

# **Study: Water Desalination Worldwide for Sea Water and Brackish Water 2005-2010-2015**

**State 2005 and Development up to 2015, Markets and Projects in over 70 countries worldwide, Companies, Technologies, Operators/Users, Suppliers and R&D**

## **I. Introduction**

The market for water desalination has witnessed a significant upturn during the last years. Driven by the increasing world population and the diminishing freshwater sources, a result of global warming, desertation and environment destruction, many countries in the world have constructed or are constructing water desalination plants for water supply.

Meanwhile the technological innovations have been largely raising the energy efficiency of the desalination process and reducing the running costs, which are always the key concern for the large-scale water desalination.

Especially, the innovations in energy utilization, such as solar energy and terrestrial heat, the advances of nanotechnology and molecular technologies have been elevating the outcome efficiency so largely that the desalination is really becoming a realistic solution for the water shortage in many parts of the world. The market volume has been soaring from \$ 2.5 bn in 2002 to \$ 3.8 bn in 2005 with a growth rate over 15% per annum. These figures are only plant and equipment but not the whole value chain. The market figures for the whole market, you will find in the study. It is predicted that this fast development is going to last and even accelerate for at least the next ten years. The market worldwide is to reach nearly \$ 30 bn up to 2015. Dramatic increase is expected in Asia mainly China, in new technologies and small systems applications.

Divided by regions, Middle East still takes over 50% of the market share, followed by Asia-Pacific, where economic boom, urbanization, population growth and environment deterioration make the municipalities and industrials eager to search for new water sources. These two regions are going to remain the leading forces for the global markets. America and Europe share about 10% of the market respectively. The construction there is mainly for the purpose of reducing the use of groundwater or adding alternative water sources.

The traditional dominating technology MSF (Multiple Stage Flash) is continuing to lose its share to RO (Reverse Osmosis) and MED (Multi-effect Distillation), due to the improvement of membrane technologies and the cost advantage. Other innovations, mainly focused on reducing the costs and raising the efficiency, are also entering the market in fast paces. The establish of the first hybrid plant, Fujairah plant, in the United Arab Emirates in 2004 is just an example.

Divided by value chain, manufacturing has the biggest market share, 45% of total market in 2004. It is followed by operation & maintenance with a market share of 27%.

Installation, design and training & support share the rest of the market, with different profitability and growth potential. In the residential systems, the proportion varies.

The tendency in the residential segments is that manufacturing & installation take more and more market share from operation & maintenance through the supply of more sophisticated equipments.

The running costs, especially the ratio of the energy consumed for every unit water output, largely decide the future of individual technologies and the competitiveness of the desalination methods against other water treatment approaches. The R&D worldwide is thus focused on raising the energy efficiency and reducing the running costs. The exciting progresses, above all in the nanotechnology, during the last years demonstrate that the full-scale utilisation of sea water will probably come true in the near future.

The market has been undergoing fundamental changes during these years. Two important actions in 2004: GE's acquisition of Ionics for \$ 1.1 billion and Siemens' purchase of U.S. Filter for \$ 983 million, indicate that chances in the related water market are highly valued and the competition is intensifying. The new competitors from Korea, China, and other Asian countries, with their cost advantage, are another big threat for today's industrial leaders. Moreover, privatisation may trigger fast market development in certain countries.

Water Desalination Industry Worldwide, developed by Helmut Kaiser Consultancy, is a study about the most recent market development, technological innovations, competition and related regulations & policies. Helmut Kaiser Consultancy has been tracking the development of the water desalination industry for over 10 years. The market figures in this study have been collected, examined and analyzed through precise and critical work.

Helmut Kaiser Consultancy is a leading consulting company in the fields of water industry and environment industry worldwide for more than 20 years. Over 700 studies have been elaborated based on our knowledge and experience in the business. For a list of our most recent studies in water industry please see <http://www.hkc22.com/water.html>.

## **II. Goals of the Study**

The study provides an efficient, systematic and reliable way to know trends, opportunities and risks in water desalination industry and to evaluate present situation and further development as well, identifies and evaluates the growth and profit opportunities within the segments of technologies/markets and value chain.

The study is structured by sectors and can be obtained either completely or in sectors separately. The markets are presented by countries/regions and by technologies/processes, as well as by applications and branches.

The study provides an analysis and profiles, as well as presentation of the leading water desalination companies and their factors of success and technology portfolio, and an extensive collection of the ongoing and planned desalination projects in over 70 countries

## **III. Table of contents**

### 0. Management summary

The most important results and contents of the study are summarized. The summary can be acquired separately

### **Study:**

#### 1. Markets

- 1.1 Overview of water desalination market worldwide
- 1.2 Total market for water desalination by applications
- 1.3 Total market for water desalination by technologies/processes
- 1.4 Total market for water desalination by regions and 57 countries respectively

#### 2. Market segmentation by fields of application

- 2.1 Municipal drinking water
- 2.2 Industrial water

- a. Microelectronics
- b. Power generation
- c. Petrochemical/Refinery
- d. Chemical
- e. Pharmaceutical
- f. Automotive
- g. Pulp & Paper
- h. Steel
- i. Others

2.3. Agricultural water

2.4 Hotel & Resort drinking water

2.5 Household drinking water

2.6 Others

3. Market segmentation by technologies/processes

3.1. Thermal Processes

3.1.1. Multiple Stage Flash (MSF)

a. MSF with Brine Recirculation (MSF-BR)

b. MSF Evaporation/Once-Through (MSF-OT)

3.1.2 Multiple Effect Distillation (MED)

3.1.3 MED with Thermal Vapor Compression (MED-TC)

3.1.4 Mechanical Vapour Compression (MVC/VC)

3.1.5 Solar Distillation

3.1.6 Vacuum Freezing

3.2 Membrane Processes

3.2.1 Seawater Reverse Osmosis (SWRO)

3.2.2 Brackish Water Reverse Osmosis (BWRO)

3.2.3 Electrodialysis Reversal (EDR)

3.2.4 Microfiltration (MF)

3.2.5 Ultrafiltration (UF)

3.2.6 Nanofiltration (NF)

3.3 Ion Exchange

3.4 Hybrid Technology

3.5 New Technologies

3.5.1 Delbuoy

3.5.2 Puraq

3.5.3 Others

4. Market segmentation by value chain

4.1 Desalination Plant

4.1.1 Design

4.1.2 Manufacturing

4.1.3 Installation

4.1.4 Training & support

4.1.5 Operation & maintenance

4.2 Residential Water System

4.2.1 Manufacturing

4.2.2 Installation

4.2.3 Operation and maintenance

## 5. Market segmentation by water sources

- 5.1 Potable water
- 5.2 Brackish water
- 5.3 Sea water
- 5.4 Brine
- 5.5 Others

## 6. Market segmentation by energy sources

- 6.1 Electricity
- 6.2 Diesel
- 6.3 Nuclear Power
- 6.4 Renewable energy
  - a. Solar energy
  - b. Wind energy
  - c. Ocean wave energy
  - d. Geothermal energy
  - e. Biomass
- 6.5 Others

## 7. Market segmentation by countries/regions

Overview and statistical data in the fields of water treatment in the following countries:

Middle East	Asia-Pacific	South and Middle America
Israel	China	Venezuela
UAE	Japan	Argentina
Saudi Arabia	South Korea	Brazil
Iran	Rest N/E Asia	Columbia
Iraq	India	Chile
Egypt	Pakistan	Antigua and Barbuda
Bahrain	Singapore	Bahamas
Oman	Vietnam	Bermuda
Qatar	Thailand	Cayman Islands
Yemen	Rest South Asia	Chile
Palestine	Australia	Dutch Antilles
Kuwait	New Zealand	Trinidad and Tobago
Rest Middle East US Virgin Islands	Rest Oceania	Cuba
Europe	Central Asia	Rest Latin America

Italy	Kazakhstan	
Cyprus	Turkmenistan	Africa
Spain	Kyrgyzstan	South Africa
Greece	Tajikistan	Morocco
France	Afghanistan	Algeria
Germany	Rest Central Asia	Tunisia
United Kingdom	North America	Libya
Turkey	USA	Rest Africa
Rest EU countries	Canada	
East Europe	Mexico	World Summary

## 8. Water desalination projects in over 70 countries worldwide

## 9. Technology development

### 9.1 Guidelines of technology development

#### 9.2 Energy efficiency

#### 9.3 Renewable Energy

#### 9.4 Nanotechnology

#### 9.5 Environment technology

#### 9.6 Molecular technologies

## 10. Cost Analysis

### 10.1 Sea water

### 10.2 Brackish water

### 10.3 Residential System

## 11. Laws, regulations and policies related to water desalination

### 11.1 Middle East

### 11.2 Europe

### 11.3 Asia-Pacific

### 11.4 North America

### 11.5 Middle and South America

### 11.6 Other regions

## 12. Environmental Impacts

### 12.1 Sea water

### 12.2 Brackish water

### 12.3 Others

## 13. Competition

13.1 Leading desalination companies: consultants, developers, EPC contractors, and equipment suppliers worldwide

13.2 The most important competitors in water desalination by regions

13.3 The most important competitors in water desalination by technologies

13.4 Profiles of selected competitors

14. Market analysis and strategies

14.1 Value chain and value added points in water desalination industry

14.2 Chances and risks

14.3 Influencing factors for investment decisions and choices of technology in water desalination

14.4 Summary: elements for a successful strategy orientation

#### **IV. Structure of the Study/Time Schedule**

The total study is divided by applications, technologies, branches or countries/regions into several segments which can be obtained separately.

All parts or segments include: Summary, state of technology and developments, markets and prospects 2005-2010-2015 in turnover, market volume and potential, projects, companies, competition, regulations and market analysis.

The study is finished and can be delivered immediately.

#### **V. Methods of Investigation**

The study is based on the following methods: Desk and Field Research. Market potentials and prospects are gathered by the Delphi-Method. Here specialists in the market are questioned about their future expectations which are then narrowed through repeated coordination with the specialists.

#### **VI. Qualification**

Our company has been active in the field of water industry, environmental and energy technology for 25 years. We prepare exclusive international strategies, concepts and special studies for company groups, small and middle sized businesses and Western European government agencies. Until today we have completed more than 700 studies.

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