraulic Retention Time, Tube Settler shows much better TSS Removal Efficiency than the Clarifier.



Moreover, as said earlier, there is a requirement of optimized design and installation of infrastructure to provide a suitable Weir Loading Rate and Solid Loading Rate in the Tube Settler to overcome the constraint of Tube Clogging.

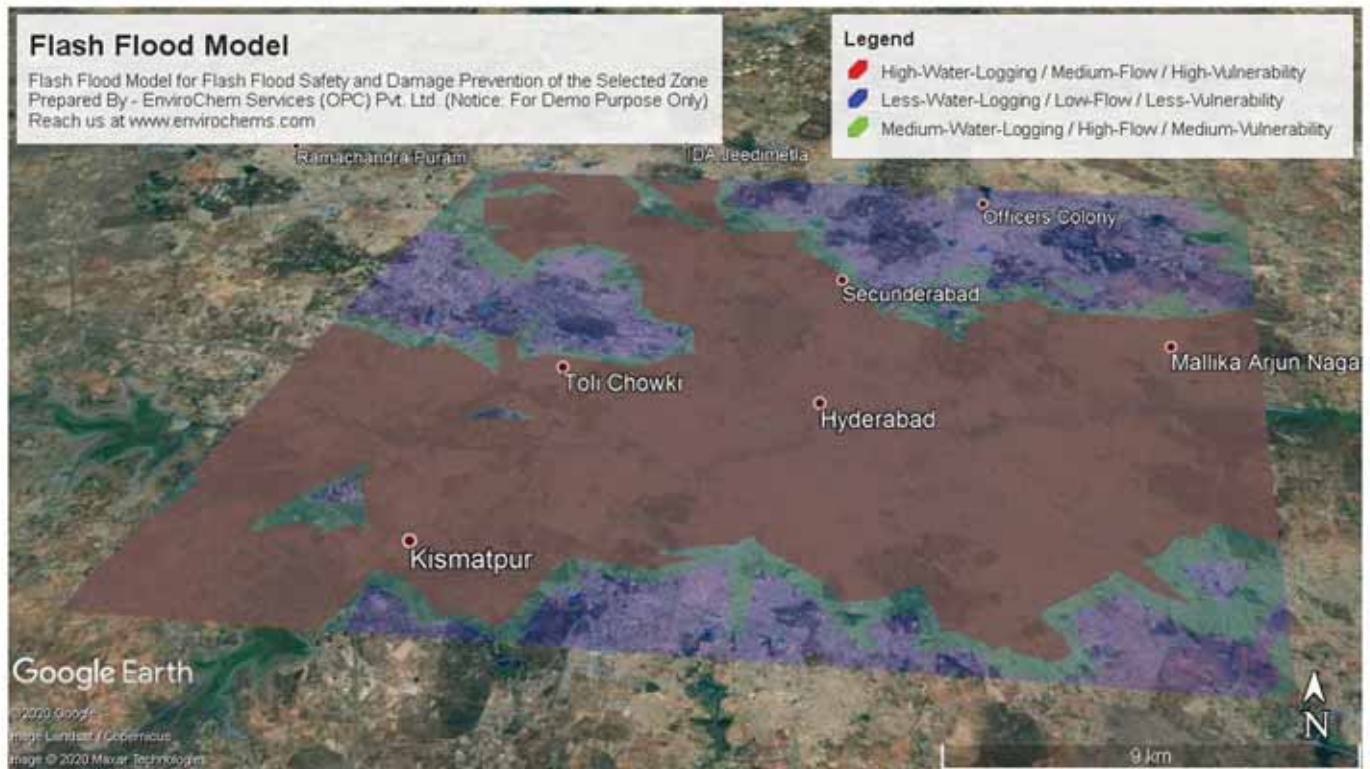


# FLASH FLOOD & RAIN WATER LOGGING

## RAIN WATER LOGGING PREDICTION MODEL



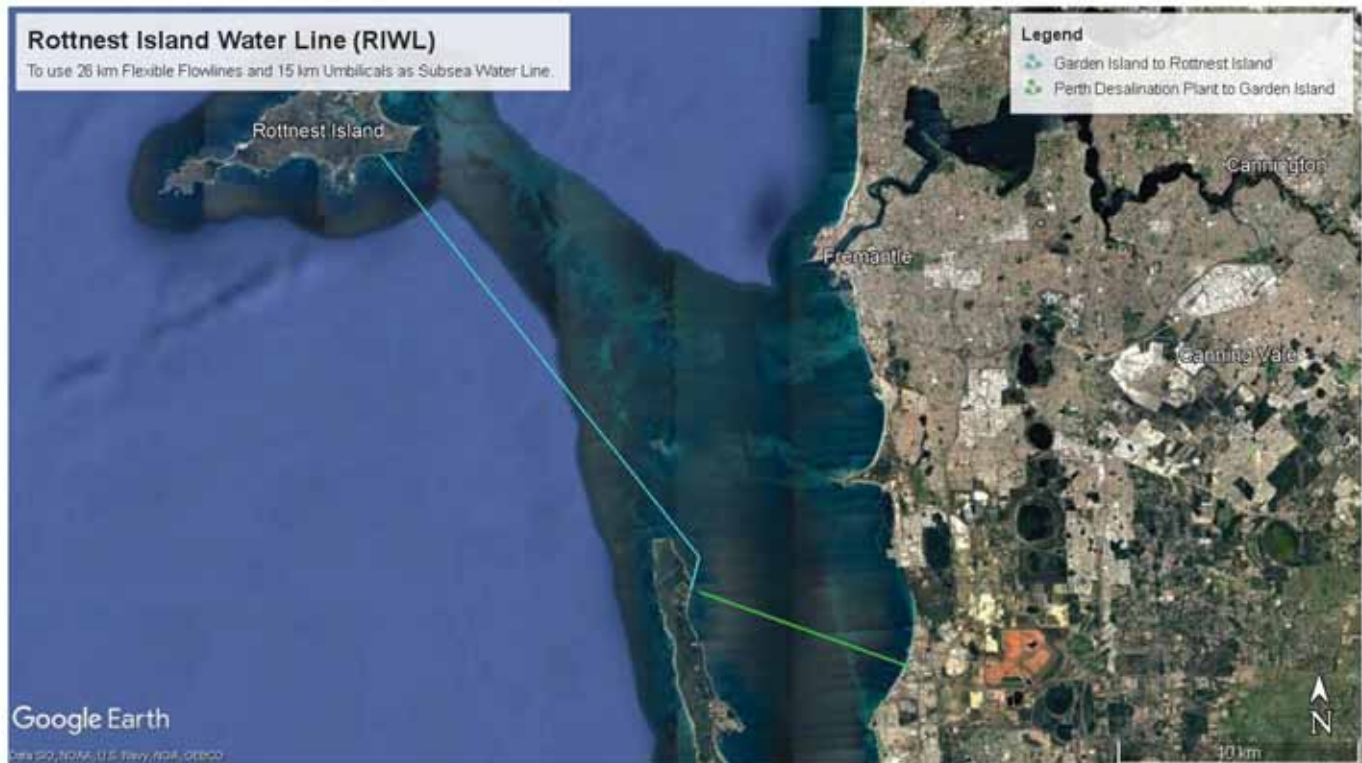
## FLASH FLOOD PREDICTION MODEL





# REUSE - FLEXIBLE FLOWLINES & UMBILICALS

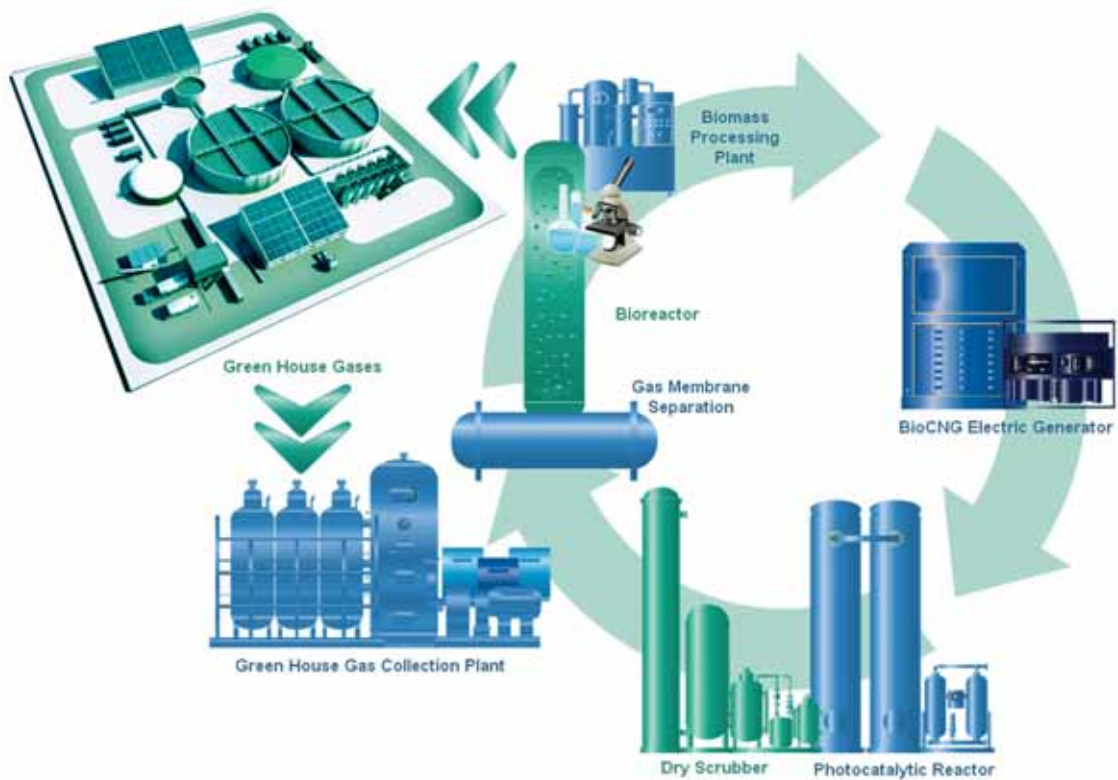
## DESALINATED/POTABLE WATER TRANSPORT BETWEEN (WTB) ISLANDS



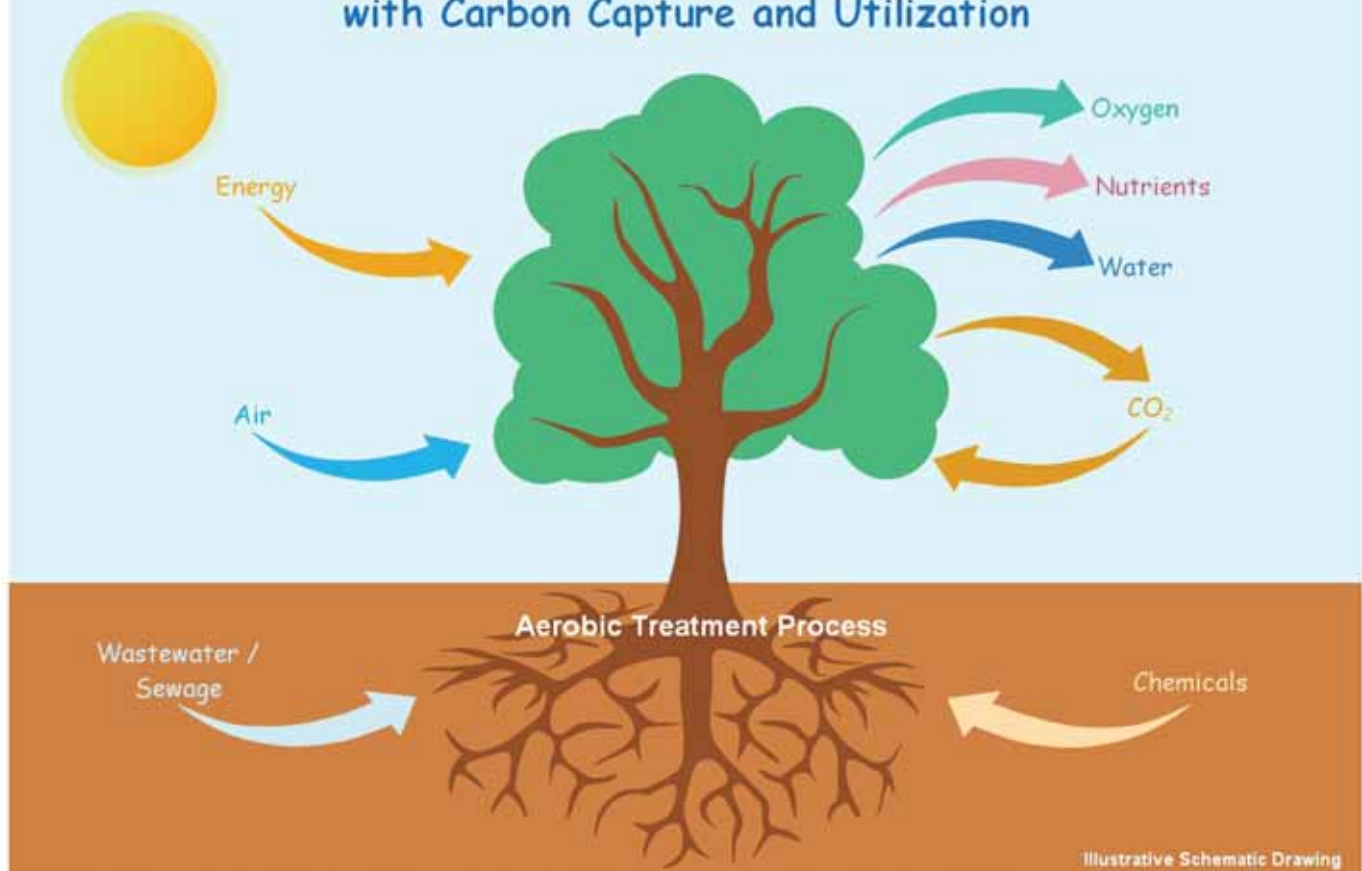
## WATER TRANSPORT BETWEEN (WTB) ISLANDS



# CIRCULAR ECONOMY



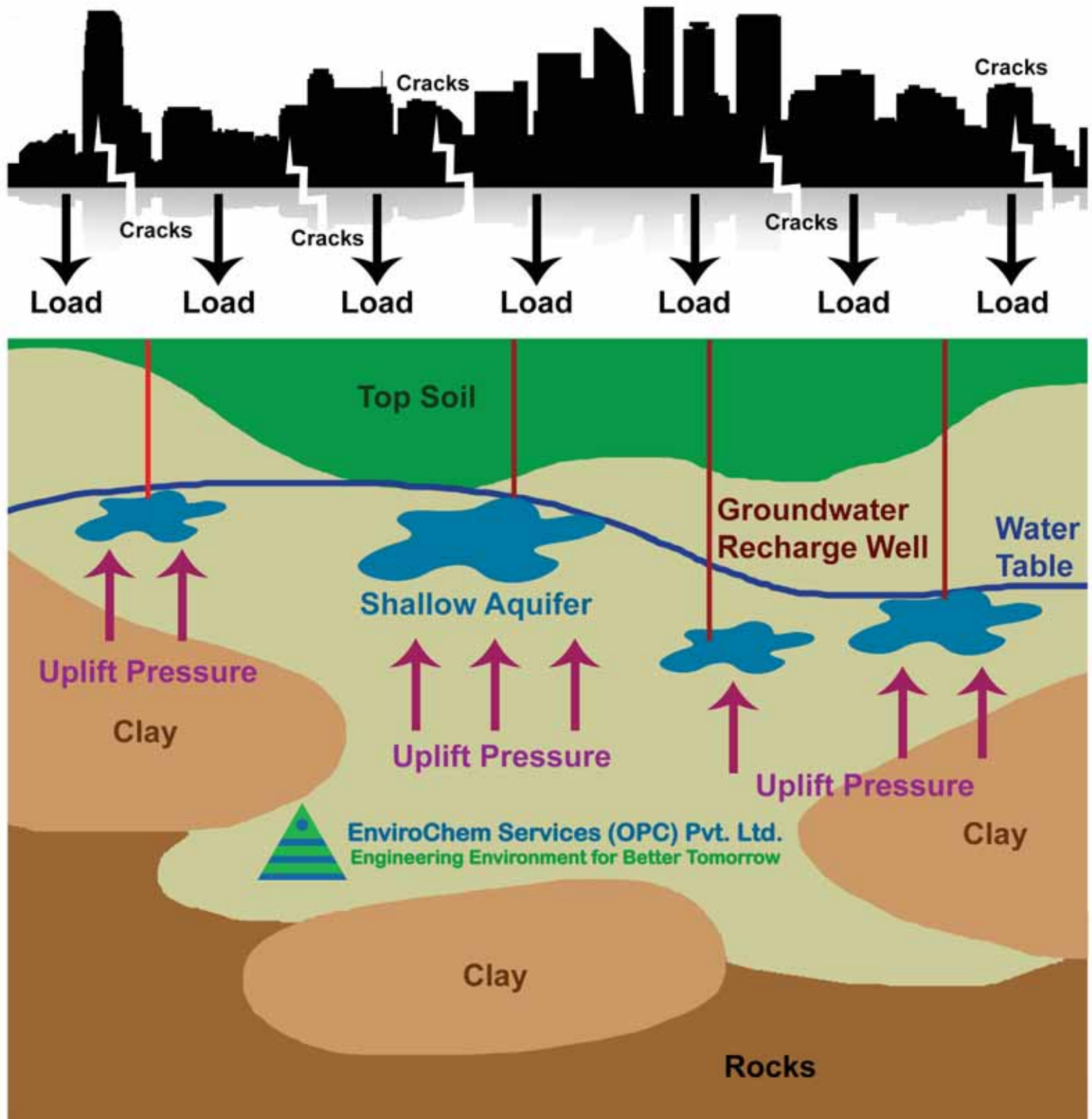
## Implementing Circular Economy in Sewage Treatment Plant coupled with Carbon Capture and Utilization





# AQUIFER MANAGEMENT

## SHALLOW AQUIFER UPLIFT PRESSURE HAZARDS

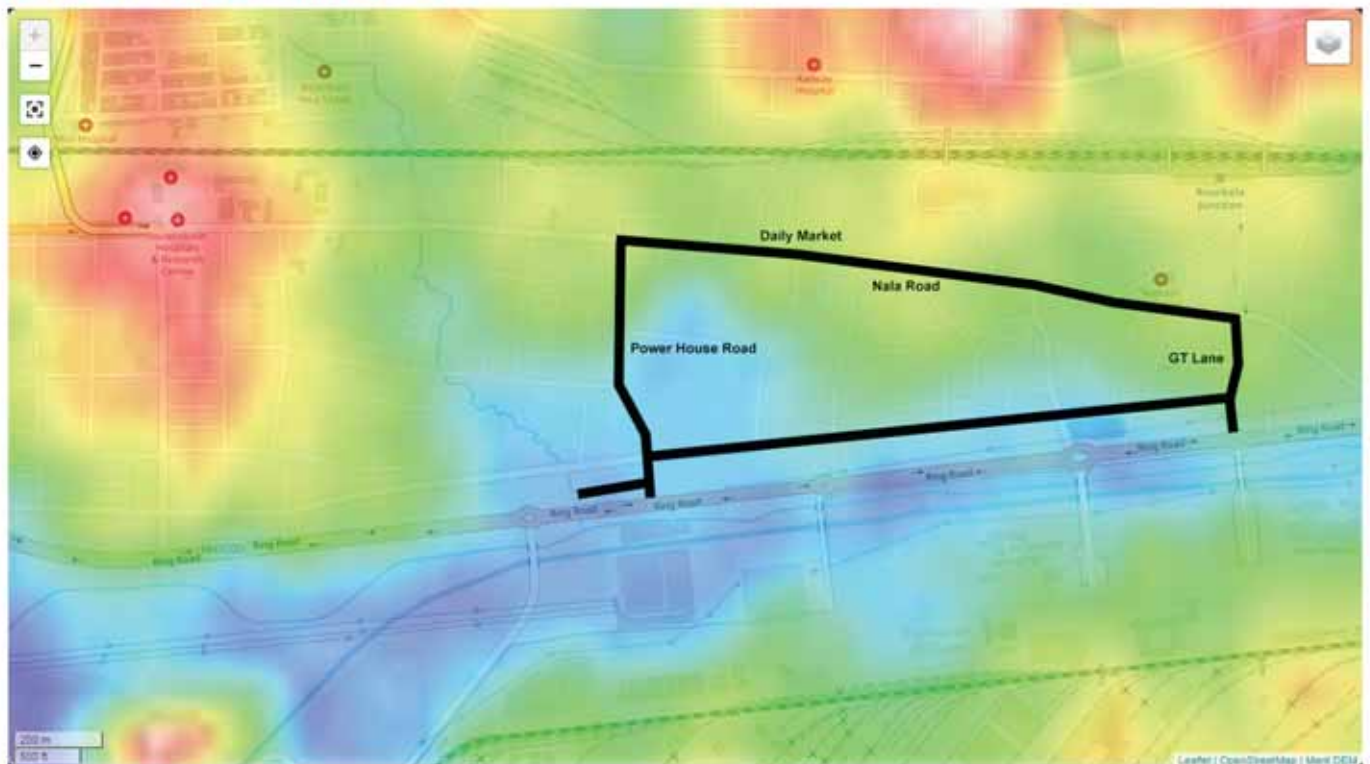


# WATER MANAGEMENT

## WATER BODY RESTORATION

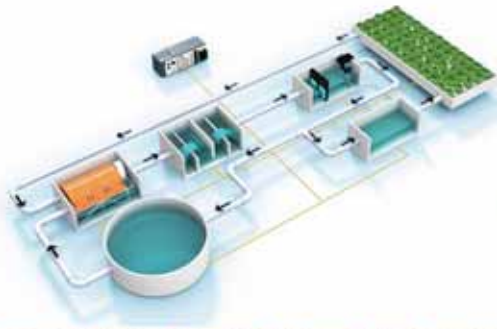


## RAIN WATER MANAGEMENT





# MICROPLASTIC EFFECT



Recirculating Aquaculture System (RAS)  
&  
Biofloc (BF)



Moving Bed Bioreactor (MBBR)  
&  
Fluidized Aerated Bed Reactor (FAB)



Polymer Media



Microplastic

Microplastic Impact on Environmental  
and Human Health **Remains** widely unclear!

Inhalation



Microplastic Intrusion - Food

Ingestion



Microplastic Intrusion - Water

Dermal



Microplastic Intrusion - Air & Soil





# RESEARCH & DEVELOPMENT

Our long expertise in Research & Development Work and Consultancy allows us to offer tailor-made services, starting from the first idea of a project, the creation of the consortium, writing of the Proposal, preparation of the Detailed Project Report, submission to the funding entity with the technical, commercial, and administrative justification of the project.

Our in-house Developed Technologies are as follows

- Crude Oil Purification Process
- MSW Advanced Plasma Gasification
- Coolant Recovery Process
- High-Efficiency Thermal Evaporator
- RO Membrane Conditioner (Nadya)
- Oil Demulsification Process
- Organic Coagulant (Heavy Metal Removal)
- Formaldehyde Decomposition (ETP)
- Bio-Diesel Production
- Bio-Diesel Burner
- Bio-Ethanol Production
- High COD Reduction Process
- Leachate Treatment
- BioCNG Purification Process
- Cotton Waste to Cellulose
- River Rejuvenation
- Desalination Process
- Waste to Bio-Fuel Production
- Deodorizing Process
- Phenol Decomposition (ETP)
- Organic Fertilizer
- Electric Bike

## SIMPLE SOLUTIONS OF COMPLEX PROBLEMS



## SAVING MONEY, GIVING BEST PERFORMANCE



**EVEN YOU SAY - HOW THEY DID IT!!**



# SECTORS WE SERVED

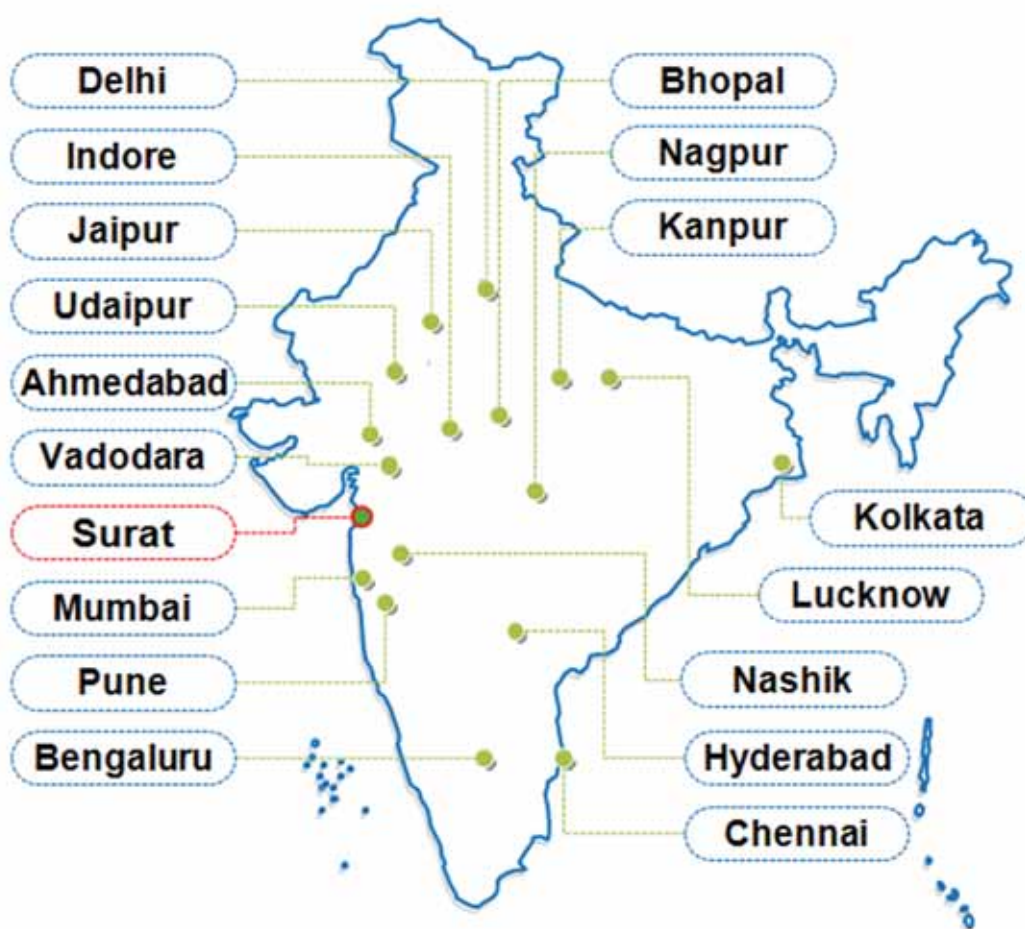


**With utmost Excellence of Service in the field of Sustainable Environmental & Engineering Consulting, & High level of Ethics and Core Values committed to Environmentally Responsible operations, we have broadened our horizons into Environmental and Engineering Projects across the Globe.**

**The sectors we served so far are as follow.**

- **AUTOMOBILE INDUSTRIES**
- **BIO-MEDICAL WASTE PROCESSORS**
- **CHEMICAL INDUSTRIES**
- **ENVIRONMENTAL CONSULTANTS**
- **ENGINEERING UNITS**
- **EPC CONTRACTORS**
- **FOOD PROCESSING INDUSTRIES**
- **FOUNDRY UNITS**
- **GOVERNMENT BODIES**
- **METAL PROCESSING UNITS**
- **OIL REFINERY**
- **OIL PROCESSING UNITS**
- **PACKAGING UNITS**
- **PETROCHEMICAL INDUSTRIES**
- **PHARMACEUTICAL INDUSTRIES**
- **PRINTING UNITS**
- **PULP & PAPER INDUSTRIES**
- **POWER PLANTS**
- **RECYCLING UNITS**
- **SEMI-CONDUCTOR INDUSTRIES**
- **WASTE MANAGEMENT UNITS**
- **SOLAR PROJECTS**
- **TEXTILE INDUSTRIES**
- **WTP / ETP / STP PROVIDERS**





## **EnviroChem Services (OPC) Pvt. Ltd.**

**Engineering Environment for Better Tomorrow**

**Address:** Plot No. A-12, Opp. Shiv Plaza, Nr. Dharti Namkeen, Udhna Udhyog Nagar,  
Road No. 3, Udhna, Surat - 394 210. Gujarat (India).

**Email:** [servicesenvirochem@gmail.com](mailto:servicesenvirochem@gmail.com)

**Website:** [www.envirochems.com](http://www.envirochems.com)