



EnviTech® – inspired by nature, engineered with passion...



Mission Company profile

Sustainability in the 21st century

The use of environmentally friendly technologies in production, supply and consumption is in the long run very important for the chances of survival of the world population.

The decisions are to be made in this century, as fossil energy resources and natural drinking water reservoirs will be exhausted during this period.

If there is no change in the use of these limited resources, polluted areas will become unbearably large and emissions unbearably high.

Today it depends on further development of existing environmentally friendly technologies and products as well as on research of new technologies and their wider acceptance in society.

Therefore, it is necessary to have a successful introduction of innovations to the market. Furthermore, technological innovations can only be optimised continuously in the market.

Research and development have to be improved, so that new economic products can be created on the basis of the latest know how and innovation.

It is essential to establish a creative production field which matches clean tech solutions with world wide emerging market demand.

To achieve this it is necessary to have courage, capital and expertise as not every investment will gain profit in short term.

EnviTech® - Environmental Technologies - has turned to this field of activity since its establishment during World Expo 2000 "Mankind and Nature" in Hannover, Germany.

At EnviTech® we develop environmental technologies and products for today and tomorrow. The emphasis of our activities is especially on water purification and renewable energy supply.

The target is providing integrated and sustainable solutions for the environmentally friendly production and efficient use of water and energy resources.

Our highly innovative system solutions like EnviClear[®], EnviDist[®] and EnviCool[®] are only some of the remarkable results that represent .















EnviTech® – inspired by nature, engineered with passion!

Company data Company profile

EnviTech® GmbH Germany

- Company for environmental technologies
- Development, engineering and marketing of water treatment plants
- Development, engineering and marketing of renewable energy plants
- Established 02 / 06 / 2000
- Based in Munich / Bavaria / Germany
- Paid up share capital: 4.000.000.-€
- Managing Director: Mr. Alexander Klomsdorff

EnviTech® is a registered trade mark for German environmental technologies, especially for water treatment and renewable energy technologies.

Founded at the world exhibition EXPO 2000 in Hannover, today EnviTech® GmbH is based in the German state of Bavaria, close to Munich and develops innovative technologies and contemporary products for sustainable water treatment and energy supply.

Together with highly reputable partners from Science, Industry, Government and private sector, EnviTech® forms a powerful alliance for the environmental challenges and expanding clean tech markets of today and tomorrow.

As one of the leading export members of KUMAS (Environmental Competence Centre Augsburg, Germany) which represents more than 150 environmental technology companies in the German state of Bavaria, EnviTech® GmbH provides professional product technologies and engineering expertise.

EnviTech® GmbH is a subsidiary of Interfloat Corporation a solar glass company with 30 years of experience in the solar industry. The network unites technological excellence, highly skilled experts, engineers and business professionals.

The business network operates from Dachau, Germany and Abu Dhabi, the capitol of the United Arab Emirates where EnviTech® GmbH since 2006 is a shareholder in EnviTech® Middle East for energy and water treatment LLC.



EN ISO 9001: 2000 Certificate 2006



Rating Certificate 2006



Rating Certificate 2004



Rating Certificate 2003



Company data Company profile

EnviTech® Middle East for energy and water treatment LLC

- Company for environmental technologies
- Engineering, supply, installation, operation and maintenance of water treatment systems
- Engineering, supply, installation, operation and maintenance of solar energy systems
- Established 06 / 08 / 2006
- Company base Abu Dhabi, United Arab Emirates
- Chairman His Highness Sheikh Nehayan Hamdan Mohamed Al Nehayan
- Board of directors
 Mr. Alexander Klomsdorff, CEO
 Eng. Khaled Al Mansouri, Director Marketing and Business
 Development
 Eng. Hamid Abdolkarimi, Director Management and Operations

EnviTech® Middle East for energy and water treatment LLC is the sole and exclusive representative of EnviTech® GmbH Germany and all EnviTech® partners for the Middle East region (GCC).

EnviTech® Middle East provides products and services for water treatment and energy generation. Moreover we provide engineering and system integration for complete water and energy supply solutions.

EnviTech® Middle East provided solutions for well known customers like Environment Agency Abu Dhabi (EAD), MASDAR Abu Dhabi (ADFEC), UAE Armed Forces Abu Dhabi, Bauer Environment Abu Dhabi, Hotel Burj Al Arab Dubai, Nakheel Dubai, Al Tajir Glass Industries Dubai and others.

Moreover EnviTech® Middle East is the representative of YAZAKI and system integration partner of SCHOTT SOLAR, CONERGY, WS ATKINS Dubai and others.

EnviTech® is represented through reputable local partner companies in Irak, Jordan, Kuwait, Libya, Oman and Syria.















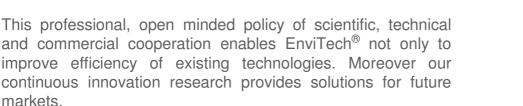
Scientific partners

Company profile

EnviTech® is an ambitious company regarding state of the art technology in the fields of water treatment and solar energy, additionally the company reinforces a unique network of experts and centres of excellence.



Therefore EnviTech® enjoys strong and close cooperation with highly reputable partners from science to effectively approach nearly every problem of sustainable water and energy supply.





It also offers great cooperation opportunities for our partners in the world wide expanding markets of water and renewable energies.



University of Applied Science Berlin

Additionally, EnviTech® has the know how and expertise to raise and manage technology centres for water treatment and renewable energies in order to realize worldwide technology and know how transfer.



University Augsburg

Regarding this the team represents more than 25 years of experience in the fields of water treatment and solar energy.

After building and operating a technology and competence centre on the Canary Islands, EnviTech® raised its own competence centre in the Middle East in 2007. The Hub for the Middle East markets is based in the United Arab Emirates capitol Abu Dhabi.









Performance Company profile

Services

Water supply / BOO / BOT

- ► supply with water for injections
- ► supply with distilled and ultra pure water
- drinking water supply
- operation of seawater desalination plants
- treatment of industrial waste water

Water analysis

- ▶ analysis of chemical composition of untreated water
- ► testing of corrosion potential
- \blacktriangleright testing of scaling potential (e. g. fouling, scaling) photo: scaling of sea water , scanning electron microscope $5\mu m$

Selection of materials

- determination of potential materials
- ► laboratory tests (e. g. autoclaves tests)
- ▶ assessment of long-run behaviour

photo: material sample, titanium alloy for laboratory tests

Process engineering

- ► laboratory and pilot tests with a mobile pilot plant station
- ▶ determination and optimisation of process engineering
- custom-designed plant construction

graphic: flow scheme two loop MVC - process

Construction engineering

- ▶ modern CAD construction
- ▶ 3 D simulation
- efficient project realisation

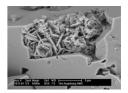
photo: graphic ultrapure water plant, prod. capacity: 1,250 litres / hour

Plant manufacturing

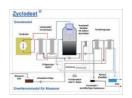
- ▶ infrastructure for production and operation of plants
- high-quality materials and components
- ► standard-plants and specific engineering

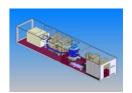
photo: industrial waste water treatment plant, prod. capacity: 1,500 litres / hour













EnviClear®

filtration plants for maximum quality and safety

- ► multi stage filtration systems
- ▶ modular design
- ▶ micro-, ultra- and nano-filtration
- ► capacities from 10 litres to 50.000 litres / hour

90 -2.55 PM

EnviRO®

Reverse Osmosis plants for desalination and purification

- ► single or multi train systems
- ▶ modular design
- ► high efficiency
- ► capacities 30 litres to 50.000 litres / hour

EnviSew[®]

biological - physical sewage treatment plants

- ► single or multi stage treatment
- ► SBR / MBR process
- ▶ modular design
- ► capacities 30 litres 50.000 litres / hour



EnviFlot®

flotation plants for industrial water treatment

- ► single or double stage flotation
- ► modular design
- ▶ purification / recycling
- ► capacities from 100 litres to 50.000 litres / hour



EnviRay®

ultraviolet disinfection plants

- ▶ patented design
- ► highly efficient and robust
- ▶ modular design
- ► capacities from 100 litres to 50.000 litres / hour

EnviDist®

distillation systems

- ► single or multi stage distillation
- ► modular design
- ▶ steam resistant
- ► capacities from 50 litres to 2.000 litres / hour

EnviFlow®

pump systems

- ► highly energy efficient
- ▶ patented design / robust construction
- ▶ single or multi stage
- ► capacities from 2.000 to 500.000 litres / hour







Systems Company profile

EnviSun®

photovoltaic modules and solar power systems

- ► stand alone or grid connected plants
- ► top quality modules
- ► mono- or poly-crystalline
- ► capacities 1 to 10.000 kWp



solar water heaters and solar thermal collectors

- ▶ single units or complete systems
- ► flat or vacuum tube collectors
- ▶ modular design
- ► capacities 50 litres to 20.000 litres

EnviCool®

solar air conditioning systems

- ▶ absorption chillers
- ► single or dual stage
- ▶ modular design
- ► capacities from 10 to 500 kW

EnviLight®

solar lighting systems

- ▶ road lamps
- yard lamps
- ► stand alone operation
- ► capacities from 5 to 500 W









Systems Company profile

EnviTrack®

solar tracking systems

- ▶ one and two axes tracking systems
- ► efficiency increase up to 30%
- ► fix implemented or mobile systems
- ► capacities from 1 to 15 kWp



wind power plants

- ► vertical and horizontal type
- ► stand alone or grid connected systems
- ▶ robust design
- ► capacities from 0,5 to 50 kWp

EnviGen®

cogeneration plants for water, cold and electricity supply

- ▶ waste heat recycling
- recovery for water treatment or production of cold
- ► fix implemented or mobile systems
- ► capacities from 5 to 500 kWp









2009 EnviTech® "green buildings" project, Abu Dhabi, UAE

"passive building technology" – combining energy and water saving design and construction with solar energy and water recycling technologies.

The project targets the development of buildings which require no external energy and consume the lowest and recycle the highest possible amount of fresh water.

Solar architecture and highly efficient energy saving construction and technology provide lowest possible energy consumption for cooling, lighting and home appliances.

Energy and water saving devices are combined with intelligent building management.

The remaining low energy demand is covered by solar power. A major part of water consumption (grey water) gets biologically recycled and is used for irrigation or toilet flushing.

Environmentally friendly and efficient building materials preserve nature's resources and save cost for a long time.



In a second step of "green building technology" organic building materials shall be applied in the concepts for energy and water saving buildings.

Organic design considers human needs in comfort and health.

Organic building materials are made from natural resources and provide environmentally friendly, chemical – free living space.

Innovative, solar cooling concepts provide healthy, comfortably chilled rooms.

Future buildings shall be CO2 neutral and autonomous in energy supply.



Passive building design



Town houses



Organic building design



Clay building



Organic villa



2009 EnviTech® "guard room" project, Abu Dhabi, UAE

"energy saving building technology" – combining energy and water saving design and construction with solar energy and water recycling technologies.

The EPC project (engineering / procurement / construction) consists of supply and commissioning of 55 guard houses in off-grid location.

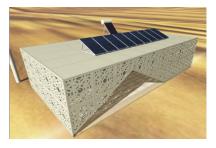
Solar architecture and high efficient energy saving construction provide lowest possible energy consumption for cooling.

Energy and water saving devices, sewage treatment system for reuse of water for irrigation or toilet flushing allow the most efficient use of water.

Solar modules (PV), solar water heaters, wind turbine and energy saving lamps contribute to the off-grid power supply concept.



- High efficiency insulation
- High efficiency electrical equipment
- Energy saving lighting system
- Organic material shading
- Solar power supply (PV)
- Back up wind turbine (vertical rotor)
- Back up bio fuel generator set (plant oil)
- Solar thermal hot water supply
- Drinking water filtration
- -Biological sewage treatment



Guard room design



Guard room design



Elevation



Front view



Pre-Fabrication



2008 EnviTech® installs industrial waste water recycling plant, Al Tajir glass industries, Dubai

"Biggest glass bottle factory in the UAE recycles process water from glass quenching and cooling towers".

The project targets the operation under real local climate conditions and the evaluation of the best performing technology for the carbon free MASDAR City in Abu Dhabi.

In cooperation with CONERGY and TÜV the EnviTech team installs various types of PV systems and connects it to the grid.

State of the art solar technologies

To generate reliable data for the implementation of large scale solar power plants MASDAR invited international manufacturers of photovoltaic modules to participate in the PV competition:

- 28 different systems in the beginning
- various international manufacturers
- poly crystalline modules
- mono crystalline modules
- thin film modules
- modules with cooling devices

Technical evaluation

German TUV monitors the operation and performance of installed and grid – connected systems.

- degradation of performance due to operation temperature
- degradation due to dust and air surface impurities
- reliability of continuous operation

Expansion

After completion of phase one another 15 PV systems were installed and connected to the grid. After completion the project gives an overview of the performance and reliability of various, leading PV manufacturers.



Containerized waste water treatment plant



Waste water from glass quenching process



Waste water concentrate after treatment



Waste water effluent after treatment



Samples before and after treatment



2008 EnviTech® installs MASDAR PV competition test field

"First grid connected solar power plant (PV) in the Middle East generates best solution data for large scale projects".

The project targets the operation under real local climate conditions and the evaluation of the best performing technology for the carbon free MASDAR City in Abu Dhabi.

In cooperation with CONERGY and TÜV the EnviTech team installs various types of PV systems and connects it to the grid.

State of the art solar technologies

To generate reliable data for the implementation of large scale solar power plants MASDAR invited international manufacturers of photovoltaic modules to participate in the PV competition:

- 28 different systems in the beginning
- various international manufacturers
- poly crystalline modules
- mono crystalline modules
- thin film modules
- modules with cooling devices

Technical evaluation

German TUV monitors the operation and performance of installed and grid – connected systems.

- degradation of performance due to operation temperature
- degradation due to dust and air surface impurities
- reliability of continuous operation

Expansion

After completion of phase one another 15 PV systems were installed and connected to the grid. After completion the project gives an overview of the performance and reliability of various, leading PV manufacturers.



MASDAR project site sign board



Installation of various PV systems



43 different systems



Connection of installed systems



Fully operational systems



2008 EnviTech® "Desertsphere" project, Abu Dhabi Emirate

"Unique combination of innovative, sustainable technologies and healthy, organic farming".

The project targets the environmentally friendly production of high quality drinking water and organic food using nature's resources only: groundwater, sunlight, wind and organic seeds.

State of the art technologies

To cover all the project's needs of energy and water the project involves latest EnviTech technologies, such as

- solar desalination plants:

PV (Photovoltaic) combined with high efficiency RO (Reverse Osmosis) technology Solar thermal collectors combined with single and multi stage evaporation units

- solar well and feed pumps
- solar air conditioning
- solar Stirling engines
- wind power plants (horizontal and vertical type)
- bio fuel generators
- biological sewage treatment plants
- green building technology

Organic farming and sustainable management

- organic seeds
- production of own organic seedlings
- no pesticides or any chemicals used
- organic fertilizer and soil conditioner
- water saving irrigation system
- solar greenhouses



Desertsphere project master plan



Solar desalination plant



Wind power plants



Fresh water reservoir



Organic nursery



2008 EnviTech® builds artificial lake in the desert

"Can deserts be converted to Oasis?".

The antelope lake is a unique project using all state of the art know how and technologies in order to create sustainable green oasis in desert areas. Harsh climatic conditions and the requirements of a pristine nature in a protected area require ultimate holistic engineering.

"Why build artificial lakes?"

One of the project's main targets is the attraction and preservation of wildlife and protection of native species.

Today's technologies for water treatment allow sustainable development in desert areas. Since water treatment is always related to energy consumption the project's energy need is solely covered by solar power and sustainable technologies.

Well pumps, filtration systems, desalination systems and all other support components are highly efficient and supplied by solar energy.

Project data:

Ambient air temperature: up to 52°C

Rain: < 30mm / year

Solar radiation: max. 1000W/m²

Natural evaporation: > 300mm / year

Water table: > 50m

Water quality:

groundwater: TDS 76.000 ppm

treated water: TDS < 1.500ppm

Lake size: > 2.500m²

Lake volume: > 3.500m3

Water treatment: agitation, ultraviolet disinfection, filtration,

aeration, desalination

Power supply: 44 kWp stand alone solar - PV (Photovoltaic)



Projekt animation



Gazelle at project site



Solar power plant, roof mounted



Ground water well, drilling works



Lake with solar operations building

2007 EnviTech® realizes off – grid water and energy supply in remote desert area

"Fully sustainable solution for water and energy needs". The project targets the environmentally friendly and carbon neutral supply of Ranger camps in the UAE desert.

State of the art technologies

To cover all needs of energy and comfortable water supply a wide range of parameters have to be taken into consideration and many different measures have to be conducted.

EnviTech Germany with partner companies and EnviTech Middle East put hands together to show how holistic thinking and professional engineering lead to new forms of energy and water supply in remote areas.

Strategy

Energy saving: Scientific calculation of energy and water needs, installation of energy and water saving devices.

Power supply: Installation of 30kWp stand alone solar power plant (PV).

Installation of 10 kWp wind power plants.

Back up power: plant oil generator set (CO2 neutral).

Air conditioning: Solar thermal powered 35kW absorption chiller system.

Water supply: Solar powered well pumps and RO desalination unit, capacity up to 1.000 l/hr.

Sewage treatment: Biological STP with membrane treatment for highest effluent quality.

SYSTEM ADVANTAGES

- ► Solar electricity, cooling and water supply
- ▶ Water reuse for irrigation
- ▶ No Diesel needed, CO2 neutral
- No emissions
- ► Independent from external supply with water and energy



Project animation



Project building, 500m², after conversion



Project power supply, roof mounted PV



Project supply, 6 x 6 trucks



Project water supply, solar powered RO

2007 EnviTech® presents sustainable supply concept at "Environment 2007" in Abu Dhabi, United Arab Emirates

"Bold ideas & better methods for preserving our environment".

The 4th Major International Exhibition and Conference was held at the Abu Dhabi International Exhibition Center, from 28 - 31 January 2007, under the patronage of the UAE President, His Highness Sheikh Khalifa Bin Zayed Al Nahyan. The focus of this prestigious event was on Air, Energy, Water, and Waste, providing an ideal platform to promote products and services that relate to these very important elements. Official bodies pertaining to environmental matters from the MENA countries (Middle East and North Africa) and the rest of the world was very prominent at Environment 2007.

Opportunities & the Environment

The market for environment related projects in the MENA region is massive with Middle East and North African countries expected to invest US\$4.6 - 6 billion annually on fresh water projects alone over the next 10 years. According to World Bank estimates, the UAE is expected to invest at least US\$46 billion over the next decade in environmental and pollution control projects.

Abu Dhabi Water & Electricity Authority will spend billions of dollars in power and water projects over the next 10 years. As a result of country's increasing population and the greater demand of water resources, an estimated US\$3.45 billion will be allocated towards projects for improving water resources and desalination of seawater.

EnviTech Germany and EnviTech Middle East presented latest technologies in the fields of environmentally friendly and sustainable supply with water and energy. Moreover the teams presented latest solar cooling technology.

The concepts were presented to numerous interested visitors and to decision makers from Government, Industry and private sector.

EnviTech was awarded a contract from EAD (Environment Agency Abu Dhabi) to convert a desert camp into absolute solar supply as a reference for future buildings in off grid and remote areas.





EnviTech team at the booth



H.H. Sheikh Mansour Al Nahyan, UAE Minister of Presidential Affairs, at EnviTech booth



K. Al Mansouri (Circle Engineering)
Dr. Jaber Al Jaberi (EAD)
A. Klomsdorff (MD EnviTech Germany)
H. Abdolkarimi (MD EnviTech Middle East)
from the left



2006 EnviTech® develops sustainable supply concept for the Palm Jebel Ali, Dubai / United Arab Emirates

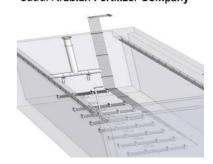
The team of EnviTech water and energy specialists engineer environmentally friendly and efficient supply concept as stand alone solution for the "Arabic Poem" project.

The project consists off 400 floating villas around the palm island.

Goal is the solar power supply and the supply with drinking water / recycling of waste water without any cables or pipelines.



شركة الأسمدة العربية السعودية Saudi Arabian Fertilizer Company



2005 EnviTech® delivers waste water treatment plant for Thyssen group (Uhde / SAFCO IV Saudi Arabia)

In May 2003 the Uhde Group, a German-based engineering and technology company, had been awarded a contract to build Safco's new ammonia and urea production capacity.

The Uhde Group is responsible for the basic and detailed engineering. The contract is reported to be worth in excess of \$500 million.

EnviTech provides latest technology for industrial waste water purification as a subcontractor.

2005 EnviTech® presents off grid combined water and electricity supply with BOSCH subsidiary Buderus

Based on modern, environmentally friendly diesel generator sets engines by cooperation partner we developed a specially adapted thermal desalination process.

The result is a reliable hybrid plant that produces electricity and drinking water at the same time.

The water treatment plant uses waste heat from the diesel generator set as sole energy source to desalinate and purify water!







2005 EnviTech® presents latest water treatment technologies at IFAT 2005 – Europe's biggest fair for water and environment

Sizeable increase in number of visitors to more than 108,000 trade visitors | Higher share of international visitors and exhibitors | Top marks for quality of business contacts | Strong source of impetus for the economy

New projects, technologies and services were the focus of visitor interest at IFAT, the leading international trade fair for waste disposal and the environment. More than 108,000 industry experts – 10 percent more than in 2002 – from 166 countries, and especially from Central and Eastern Europe, the Middle East, Asia, North America and South America, gathered information at IFAT 2005 in Munich from April 25 – 29, 2005.

The fair also had a record number of exhibitors, i.e. a total of 2,223 companies from 36 countries. They presented the latest trends and product innovations in the sectors for water, sewage, solid waste and recycling. The number of business transactions and sales made at the fair were also high.

Important co-operations were realised. EnviTech® and its exclusive cooperation partner, Germany's Market Leader for water treatment Gruenbeck, present off grid water treatment systems which are empowered by solar and wind energy. Off grid and remote areas, like tourist resorts or rural villages and small cities can be easily supplied with fresh water in this way.

Furthermore, EnviTech® presents treatment and bottling line for the production and bottling of highest quality, healthy water out of seawater, brackish, raw river or surface water.

With the experience of over 30 years in the field of ultra pure water for the pharmaceutical industry, EnviTech® is able to exceed all worldwide existing standards for drinking water.

EnviTech® presented its special water treatment plants for sewage and industrial waste water. Impressive results were shown to an interested audience of decision makers from the producing industries.











Bavarian Minister of Environment, Dr. Werner Schnappauf, in discussion with EnviTech's Managing Director Alexander Klomsdorff



Solar powered desalination plant, capacity: 25.000 litres / day

2004 EnviTech® exhibits at Villa Hammerschmidt Renewables 2004 / Bonn

Energy for sustainable development is the motto of the week of the environment 2004 in Bonn. Federal President Johannes Rau invites 50 German companies to exhibit their latest innovations in the field of environmental friendly technologies.

EnviTech® presents the advanced solar stirling water pump Sunwell 2.



2003 EnviTech® field test on Gran Canarias Island / Spain

Based on the Technological Institute of the Canary Islands (ITC) EnviTech[®] raises its own test platform for seawater desalination and operates its latest technologies and plant developments under extreme conditions close to the Atlantic sea.

The results are implemented in the serial production of plants and also optimise the parameters for economics, like maintenance, energy consumption etc..



2003 EnviTech® joins the environmental pact of Bavaria

Minister of state Dr. Werner Schnappauf, mayor Dr. Winter and member of parliament F. Pschierer receive information about the innovative technologies of EnviTech.

Decentralized supply with fresh drinking water is the main focus of EnviTech's activities. The solar driven technologies for water desalination and purification Solardest[®] and Sunwell[®] are presented to the visitors.





References Company profile







Al Dhafra Co-Operative Society VALUE, QUALITY, SERVICE



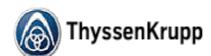
جمعية الظفرة التعاونية قيمة ، نوعية ، خدمة

















Bangladesh Navy



Location Company profile

From Abu Dhabi International Airport: Take the highway to Abu Dhabi city towards Corniche. Always go strait on this street named "Al Khaleej Al Arabi street" which is street no. 30. Once you have entered the city district keep going strait until you pass the crossing of street No. 11 and enter the second parking to your right (blue parking sign) before street No.9. Inside the parking area turn left and pass the Mosque on your right side until you have reached villa no. 284 A.

From Corniche: Take highway to the airport (street number 30). Once you have crossing street No. 11 take a u-turn at the next traffic light and go back to the direction of street No.9. Enter the second parking to your right (blue parking sign) and drive left until you have passed the mosque. You will find villa 284 A after 30m on your right side.

