

vital partners
essential water solutions





WHO WE ARE

VITAL PARTNERS

Singapore's largest water management company. A business that's succeeding globally, managing more than four million cubic metres of water and wastewater daily.

At Sembcorp, we understand the importance of your water management objectives – and we have the expertise to help you achieve them.

WHAT WE DO

ESSENTIAL WATER SOLUTIONS

Water is essential to governments, industries and communities. Sembcorp provides solutions to a full spectrum of water management needs, including:

- Industrial wastewater treatment
- Reclaimed water
- Desalinated water
- Potable water
- Water for industrial use, including demineralised water, industrial water, raw water, chilled water, cooling water and seawater cooling

WHAT SETS US APART

OUR STRENGTHS

Operational and technical expertise

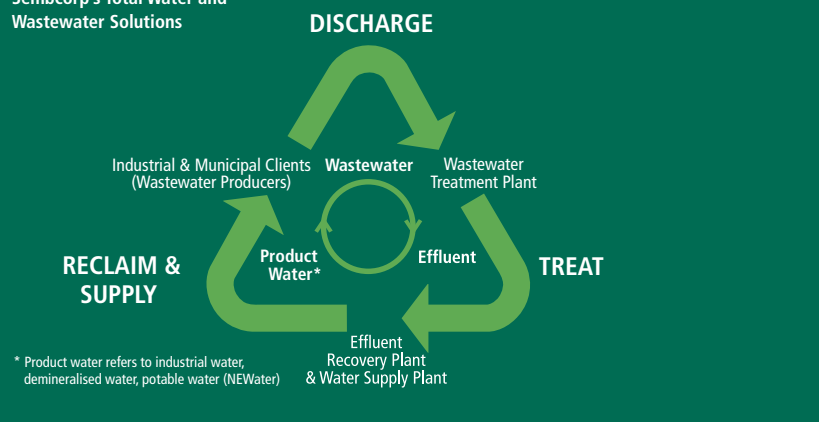
Sembcorp offers customers the assurance of strong operational and technical capabilities.

We are known for being a first mover and for applying cutting-edge technologies, especially in the treatment of highly concentrated and complex industrial wastewater. For example, we were one of the earliest in the water industry to treat high strength chemical wastewater using high efficiency anaerobic biogranulation technology, such as Expanded Granulated Sludge Bed (EGSB).

We pioneered the reclamation of water from municipal wastewater effluent, turning it into High Grade Industrial Water for the process industries on Jurong Island. (This High Grade Industrial Water was the forerunner of NEWater, the ultra-pure reclaimed water that Singapore produces.) In addition, Sembcorp recycles industrial wastewater effluent into demineralised water.

Today, our wastewater treatment plants in Singapore treat a variety of chemical, pharmaceutical and high organic strength wastewater from a large number of customers.

Sembcorp's Total Water and Wastewater Solutions



Total water and wastewater solutions

On Singapore's Jurong Island and Sembcorp Changi NEWater Plant and in China's Zhangjiagang Free Trade Port Zone, Sembcorp treats and recycles wastewater in a closed loop, making water a sustainable resource.

Using a combination of Micro-filtration, Reverse Osmosis and Ion Exchange technology, we are able to reclaim secondary effluents from complex industrial wastewater. The process cuts the conductivity of effluents from as high as 10,000 $\mu\text{S}/\text{cm}$ to 0.1 $\mu\text{S}/\text{cm}$ and total organic carbon to under 0.1 mg/L.

Given today's challenges in procuring a clean, adequate and sustainable water supply for growing cities, this closed-loop approach has potential applications in the municipal context as well. Sembcorp has the expertise to manage the entire process – from wastewater treatment to water reclamation, desalination and water treatment and supply – in an integrated manner.

Intellectual resources

Sembcorp's operations are supported by its extensive analytical and laboratory capabilities. Our in-house laboratories are equipped with state-of-the-art apparatus to carry out essential tests and analysis to support its operations. Equally important, our pilot plants are designed as test-beds to improve existing treatment processes and technologies, as well as to conduct treatability studies for treatment of new wastewater streams. We believe in building such core capabilities to achieve operational excellence and help solve our customers' water issues.

When you engage Sembcorp's services, you also tap on a brain trust that extends beyond our company.

This is because we are constantly leveraging on the intellectual resources of research institutes such as Singapore's Nanyang Technological University and Ngee Ann Polytechnic. As Singapore's largest water company, we are a natural industrial partner for academic institutions seeking to develop new technologies and applications in water and wastewater treatment.

We also collaborate on a regular basis with selected companies on relevant research and development. With Singapore rapidly developing as a global hydrohub, Sembcorp is in a better position than ever to form such alliances.



Focus on process and technology

Our focus on process and technology gives us a major advantage over our competitors. It is this focus that makes us the most well equipped to solve our customers' water and wastewater issues.

The areas of our focus include:

- High rate and high efficiency biological treatment of complex industrial wastewater
- Low fouling, high flux membranes to increase water recovery
- Energy-efficient seawater desalination technology

Experience and adaptability

Extensive experience in overseas operations means that we adapt easily to different operating conditions. Sembcorp has ready access to a pool of in-house water professionals as well as external consultants where necessary. This allows quick planning and setting up of operations, ensuring on-time delivery of our services and products.

The diverse models of water and wastewater treatment plants we have implemented worldwide demonstrate our ability to customise solutions to meet specific customer needs.

Financial strength

With our strong balance sheet and assets of more than S\$8.5 billion*, Sembcorp is able to develop and finance very large projects, some involving project financing. Examples include:

- 40% stake in the 100 MIGD desalination water and 887 MW power plant, valued at US\$1.7 billion, in Fujairah, United Arab Emirates
- £250 million acquisition and expansion of Wilton International industrial site, Teesside, United Kingdom
- US\$400 million greenfield project of 815 MW combined cycle gas turbine cogeneration plant on Jurong Island, Singapore
- S\$180 million greenfield NEWater plant, Singapore's newest and largest NEWater plant. The Sembcorp Changi NEWater plant will provide 228,000 cubic metres of water per day (50 MIGD) by 2010. This represents approximately 15% of Singapore's total water supply



The green factor

As a leader in the environmental sector, we take pride in our environmentally sound processes. For example, Sembcorp was among the first users of anaerobic biogranulation technology (eg. EGSB) to treat wastewater. This method not only consumes less energy, it produces energy in the form of biogas, with minimal production of biosludge. The biogas is recovered for the production of steam.

Our water reclamation facilities recover water from wastewater effluent for industrial use. This diverts more precious water resources for drinking purposes.

We also utilise advanced fluid composting technology to treat industrial wastewater at our latest wastewater treatment facility on Jurong Island. This technology eliminates the production of biosludge which would normally have to be disposed of in a landfill.

These initiatives have resulted in reduced greenhouse gases and a smaller carbon footprint.

Water Management Capacity

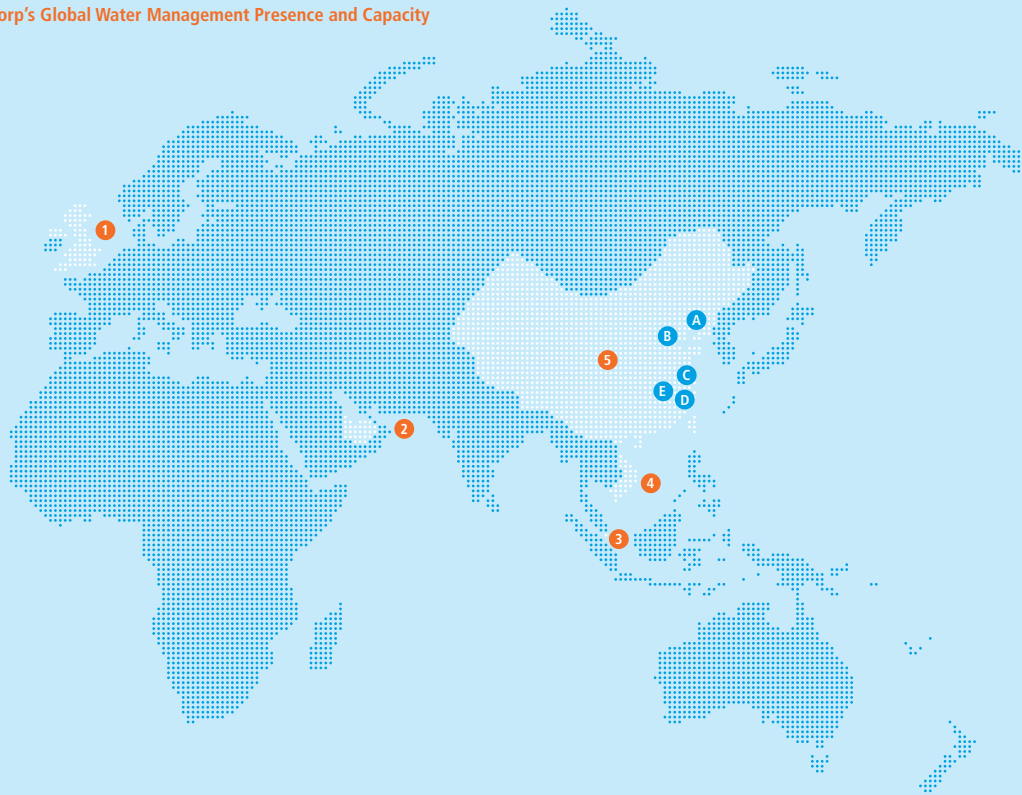
Key Products	Singapore	UK	China	Vietnam	UAE	Total
Industrial Wastewater Treatment						
Organic capacity (kgCOD/day)	57,284		131,775			189,059
Hydraulic capacity (m ³ /day)	7,968		113,000			120,968
Reclaimed Water (m ³ /day)	268,000		20,000			288,000
Desalinated Water (m ³ /day)					450,000	450,000
Potable Water (m ³ /day)		6,000	160,000			166,000
Water for Industrial Use						
Demineralised Water (m ³ /day)	32,360	48,000	28,080	1,920	7,200	117,560
Industrial Water (m ³ /day)			100,000			100,000
Raw Water (m ³ /day)		120,000				120,000
Chilled Water (m ³ /day)	19,872					19,872
Cooling Water (m ³ /day)	744,000					744,000
Seawater Cooling (m ³ /day)	1,920,000					1,920,000
Total Water Capacity (m³/day)	2,992,200	174,000	421,080	1,920	457,200	4,046,400

* Table includes current capacity and expansion as at Aug 2009

m³: cubic metres
kg: kilogram

COD: chemical oxygen demand

Sembcorp's Global Water Management Presence and Capacity



- 1. UK**
Wilton International, Teeside:
174,000 m³/day
- 2. UAE**
Fujairah: 457,200 m³/day
- 3. SINGAPORE**
Jurong Island: 2,764,224 m³/day
Changi: 228,000 m³/day
- 4. VIETNAM**
Phu My 3: 1,920 m³/day
- 5. CHINA**
 - A. Shenyang Economic & Technological Development Area: 160,000 m³/day
 - B. Tianjin Lingang Industrial Area: 10,000 m³/day
 - C. Zhangjiagang Free Trade Port Zone: 35,000 m³/day
 - D. Shanghai Chemical Industrial Park: 28,080 m³/day
 - E. Nanjing Chemical Industrial Park: 168,000 m³/day

WHERE WE ARE

OUR EXPANDING FOOTPRINT

From our home base in Singapore, Sembcorp has grown geographically. Our water operations currently span five countries. In China, we have operations in five cities. From these beachheads, we continue to explore opportunities in new markets.

Listed on the main board of the Singapore Exchange, Sembcorp is a component stock of the Straits Times Index and several MSCI indices. Besides water management, we also provide centralised utilities and energy to industrial and other customers. We are a global leader in marine and offshore engineering and also a provider of environmental and industrial park management services in the region.

The information in this booklet is correct as of July 31, 2009. More information may be found at www.sembcorp.com

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