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World Water Desalination

Industry Study with Forecasts for **2015 & 2020**

Study #2782 | July 2011 | \$5900 | 414 pages

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Although the global economic downturn has slowed growth in new desalination capacity from the torrid pace of the 2005-2010 period, gains will still be strong in nearly every region.

World demand to rise 9.3% yearly through 2015

World demand for water desalination products and services is projected to increase 9.3 percent annually to \$13.4 billion in 2015. Although the global economic downturn has slowed growth in new desalination capacity from the torrid pace of the 2005-2010 period, gains will still be strong in nearly every significant desalination market -- but particularly in the Asia/Pacific region.

Membrane systems to be fastest growing products

Because membrane systems will account for an increasing share of overall desalination capacity membrane elements, energy recovery devices and other products used in membrane systems will be among the fastest growing products. Demand for chemicals will be boosted by growing use of specialty membrane cleaners and other products used in pretreatment stages designed to prolong the lives of expensive membrane elements. Gains for evaporators, used in thermal systems, will be more modest. Growth for products such as pumps and filters, used across the board, will be boosted by overall gains in capacity.

Thermal desalination to remain leading technology

Traditionally, the dominant Africa/Mideast market has relied on thermal desalina-

World Water Desalination Demand (\$8.6 billion, 2010)



tion techniques, particularly multi-stage flash (MSF) distillation. MSF plants consume huge amounts of energy, but can produce immense quantities of water so pure that minerals are often added to improve the taste of the water, replace essential mineral nutrients and protect the water distribution system from corrosion. Many of the largest plants use integrated water and power plant (IWPP) models, in which desalination equipment is powered by waste heat from a power plant.

In the coming years, reverse osmosis (RO) and other membrane-based technologies are expected to increase their share of the market in the Africa/Mideast region, especially in countries with water shortages that also lack

abundant domestic energy supplies, such as Algeria and Israel. Nevertheless, much of the new capacity coming online in the region will use thermal technologies, including multiple effect distillation (MED). Because it is less energy-intensive than MSF, more new thermal plants will use MED, but the sheer size of the largest MSF plants being constructed will mean that MSF will remain the leading thermal technology. Outside of the Africa/Mideast region, RO will be the dominant technology used in new plants, due to its lower energy consumption rates. The use of energy recovery devices and alternative power sources, such as solar energy, will contribute to efforts to lower operating costs.

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Sample Text, Table & Chart

AFRICA/MIDEAST

United Arab Emirates: Applications, Technologies & Markets

Demand for desalination products and services in the UAE is projected to increase to \$4 billion in 2020. In recent years, the UAE has been one of the fastest growing desalination markets in the world. The UAE has paced the operations and investments in the region. However, as this capacity expands, growth will be faster than in other regions.

**SAMPLE
TEXT**

Although the UAE is intent on reducing its consumption of natural gas to power its desalination facilities, it is doing so mainly via technological improvements for thermal techniques (including the use of MED instead of MSF in some facilities) rather than by a wholesale change to membrane technologies, as seen in countries such as Algeria. Use of membrane desalination is expected to grow in the UAE, but thermal desalination will remain dominant. An example of the use of membrane desalination in the UAE is the SWRO plant to be built in Ghalilah. With a scheduled operational date in late 2013, it will provide drinking water for the Emirate of Ra's al Khaymah, one of the emirates which does not produce commercially significant amounts of oil or gas.

Municipal uses account for a larger share of desalination demand in the UAE than in most other countries in the Africa/Mideast region. Industrial uses are relatively minor, although the industrial segment is expected to register somewhat faster growth than the municipal market. The ruler of Dubai has authorized exploring the idea of using natural gas power for both electricity generation and powering desalination, as even the most oil-rich countries attempt to reduce their oil consumption levels. This is motivated at least in part by efforts to reduce initial oil imports, although Dubai itself has already diversified to the point where the oil and gas sector is a comparatively small part of overall economic activity.

154

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TABLE IV-32

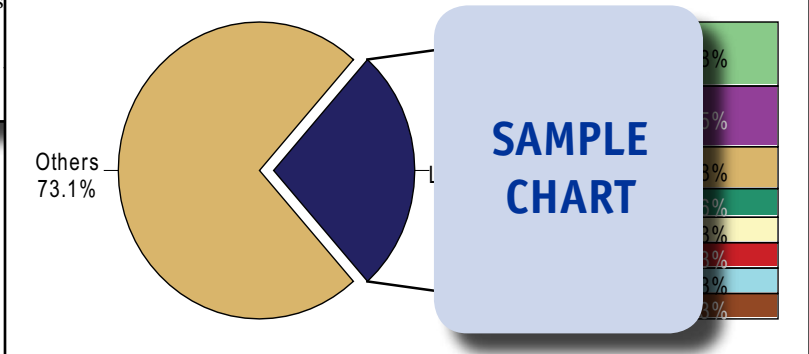
UNITED ARAB EMIRATES: DESALINATION DEMAND BY APPLICATION, TECHNOLOGY & MARKET (million dollars)

Item	2000	2005	2010	2015	2020
Desalination Market					
By Application:					
New Construction					
Operations & Maintenance					
By Technology:					
Thermal					
Membrane					
By Market:					
Municipal					
Industrial					
Other					

**SAMPLE
TABLE**

CHART VIII-1

WORLD WATER DESALINATION MARKET SHARE (\$8.6 billion, 2010)



**SAMPLE
CHART**

Sample Profile, Table & Forecast

TABLE IV-31
UNITED ARAB EMIRATES:
DESALINATION PRODUCT DEMAND BY TYPE
 (million dollars)

Item	2000	2005	2010	2015	2020
Desalination Market % products					
Desalination Product Demand					
Evaporators					
Pumps					
Filters					
Chemicals					
Membrane Elements					
Membrane Equipment					
Other Products					

SAMPLE TABLE

COMPANY PROFILES

Hyflux Limited
 Hyflux Building
 202 Kallang Bahru
 Singapore 37
 Singapore
 65-6214-07
 http://www.

SAMPLE PROFILE

Revenues: Singapore 13%,
 Geographic
 Mideast and
 Employmen

Key Products/Services: reverse osmosis membranes; and design, construction and operation of reverse osmosis seawater desalination plants

Hyflux is a water treatment and environmental company that specializes in membrane technologies for the water, industrial manufacturing, specialty materials and energy sectors. The Company operates through three segments: Municipal, Industrial and Others.

The Company participates in the world water desalination industry through the Municipal segment, which had 2010 revenues of US\$375 million. The segment provides water and fluid treatment systems and services to municipalities and governments. Among the segment's activities are the production of reverse osmosis membranes; and the design, construction and operation of desalination plants for municipal applications.

Hyflux produces membranes for various water treatment applications, including KRISTAL polymeric hollow fiber membranes, which are suitable for use in seawater desalination plants. These membranes

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“Demand for desalination products in the UAE is projected to increase 7.4 percent annually to \$2.4 billion in 2015. Unlike Saudi Arabia, which is diversifying its desalination capacity, the UAE will remain strongly committed to thermal desalination technologies. The use of MED is growing and some MED/RO hybrid plants are in the works. However, MSF will remain the workhorse technology in the UAE due to its reliability and capacity to produce enormous amounts of fresh water. As a result, ...”
 --Section IV, pg. 152-3

OTHER STUDIES

World Membrane Separation Technologies

Global demand for membranes is projected to rise nine percent annually through 2015. The BRIC countries and others with large, developing industrial bases and stressed local water resources will see the fastest growth. The US and China combined will account for nearly half of market gains between 2010 and 2015. This study analyzes the \$12.6 billion global membrane industry, with forecasts for 2015 and 2020 by product, market, world region and for 34 countries. The study also evaluates company market share and profiles industry participants.

#2755 June 2011 \$6100

Filters in China

Demand for filters in China is projected to grow 13.5 percent annually through 2014, supported by rapid growth in transportation equipment production and stocks, and by energy conservation and emission reduction regulations. Internal combustion engine filters will remain the dominant product segment and will post the strongest gains. This study analyzes the 35.2 billion yuan filter industry in China, with forecasts for 2014 and 2019 by type and market. The study also evaluates company market share and profiles 36 industry participants.

#2740 March 2011 \$5300

Consumer Water Purification & Air Cleaning Systems

US demand for consumer water purification and air cleaning systems will rise 5.2 percent per year through 2014. Conventional filters will remain the dominant water purification system, while higher-value reverse osmosis and distillation systems grow the fastest. Electrostatic cleaners will lead gains in the air segment. This study analyzes the \$1.3 billion US consumer water purification and air cleaning system industry, with forecasts for 2014 and 2019 by technology, product and regional market. It also evaluates company market share and profiles industry players.

#2720 March 2011 \$5100

World Water Disinfection Products

World demand for water disinfection products will increase 7.5 percent through 2014. In the developed world, gains will be prompted by efforts to reduce the environmental impact of water disinfection. In developing areas, efforts are underway to increase water treatment rates and quality up to advanced country standards. This study analyzes \$5.7 billion the world water disinfection product industry, with forecasts for 2014 and 2019 by product, market, world region and for 20 countries. It also evaluates company market share and profiles industry participants.

#2723 February 2011 \$5900

Membrane Separation Technologies

US demand for membrane materials will rise eight percent per year through 2014. Nonpolymeric membranes will outpace the dominant polymeric segment. Ultrafiltration and reverse osmosis types will be the fastest growing. Chemical processing and pharmaceutical/medical uses will be among the best market opportunities. This study analyzes the \$3.3 billion US membrane industry, with forecasts for 2014 and 2019 by type, application and market. It also evaluates company market share and profiles industry players.

#2632 May 2010 \$4900

About The Freedonia Group

The Freedonia Group, Inc., is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States, the emerging China market, and other world markets. Industries analyzed by Freedonia include:

- Chemicals • Plastics • Life Sciences • Packaging • Building Materials • Security & Electronics • Industrial Components & Equipment • Automotive & Transportation Equipment • Household Goods • Energy/Power Equipment

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