



Australia: Desalination Equipment

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Summary

Prior to 2005, Australia had no large-scale desalination facilities. In 2007, Western Australia became the first state to build a large-scale seawater desalination plant in Australia. The Western Australia state government saw desalination as part of a solution to a drought that has been depleting its water supplies. The drought, which began in 2002, continues to plague many cities and regional areas across Australia. As a result of Western Australia's success, and the drought's continuing adverse effects, other state-based governments have progressed plans to build large-scale desalination plants.

Industry sources anticipate that desalination projects will be worth around USD700 million per year for the next three years. Reverse osmosis desalination for brackish water is the most-utilized desalination method in Australia. Degremont (France), Veolia (France), and United Utilities (U.K.) have won most of the projects. U.S. companies have not been active in this segment. U.S. companies will need to establish a local sales presence, and form strategic alliances with major civil engineering firms, to take advantage of opportunities in the Australian desalination market.

Market Demand

A drought, that began in 2002 and continues to affect much of Australia, has created strong interest in large and small-scale desalination plants. The Western Australia State Government has cited the drought as a major factor in its decision to embrace large-scale desalination. Average water flow into Perth's metropolitan dams has dropped significantly while increasing population growth across the State has meant that demand for water continues to increase. The Government has stated that desalination is a climate-independent water source and a key part of its plan to ensure a secure water supply. While the water crisis has eased in Sydney over the last few months, water storage levels remain critically low in other cities and regional areas across Australia.

Prior to 2007, Australia's largest desalination plant was a 35ML/day reverse osmosis (RO) plant at a power station in Bayswater, New South Wales. The plant desalinates discharge water before supplying it to the power station for reuse. In October 2006, Veolia (France) won a USD65 million contract to upgrade the RO plant and associated water treatment systems.

In late 2007, the Western Australia State Government commissioned Australia's first large-scale seawater desalination plant. The plant, which can produce up to 130 million liters per day, is now supplying 17 percent of Perth's needs. Degremont SA (France) in consortia with Multiplex (Australia) built the plant using RO desalination technology. The capital cost of the plant and ancillary infrastructure was USD309 million. The plant's operations are greenhouse gas neutral and completely dependent on renewable energy from a wind farm. Other state governments are likely to stipulate that large-scale desalination projects incorporate renewable energy as the main power source.

In August 2007, the Western Australian State Government announced that it would build a new desalination plant near Binningup in the Shire of Harvey. The proposed plant will produce 45 gigaliters of water per year, with the potential to increase to 100 gigaliters annually. Renewable energy will again be the primary power source. The Government expects to commence construction in 2009 for a completion date of 2011.

The success of Western Australia's first large-scale desalination plant, and its decision to build a second one, will encourage other state governments to seriously explore desalination projects.

Sydney Water has already announced that construction on Sydney's 500 ML/day desalination plant at Kurnell will commence. Sydney Water awarded the contract to design, construct, operate, and maintain the plant to the Blue Water Joint venture – made up of Veolia (France), John Holland Constructions (Australia), and Sinclair Knight Merz (Australia). The project is worth USD1.5 billion. Sydney Water originally launched the desalination tender in June 2005 but the project was shelved due to community opposition.

In the State of Queensland, the Gold Coast City Council has started construction on a USD1.5 billion desalination plant scheduled for completion in 2009. The Council awarded the contract to build the plant to Veolia and John Holland Constructions.

The following table lists other desalination projects that industry and government are considering:

Location	Developer	Value USD millions	Project
Western Australia	United Utilities	350	Desalination plant and pipeline to service goldfields. Planned for 2009.
New South Wales	Wyong Shire Council	60	7,000 ML/year seawater RO desalination plant at Wyong. Plans have been approved.
South Australia	BHP Billiton	240	Seawater desalination plant to service Olympic Dam mine. Company has commissioned feasibility studies.
New South Wales	Wyong-Gosford Water Authority	20	Desalination plant for the Hunter Valley. Development Application lodged.
Victoria	Melbourne Water	2,400	Desalination plant for the Southeast region of Melbourne. Plans announced.
South Australia	Carnegie Corporation	320	World's first wave-powered desalination plant. Company exploring possible sites.

In addition to the large-scale plants that utilities are developing, Australia also has a number of smaller-scale facilities. Quite a number of mines and power stations use RO desalination to comply with zero discharge commitments. There are about 30 desalination facilities in the state of Queensland, ranging in size from 22KL/day to over 16,000 KL/day. Nationally, there are 15 – 20 small desalination plants (all RO units) that produce potable water for communities.

Market Data

Industry sources anticipate that desalination projects will be worth around USD700 million per year for the next three years. Only five years ago, desalination projects were worth about USD300 million annually.

Major foreign companies, in consortia with local civil engineering and construction firms, continue to design, build, and operate large-scale water treatment facilities in Australia. Australian companies have the capability to deliver individual pieces of technology but lack the resources and experience necessary to complete large-scale desalination plants and similar projects. This in part explains why Degremont (France), Veolia (France), and United Utilities (U.K.) have been successful in the market. GE is a relatively new market entrant. U.S. companies have, in the past, not been active in this segment.

Best Prospects

Reverse osmosis (RO) desalination for brackish water is the most-utilized desalination method in Australia. Thermal units are not as common. The Water Corporation in Western Australia and utilities in other states are investigating the feasibility of developing several desalination facilities for industrial and urban applications.

Almost all of Australia's key industry sectors source water from the same catchment areas used to supply households. Companies, however, are already operating small plants designed to supply water to industries and many more small projects are on the drawing board. The bulk of these projects relate to water reuse via wastewater treatment but companies are also considering desalination.

Key Suppliers

The suppliers of desalination technology are:

Australian Water Services – part of Degremont (France)

<http://www.degremont.com.au>

Veolia Water Systems

www.veoliawaterst.com.au

United Utilities Australia – subsidiary of United Utilities Group (U.K.)

<http://www.unitedutilities.com.au/>

GE Betz Pty Ltd

www.gewater.com

Osmoflo

www.osmoflo.com.au

Blue H2O Filtration

<http://www.blueh2ofiltration.com.au/index.html>

Ultraviolet Technology of Australasia

<http://www.uvta.com.au/>

Citor

<http://www.citor.com.au/about.asp>

Prospective Buyers

The Water Services Association of Australia (WSAA) estimates that there are 300 urban water utilities. It has grouped utilities into the following three categories:

- 22 large utilities (servicing >50,000 properties each), which form the core membership of the WSAA and collectively service about 70 percent of the Australian population.
- 71 medium utilities or non-major urban utilities (10,000-50,000 properties) servicing 17 percent of the population.
- 200 small utilities servicing 13 percent of the population. These utilities collectively have less customers than the largest utility in Australia – Sydney Water.

State and local governments are responsible for running water utilities. The Federal Government, except through legislative influence, plays no direct role in managing public utilities. The largest utilities are Sydney Water in New South Wales, Water Corporation in Western Australia, Yarra Valley Water in Victoria, South Australian Water in South Australia, South East Water in Victoria, and Brisbane Water in Queensland.

On the industrial side, power plants are the main purchasers of desalination systems. The bulk of Australia's electricity generation is coal-fired. There are 34 coal-fired power plants operating in Australia – 12 in Queensland, 7 in NSW, 6 in Victoria, 5 in Western Australia and 3 in South Australia.

Market Entry

Typically, water treatment technology reaches the end user via one of three channels:

- The utility or end-user appoints an environmental management or consultancy firm. This firm is often commissioned to first undertake an environmental audit or risk/impact assessment and then to make recommendations for the best technology to be used.
- Alternatively, and depending on the size of the project, the end-user will allocate the contract to an environmental engineering firm or contractor capable of installing turn-key facilities. The engineering firm will then be responsible for sourcing the technology either directly from overseas or through local suppliers. Government owned utilities purchases equipment directly from the local manufacturer or joint venture partner/representative.
- Private end-users usually maintain a preferred tenderers list in which certain suppliers, consultants and contractors will be invited to bid for the project. State government owned utilities are required to adopt a policy of open competition among suppliers and usually call for tenders through general media channels.

The distance from many of their trading partners causes Australian firms to stress the importance of local support and service. U.S. companies will need to establish a local sales presence, and form strategic alliances with major civil engineering firms, to succeed in the market. American companies should visit Australia both to meet prospective partners and to demonstrate ongoing support, as this is the common practice of their European competitors.

The U.S. Commercial Service can assist most American firms to select agents, distributors, and partners in Australia. Performing due diligence is just as important as in the United States, and the U.S. Commercial Service can assist in that work as well.

Market Issues & Obstacles

In 2005 Australia and the United States enacted a Free Trade Agreement (FTA). The FTA eliminated duties on more than 99 percent of tariff lines, including desalination equipment. Prior to the FTA, the maximum general tariff on imported water and wastewater treatment equipment was five percent.

The Australian government imposes a Goods and Services Tax (GST) on both imported and locally manufactured equipment. The GST is a broad-based tax of ten percent on the supply of most goods and services consumed in Australia. It is akin to the value-added tax systems in Canada and Europe.

Foreign companies providing consulting and other services specifically within the market are required to register for an Australian Business Number (ABN). By registering for an ABN, the Australian Tax Office is able to ensure that the Australian customer pays GST on the service it receives. U.S. firms who are exporting products to Australia, as opposed to providing in-country services, do not need an ABN number.

In 2006, the plumbing industry introduced a new certification scheme known as Watermark. Under the scheme, certain accredited agencies can test and certify water supply, sewerage, plumbing and drainage goods. Without Watermark approval, companies cannot generally sell these products in Australia. You can obtain more information on the scheme at: www.watermark.standards.org.au

Trade Events

Event name: Enviro08 Conference and Exhibition
Date: May 5 – 7, 2008
Location: Melbourne Exhibition and Convention Centre
Website: <http://www.enviroconvention.com.au>

Event name: 2nd Annual NSW WIOA Water Industry Engineers and Operators Conference
Date: April 8-10, 2008
Location: Newcastle, NSW
Website: <http://www.wioa.org.au>

Resources & Contacts

Department of the Environment, Water, Heritage and the Arts: <http://www.environment.gov.au>
Australian Water Association: <http://www.awa.asn.au>
Water Services Association of Australia: <https://www.wsa.org.au>
Water Industry Operators Association: <http://www.wioa.org.au>

For More Information

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