SIRMET

ENGINEERING & MANAGEMENT

SIRMET
ENGINEERING & MANAGEMENT

Know How

Sirmet S.A. is a company which operates successfully in Greece and Southern Europe since 1989.

Our experience shows successful **design - construction - operation** of an extensive number of **water and wastewater** Treatment Plants.

Sirmet group has been awarded European Union Projects for **research and Development** in the fields of environment and energy.

Our company covers its projects and its customers with Quality Assurance Procedures and **After Sales Service**

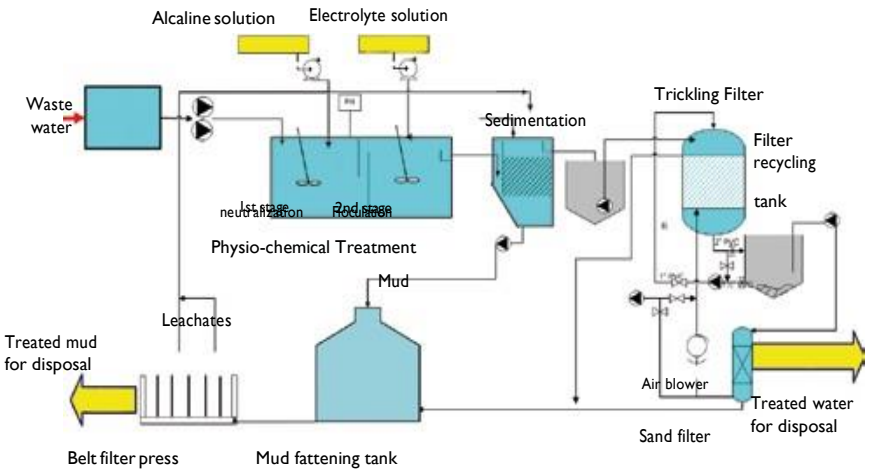
In the fields of **Environment and Energy** **Sirmet S.A.** supports:

- Licensing
- Financing
- Design
- Construction
- Operation

Potable & industrial Water treatment

SIRMET
ENGINEERING & MANAGEMENT

Problem Solving Technologies



- Desalination
- Demineralization
- Coagulation
- Filtering
- Reverse osmosis
- Ultrafiltration
- Sedimentation/Clarification
- Biological Treatment
- Physico - Chemical Cleaning

Sewage and wastewater purification

Screening
Oil/Sand separation
Activated sludge
Aeration
Nitrogen/phosphorus Removal
Sedimentation
Sludge stabilization (aerobic or anaerobic)
Sludge dehydration
Clean water disposal
Automated SCADA control

Modular Treatment Units

100 - 3000 p.e.
Activated Sludge System
S.B.R. system
Automated/easy Installation

Tertiary Treatment water Reuse

Sand filters
Mixed bed filter
Aerated biofilters
Chlorination/ dechlorination
Ozonization
Activated carbon
Cleaned water reuse

Industrial wastewater treatment and reuse

SIRMET
ENGINEERING & MANAGEMENT

All Successful Industries Consider their Environmental Policy As a Basic tool for Upgrading the Quality of their Products

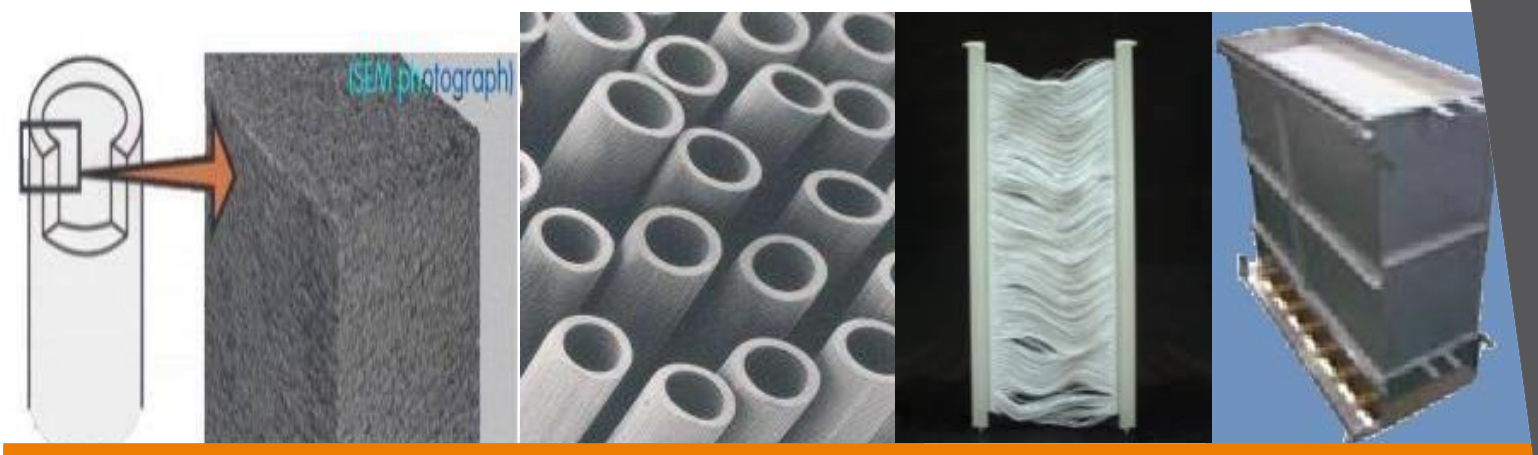
An efficient treatment of wastewater and industrial Air pollutants assures for health and safety requirements and is able to certify our customers with:

- ISO 9001/2000
- ISO 14000
- EMAS

MITSUBISHI RAYON CO.,LTD.

Licensed partner for Greece, Albania,
Bulgaria, Romania and Cyprus

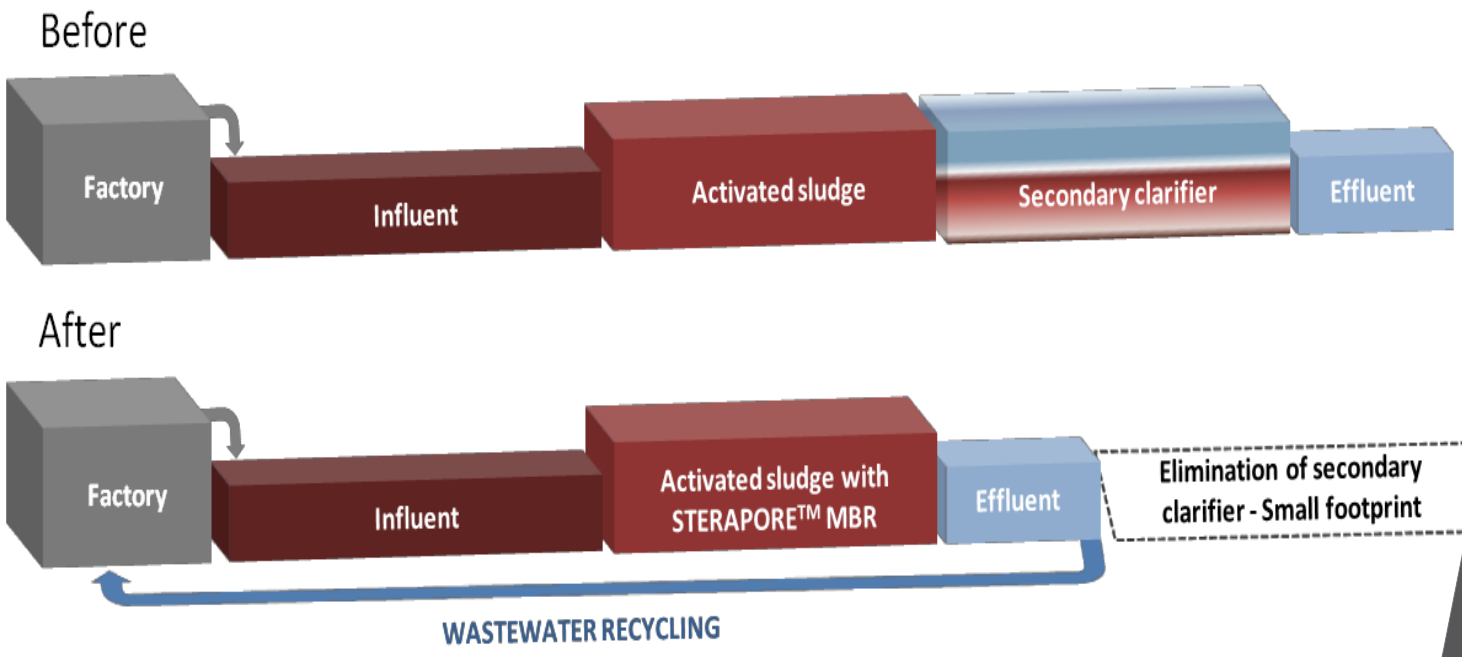
SIRMET
ENGINEERING & MANAGEMENT



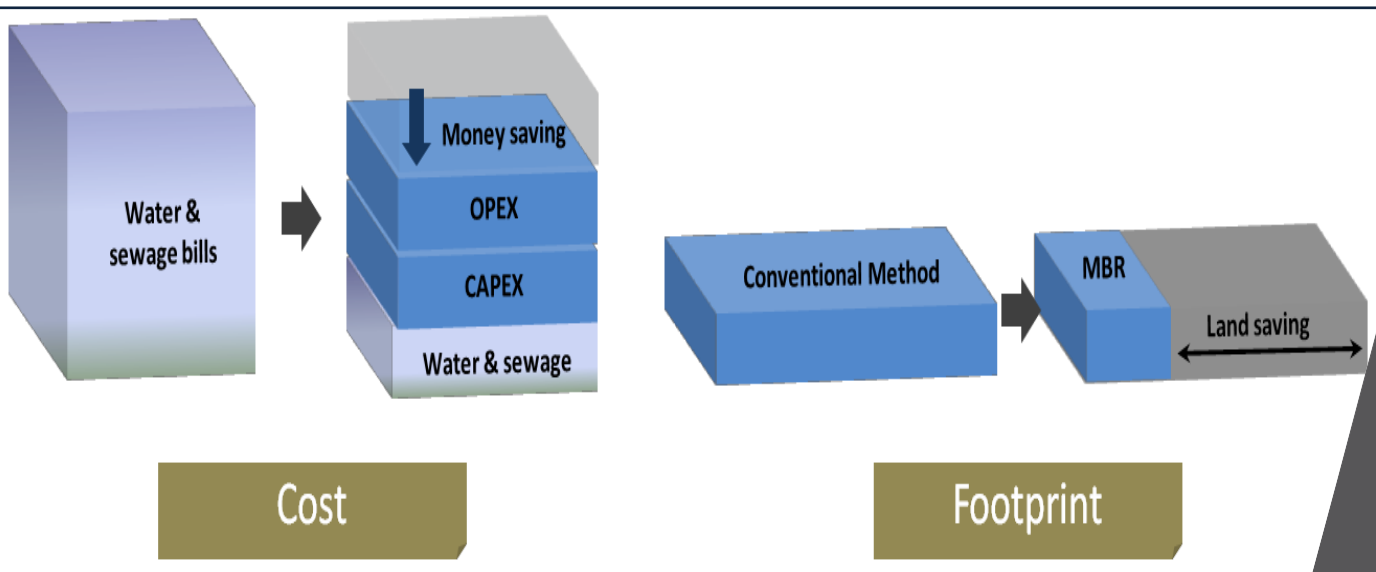
MEMBRANE BIO-REACTORS MBR

Mitsubishi Rayon with its extensive experience in municipal and industrial wastewater treatment, provides a wide range of hollow fiber membrane products "STERAPORE™"

PROCESS IMAGE



BENEFITS



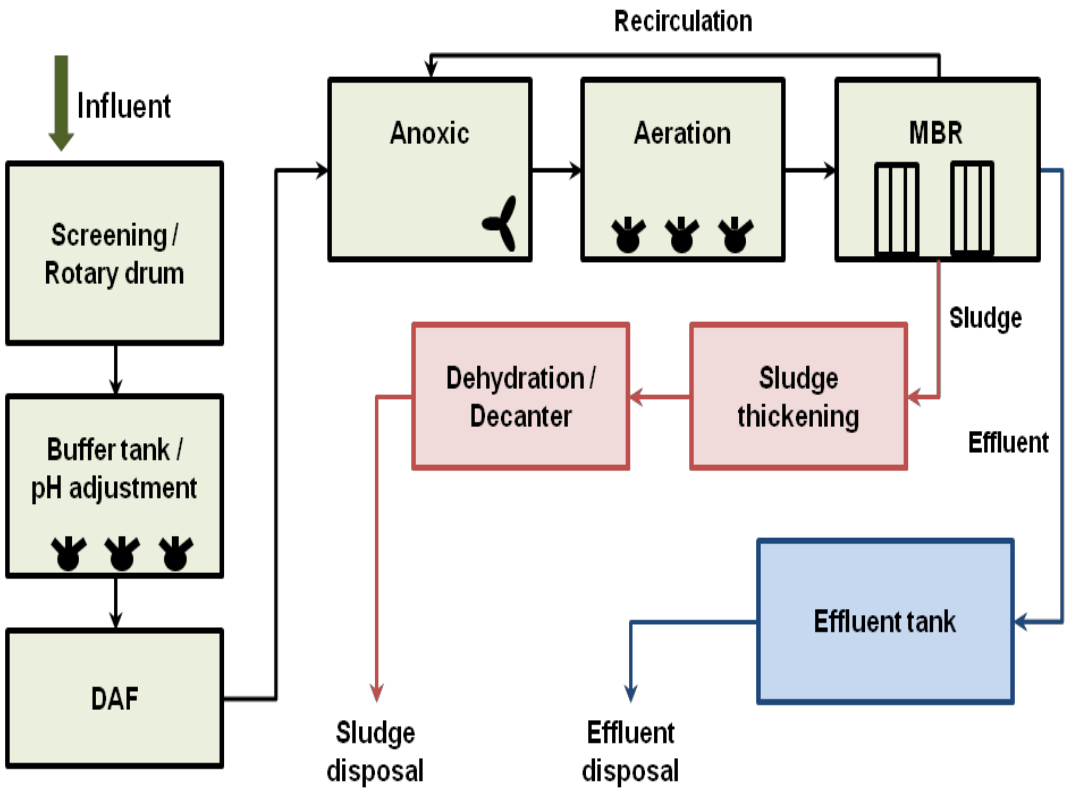
Turn-Key Projects 2011

SIRMET ENGINEERING & MANAGEMENT

WASTEWATER TREATMENT PLANT WITH MBR

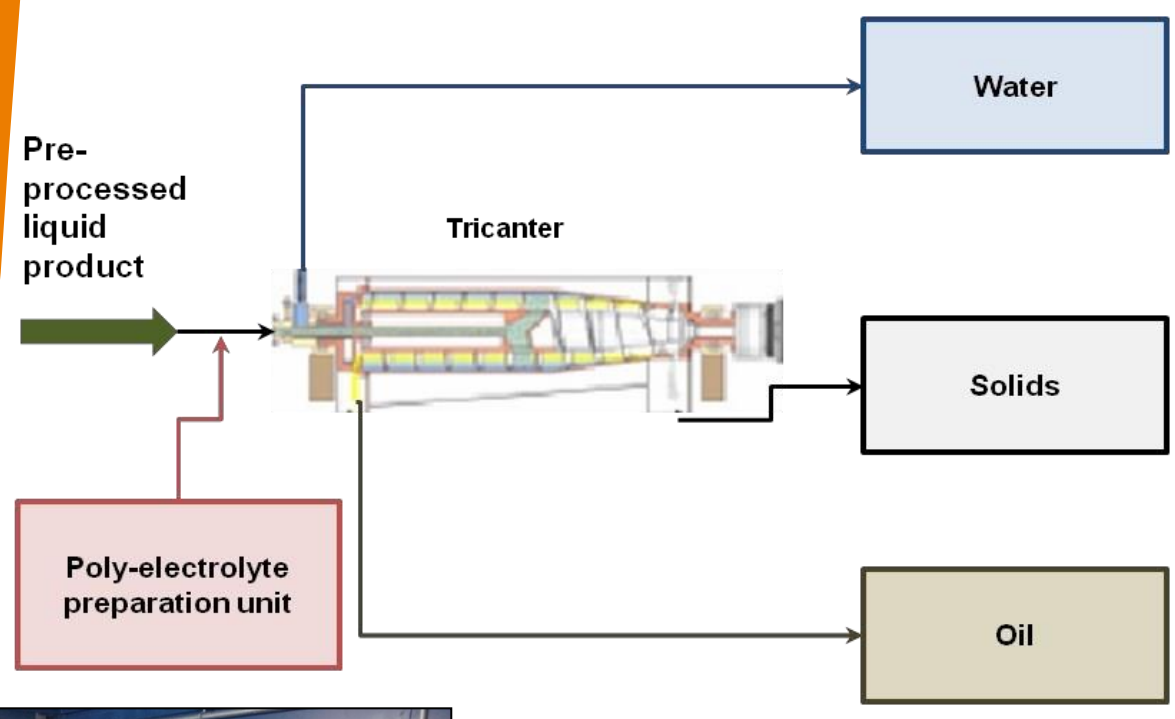
PEPSICO-IVI plant in Inofyta

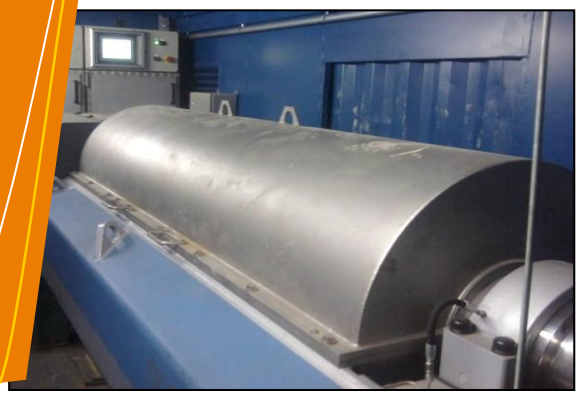
DESIGN PARAMETERS		
Average (Max) flow		800 (1000) m^3/d
CHARACTERISTICS		
	Influent	**Effluent**
BOD5 mg/l	1.200-1.500	< 10
COD mg/l	2.000-2.500	< 125
SS mg/l	400-1.600	< 10
pH	~10-11	6,5 – 8,5
Ammonium N mg/l	40 – 50	< 2



INSTALLATION OF A THREE-PHASE SEPARATOR (TRICANTER) FOR OIL RECOVERY

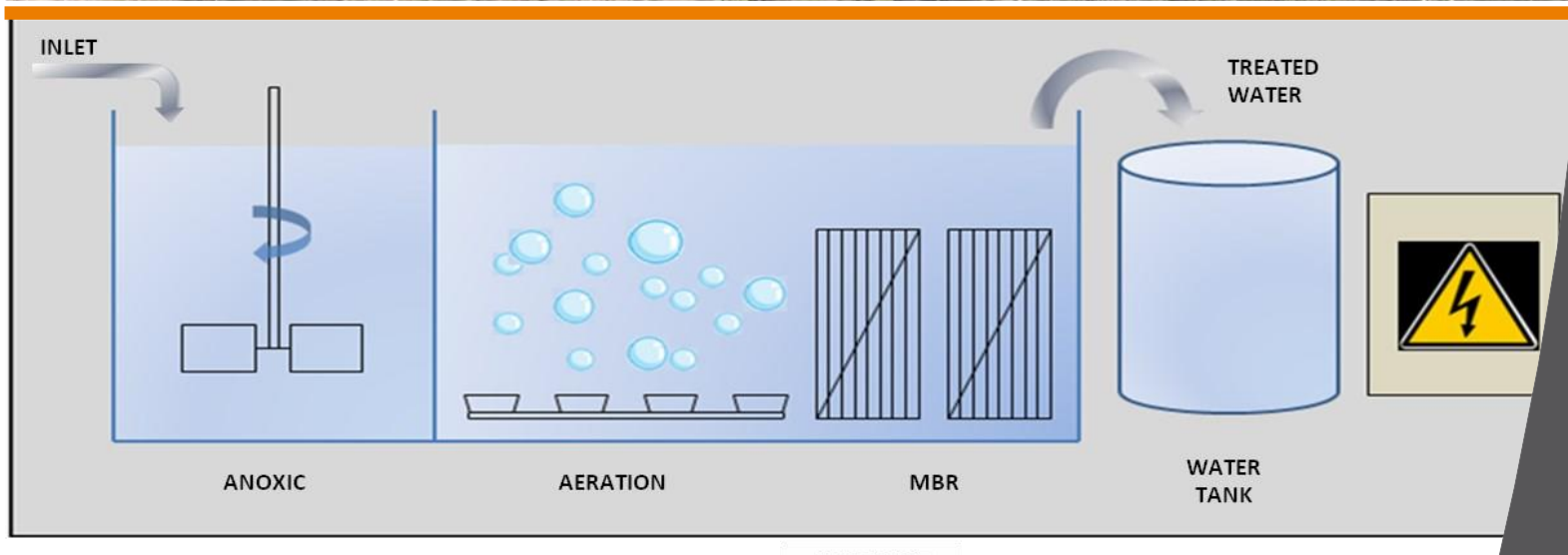
Refinery of **MOTOR OIL HELLAS** in Corinth

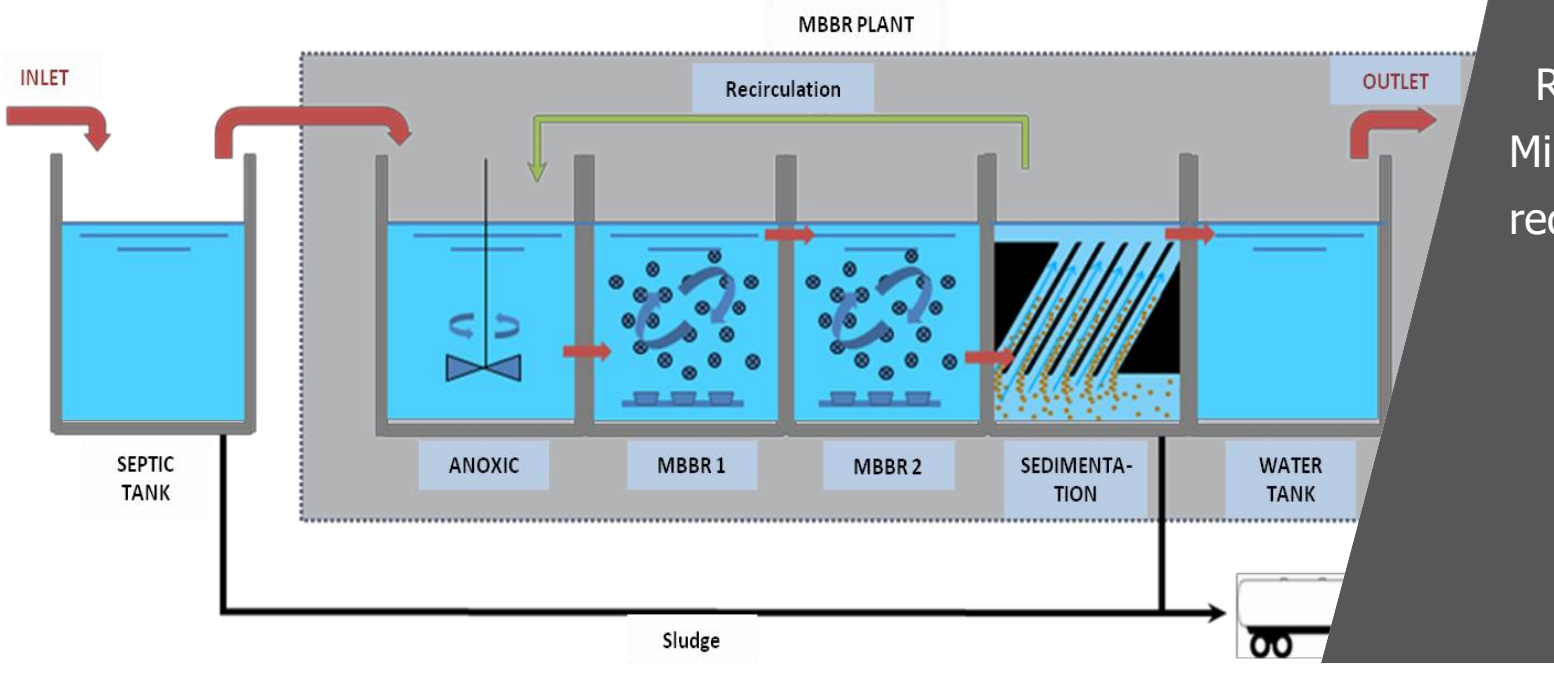




The tricanter operates 24 hours a day with **no supervision** and minimum downtime for maintenance.

INLET	
Oil	30 – 70% wt
Water	10 – 40% wt
Solids	5 – 10% (max 20%) wt (equivalent to 40-50% in BS&W test)
Viscosity	100 cSt at 50° C
Liquid density	1000 kg/m^3
Solids density	1200 kg/m^3
OUTLET	
Oil	<2.5% Sediment & Water w/w (with <0.5% solids w/w)
Water	< 1.0% vol. OIL
Solids	< 3.0% oil vol. OIL (as free oil)





COMPACT WASTEWATER TREATMENT PLANTS

Ideal for:

Small community systems
Hotels
Housing developments
50-1500 People Equivalents

Technologies:

MBR
MBBR

Benefits:

High efficiency
Low operating costs
Automated/easy installation
No monitoring requirements
Minimum maintenance
Reuse of water
Minimum space requirements

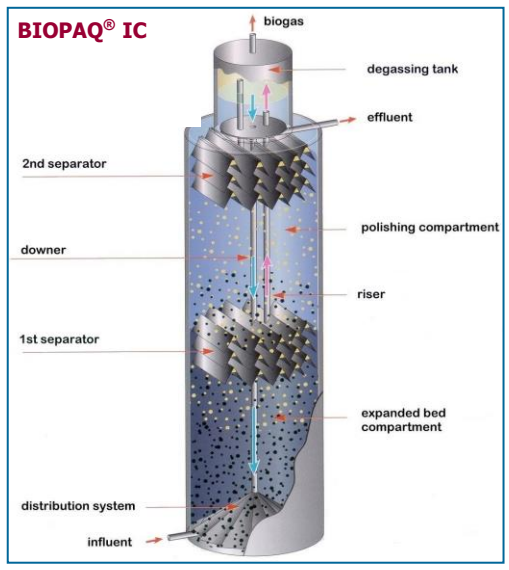
Anaerobic Treatment of Wastewater and Energy Production

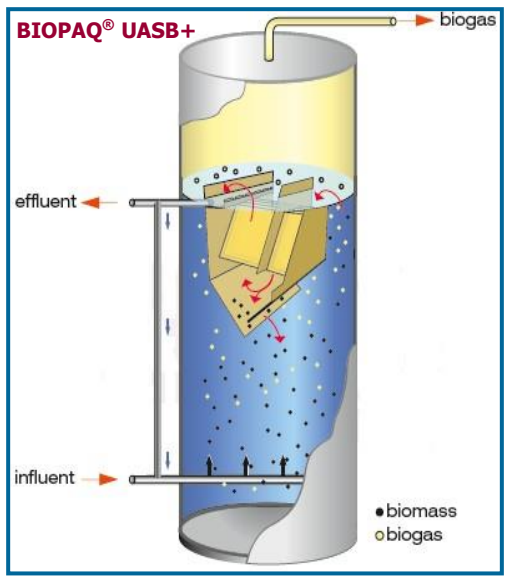
Anaerobic Reactors

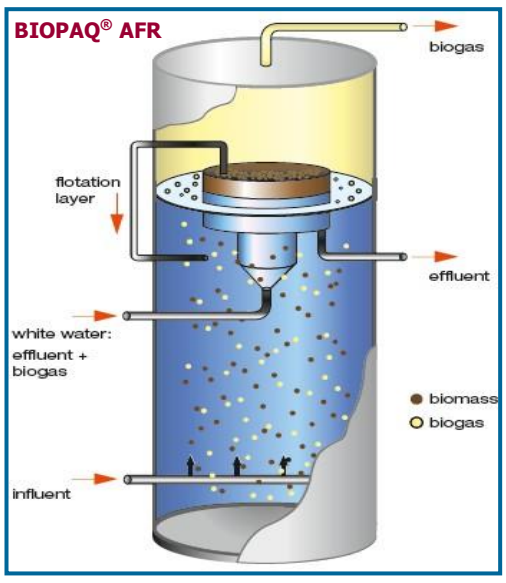
- BIOPAQ® IC
- BIOPAQ® UASB+
- BIOPAQ® AFR

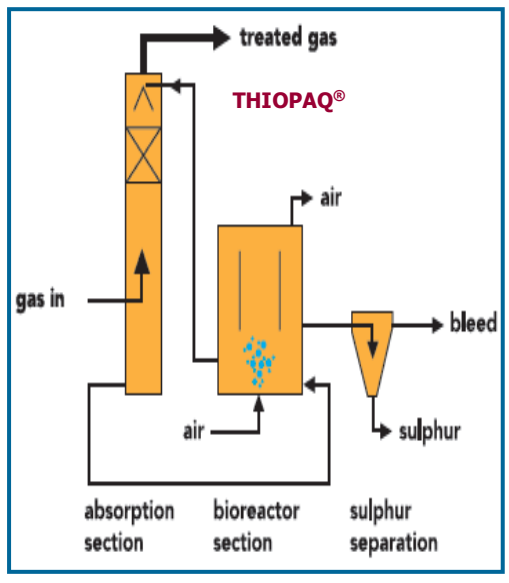
Biogas Desulphurization

- THIOPAQ®



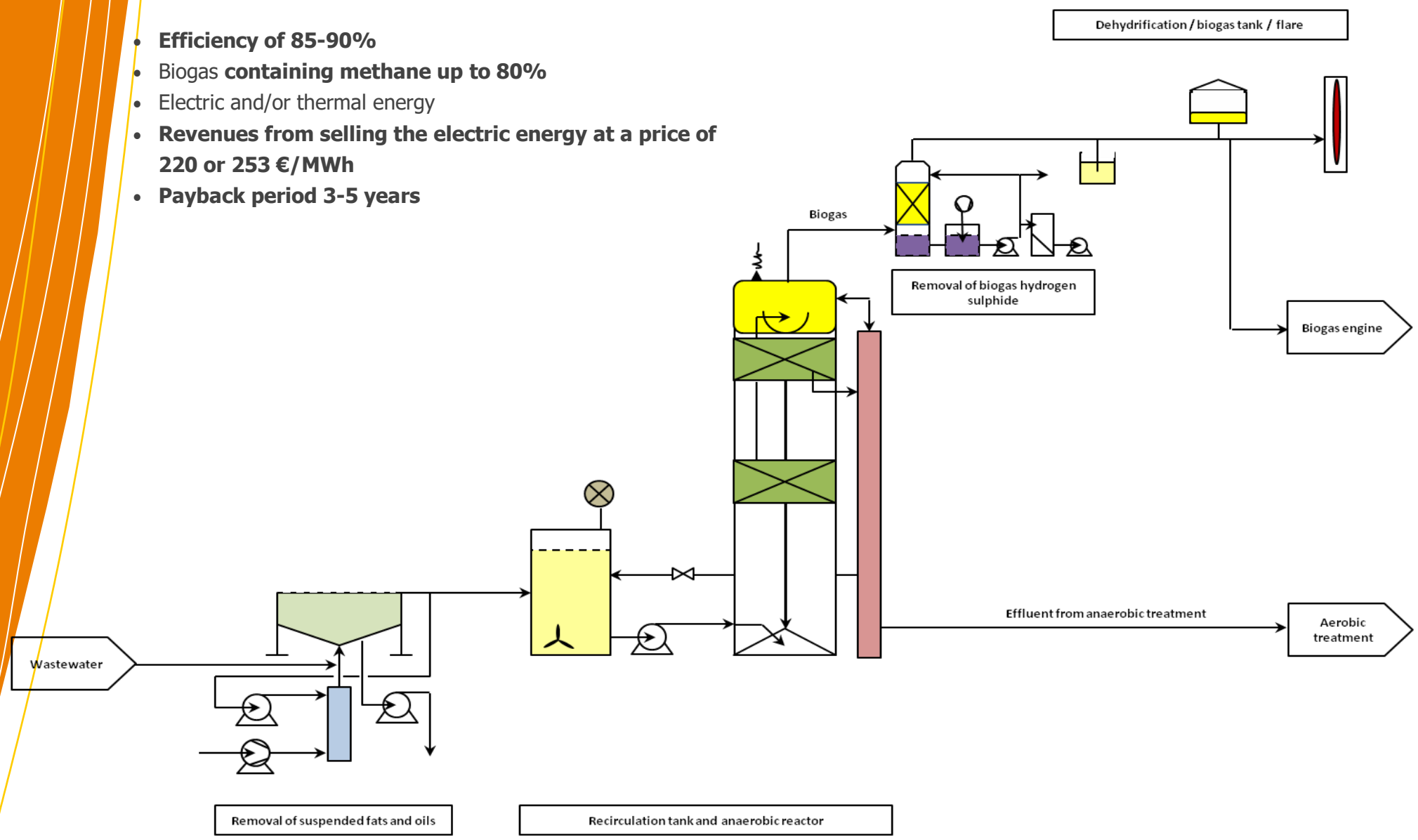


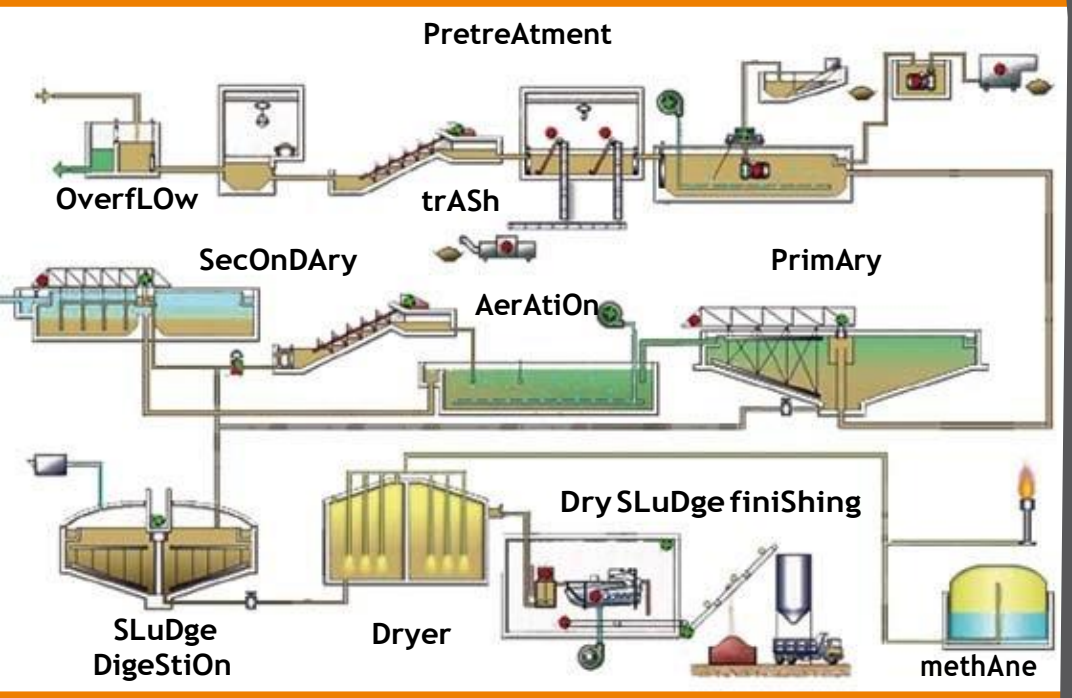




COMPLETE WASTEWATER TREATMENT AND ENERGY PRODUCTION PLANTS

- **Efficiency of 85-90%**
- Biogas **containing methane up to 80%**
- Electric and/or thermal energy
- **Revenues from selling the electric energy at a price of 220 or 253 €/MWh**
- **Payback period 3-5 years**





Sirmet has Proven Its Industrial Know how With Complete wwtP for:

Food & Beverage processing industries

Dairy plants

chemical industries

Oil Refineries

Metal/Aluminum processing Agro industrial Plants

Animal Breeding Farms

Recycling Plants

Renewable energy sources

SIRMET
ENGINEERING & MANAGEMENT

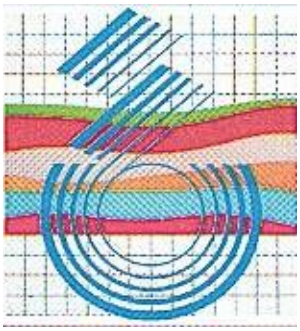
Energy Conservation And Energy Production Using:

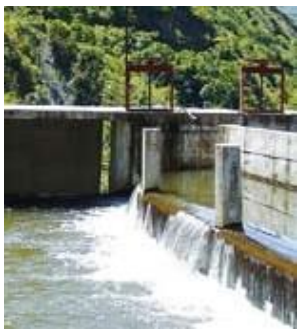
- Industrial byproducts
- Industrial solid waste & sludge
- Anaerobic Digestion to produce Biogas
- Composting to produce fertilizers.

Renewable energy sources as:

Photovoltaic parks are a fast growing market in all south Europe, aiming to cover electricity needs of Industrial or Public installations but also sell electricity to the national Electricity Grid system

Biomass / Biogas





Hydroelectric Plants

Binomia Technologies as a member of **SIRMET S.A.** grows on its **28year experience** using **new technologies** and continuous **research & development.**

In the past 20 years we have delivered more than **160 turn - key projects** to our customers and more than **250 engineering studies.**

Many of these projects were co-financed through **European union funds.** We try to help all of us **protect the environment, lower our energy cost and assure quality of Life**

Photovoltaic Parks

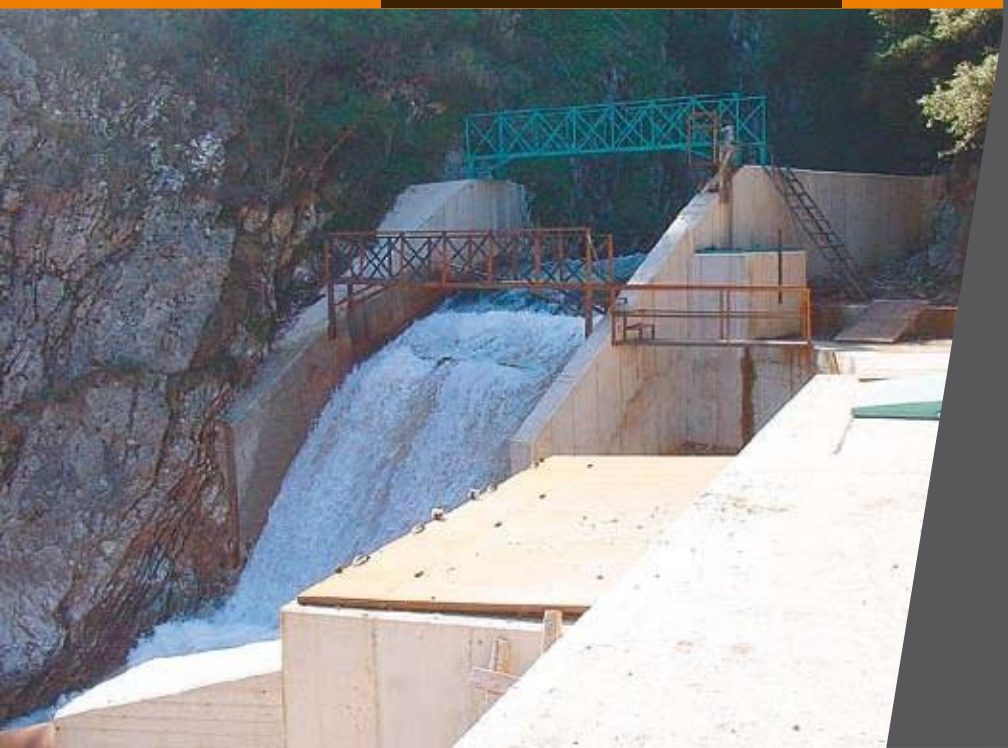
Monocrystallic silica cells
Polycrystallic silica cells
Thin Film Technology

Bio-waste - Biogas

Anaerobic Treatment
Hydrolysis
methanogens
MASB

using
Agricultural waste
Biological sludge
Animal farm waste
High organic load
Industrial waste

Biogas turbine system for production of:
Electricity
Steam
Hot water



hydroelectric Plants

Our Costumers

SIRMET
ENGINEERING & MANAGEMENT

Sirmet group (Athens)
4A. Omirou str. Marousi
P.C. 151.25 Athens, Greece
tel. +30210 92.16.020
fax.+30210 92.16.901
url. www.sirmet.gr
e-mail. sirmetat@otenet.gr

Sirmet group (Patras)
Filopoimenos str. 4-6
P.C. 262 21 Patras, Greece
tel. +302610 623.595
fax.+302610 277.086
url. www.sirmet.gr
e-mail. sirmet@otenet.gr