sembcorp

Sembcorp PUB Public Private Partnership



Vital Partners
Essential Solutions

sembcorp

An Introduction To Sembcorp

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Group Structure

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Temasek Holdings 49.5%*

Public Shareholders 50.5%

Market cap** S$10.2 bn

100%	100%	60.6%*	Public Shareholders 39.4%

Sembcorp Utilities

Provides energy, water, and onsite services to customers including companies in energy intensive industry clusters as petrochemical and chemical hubs. The Utilities segment also provides solid waste management services

Sembcorp Development

Owns, develops, markets and manages urban developments comprising industrial parks as well as business, commercial and residential space in Vietnam, China and Indonesia

Sembcorp Marine

Market cap** S$10.4 bn

Offers a full spectrum of integrated marine and offshore engineering solutions from ship repair, shipbuilding, ship conversion, rig building & repair to offshore engineering & construction including topsides fabrication

* Direct and indirect holdings as at September 30, 2012. The percentage is calculated based on the number of issued shares excluding shares held as treasury shares
** Market cap for Sembcorp Industries and Sembcorp Marine as September 30, 2012

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Sustainable Earnings

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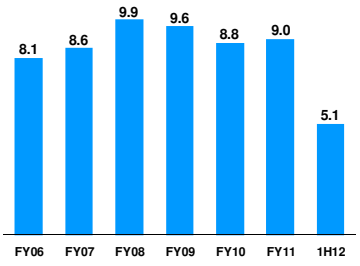
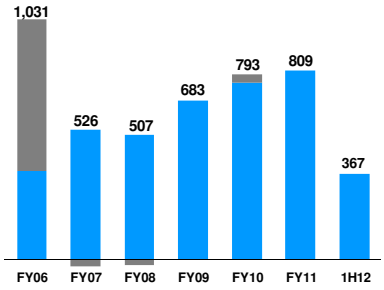
(S$bn)	06	07	08	09	10	11	1H12
Turnover	8.1	8.6	9.9	9.6	8.8	9.0	5.1

(S$m)	06	07	08	09	10	11	1H12
Net profit before EI	381	557	534	683	761	809	367
EI	650	(31)	(27)	-	32	-	-

Turnover
5-year (2006-2011)
CAGR: 2%



Net Profit before EI
5-year (2006-2011)
CAGR: 16%



Net Profit = Net profit attributable to shareholders of the Company
EI = Exceptional items
CAGR = Compounded annual growth rate

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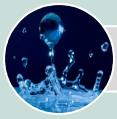
Positioned for the Future

GLOBAL TRENDS


Growing Energy Needs


Global Water Scarcity


Global Urbanisation


Increasing Environmental Awareness

OUR BUSINESSES


Energy


Marine


Water


Urban Development

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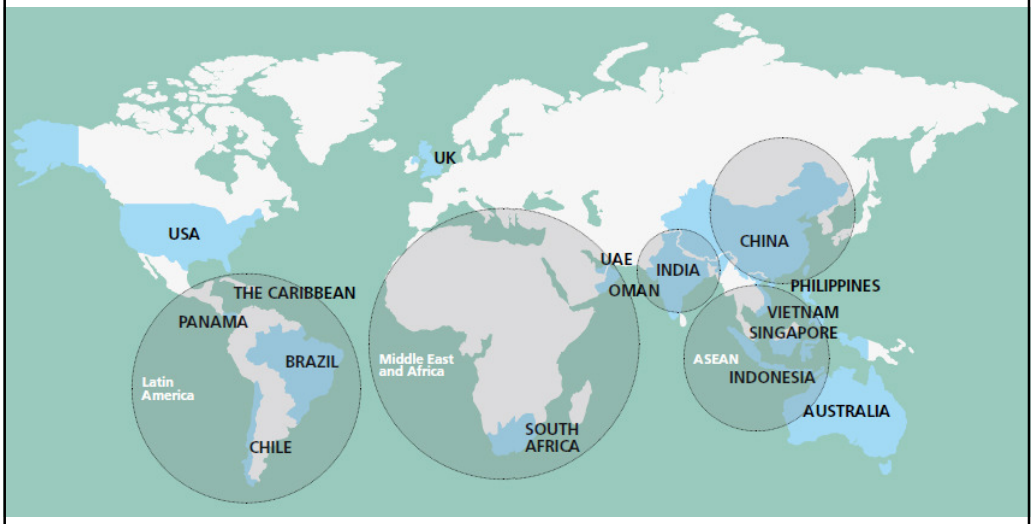
Our Global Footprint

Global Operations across 16 Countries in Six Continents

Well-Positioned in Fast-Growing Emerging Markets



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Utilities

+ Energy
+ Water
+ Solid Waste Management

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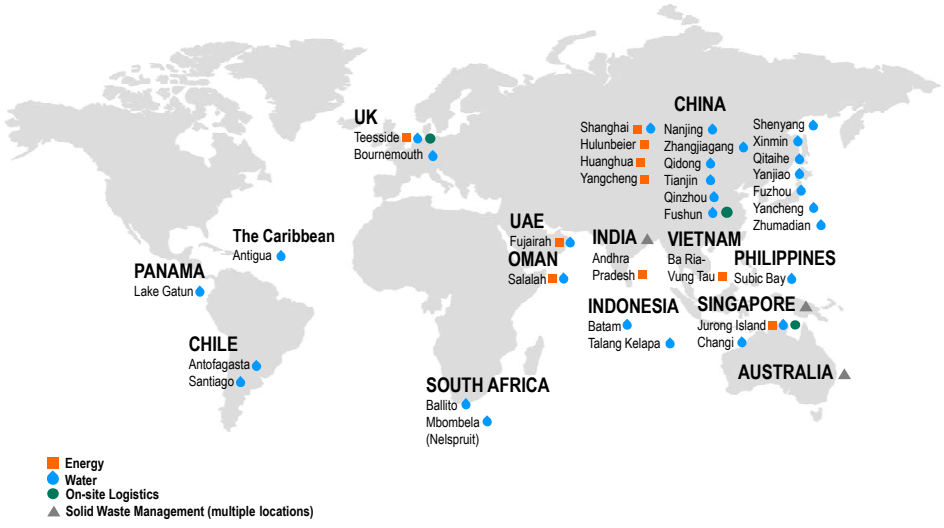
Utilities Global Footprint

Entrenched Position in Growing Markets



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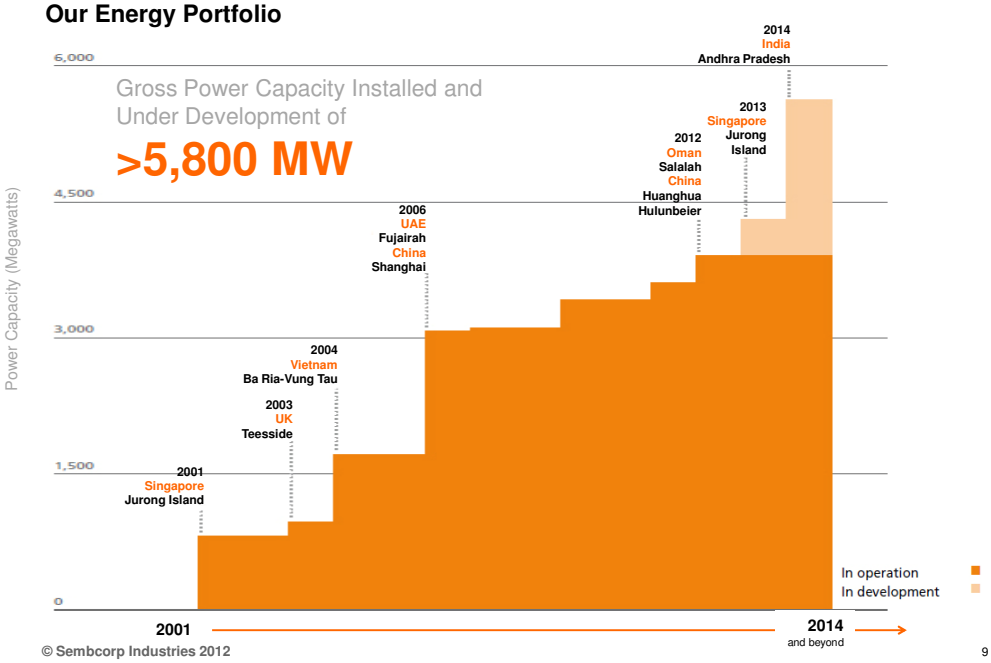
Strong Capabilities

Our Energy Portfolio



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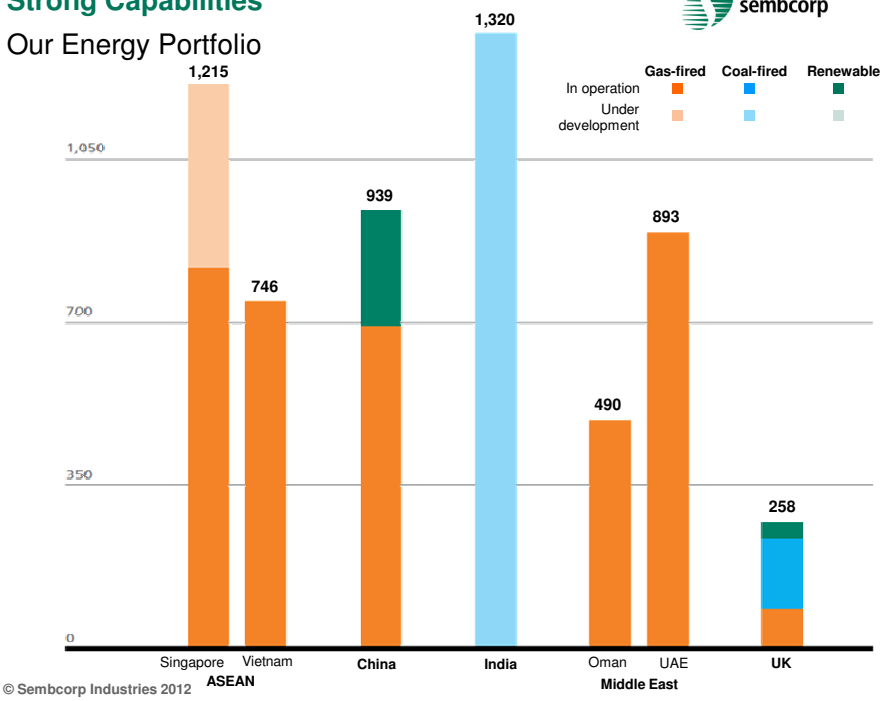
Strong Capabilities

Our Energy Portfolio



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Growing Renewable Energy Capabilities

Targeting a high-efficiency portfolio of thermal and renewable energy assets, with a growing component of low carbon capacity

Fuel Type	Facilities	Steam capacity	Power capacity
Biomass 	Sembcorp Biomass Power Station (UK) *COD: 2007*		35 MW
Energy- from-Waste (EfW) 	Sembcorp Woodchip Boiler Plant Phase 1 (Singapore) *COD: 2011*	20 tph	4 MW (equivalent MW)
	Sembcorp Woodchip Boiler Plant Phase 2 (Singapore) *COD: 2013*	40 tph	9 MW (equivalent MW)
	Energy from Waste Boilers (Singapore) *COD: 2014*	140 tph	31 MW (equivalent MW)
Wind 	China Wind Power Assets (China) *Acquisition completed in Sep 2012*		248 MW
Total			**327 MW**

From 39 MW to

327MW

of renewable energy capabilities

≈5%

of power and steam portfolio from renewables

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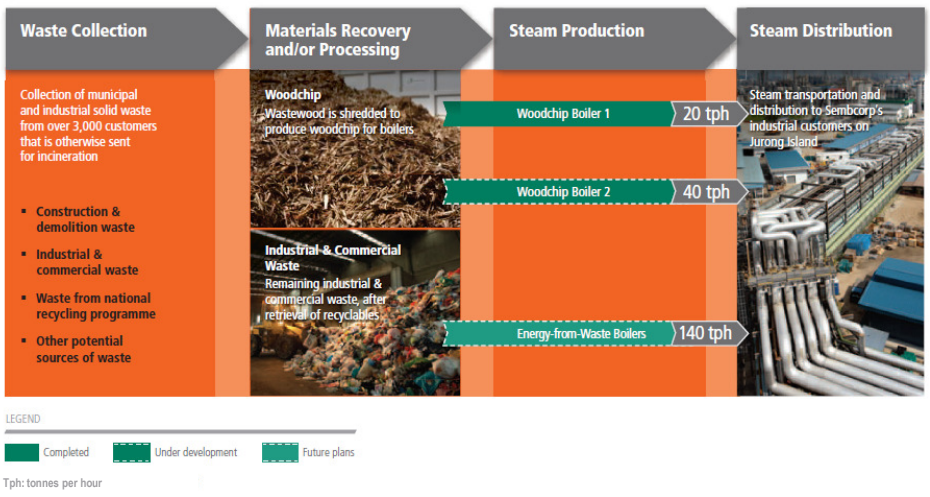
Growing Renewable Energy Capabilities

Sembcorp's Energy-from-Waste Value Chain



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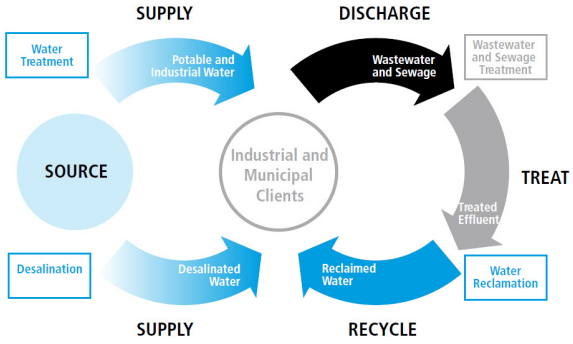
Strong Capabilities

A Water Player With A Difference

Winner of 2011 Global Water Intelligence (GWI) Global Water Awards "Water Company of the Year"



Total water & wastewater treatment solutions for industrial & municipal sectors:

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

Complete range of water products
Closed loop approach minimises discharge

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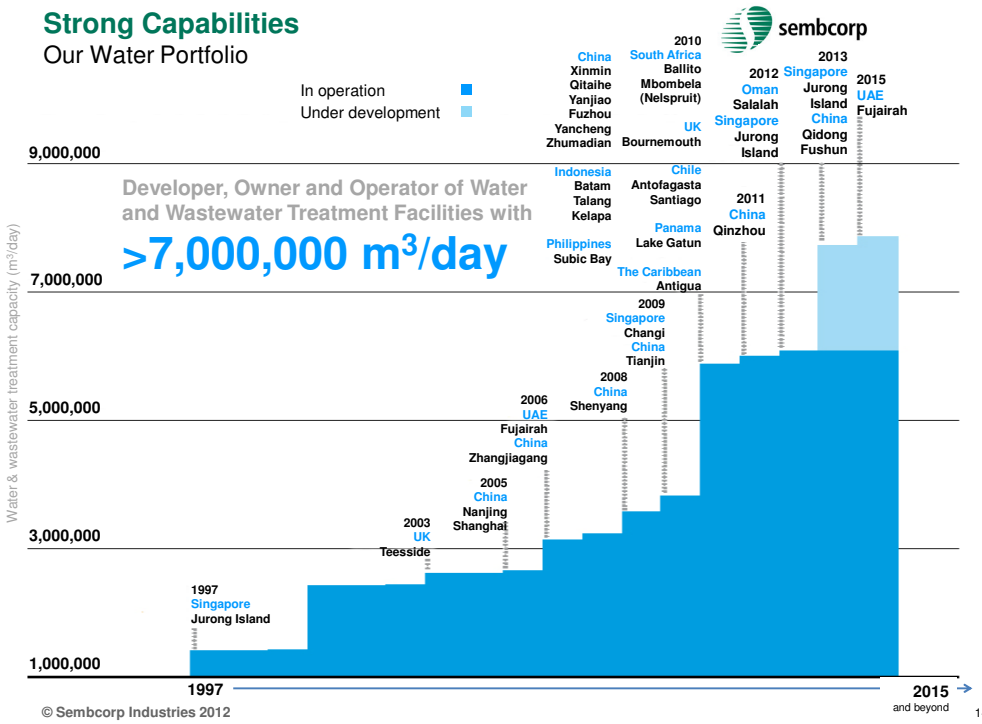
Strong Capabilities

Our Water Portfolio



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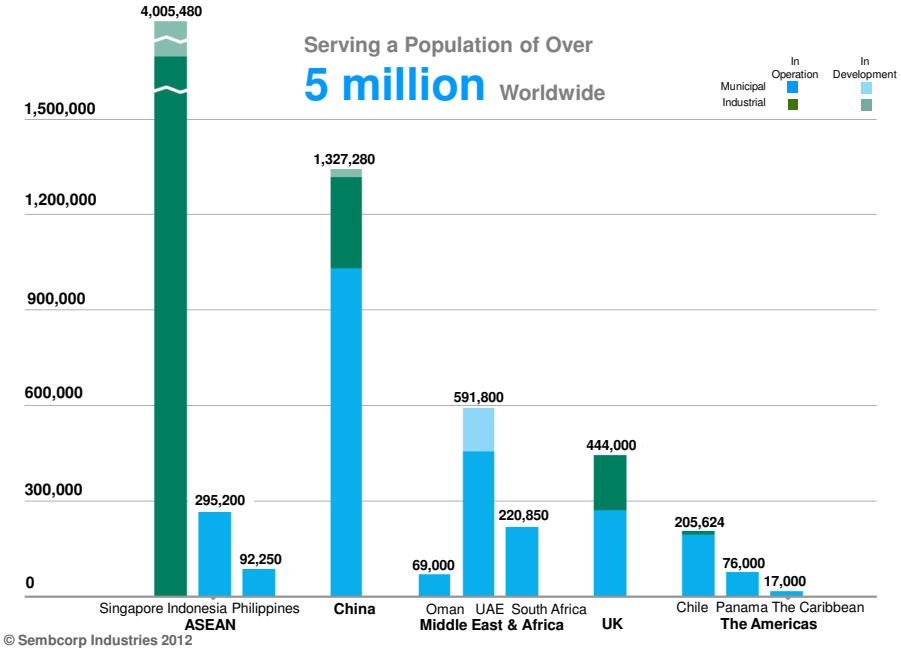
Strong Capabilities

Our Water Portfolio



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Leveraging Capabilities In Energy And Water

Multi-Customer Business Model

Bundled Offer Approach

Energy
- Power generation and retail
- Process steam production and supply
- Natural gas import, supply and retail



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

On-site Logistics and Services
- Service corridor
- Chemical storage and terminalling
- Asset protection
- Hazardous waste incineration
- Industrial gases

Industrial Site Customers

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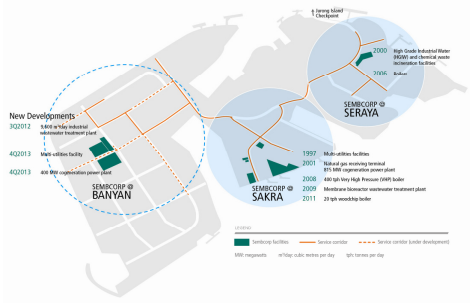
Leveraging Capabilities In Energy And Water

Jurong Island, Singapore

- 3,200 ha world class chemical hub in Singapore
- Sembcorp provides energy, water and on-site logistics and services to over 40 multinationals
- Operational since 1997
- Total project cost: S$2.5 billion (US$1.6 billion)



Sembcorp facilities Service corridor (under development)
Existing Service Corridor

Wilton International, UK

- 770 ha world class manufacturing site
- Sembcorp owns the site and provides energy, water and on-site logistics and services
- Operational since 1949
- Total project cost: £296 million (US$529 million)



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Solid Waste Management

Capabilities include:

- Collection and treatment of municipal, industrial & commercial, construction & demolition and bio-hazardous waste
- Recycling, resource recovery & composting
- Waste-derived fuel including woodchip production



>1.9 million
households and establishments served



>3.1 million
tonnes of waste collected per year



>430,000
tonnes of recyclables collected per year



>13,000
medical customers served

Focused on energy from waste to enhance competitiveness of businesses across the Group

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Marine

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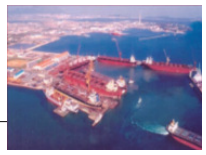
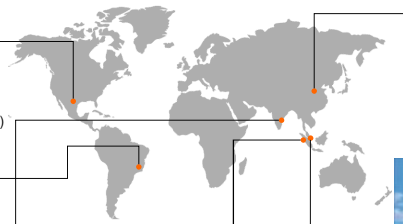
A Global Hub

Global Network Of Strategically Located Shipyards











USA
- Sembcorp-Sabine Shipyard (90 ha)

Brazil
- Estaleiro Jurong Aracruz (82.5 ha)

India
- Sembmarine Kakinada (31 acres)

CHINA
(Through COSCO shipyards with 2,045,000 dwt total dock capacity)
Dalian, Guangdong, Lianyungang, Nantong, Qidong, Shanghai, Zhoushan

SINGAPORE
- Jurong Shipyard (1,100,000 dwt, 68 ha)
- Sembawang Shipyard (775,000 dwt, 86 ha)
- SMOE* (25 ha)
- PPL Shipyard (20 ha)
- Jurong SML (62,500 dwt, 12 ha)
- New Yard Facility** (3,075,000 dwt, 206 ha)

INDONESIA
- PT SMOE Indonesia (69 ha)
- PT Karimun Sembawang Shipyard (31 ha)

dwt: deadweight tonnes; ha: hectares
* SMOE's facilities are located on the same plot of land as Sembawang Shipyard

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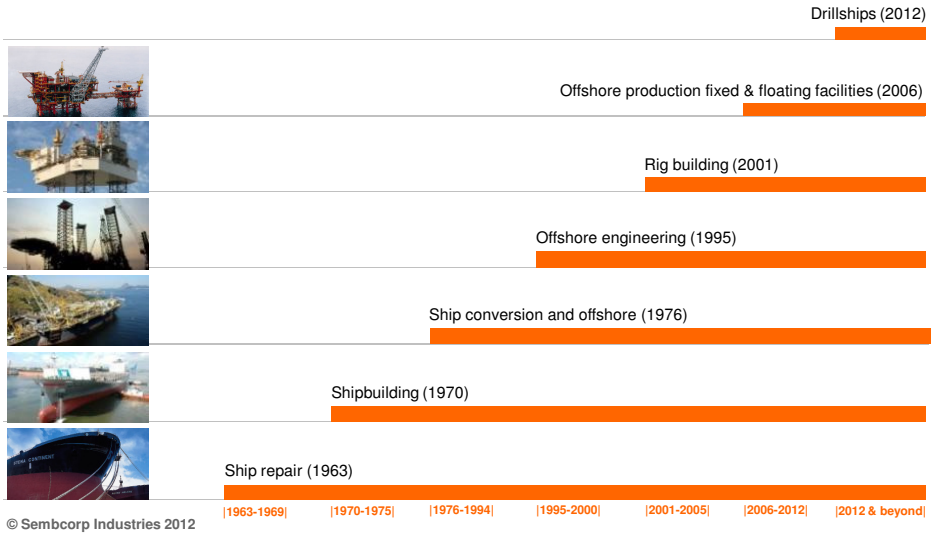
Growing And Expanding Our Business



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Urban Development

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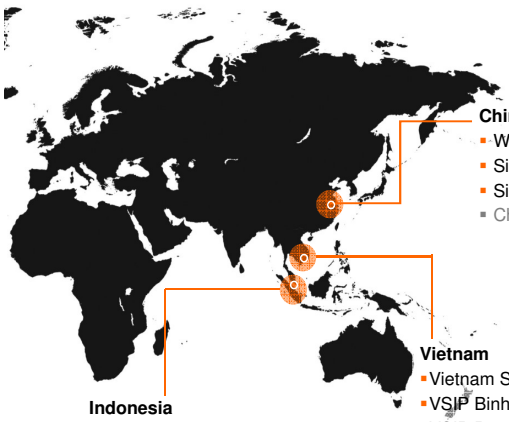
Our Regional Presence



China
- Wuxi-Singapore Industrial Park
- Sino-Singapore Nanjing Eco Hi-tech Island
- Singapore-Sichuan Hi-tech Innovation Park
- China-Singapore Suzhou Industrial Park*

Vietnam
- Vietnam Singapore Industrial Park (VSIP)
- VSIP Binh Duong Integrated Township & Industrial Park
- VSIP Bac Ninh Integrated Township & Industrial Park
- VSIP Hai Phong Integrated Township & Industrial Park
- VSIP Quang Ngai Integrated Township & Industrial Park

Indonesia
- Gallant Venture (listed on SGX)
  - Batamindo Industrial Park
  - Bintan Industrial Estate
- Kendal Regency Industrial Park
- Karimun Marine & Industrial Complex*

*Projects not managed by SCD

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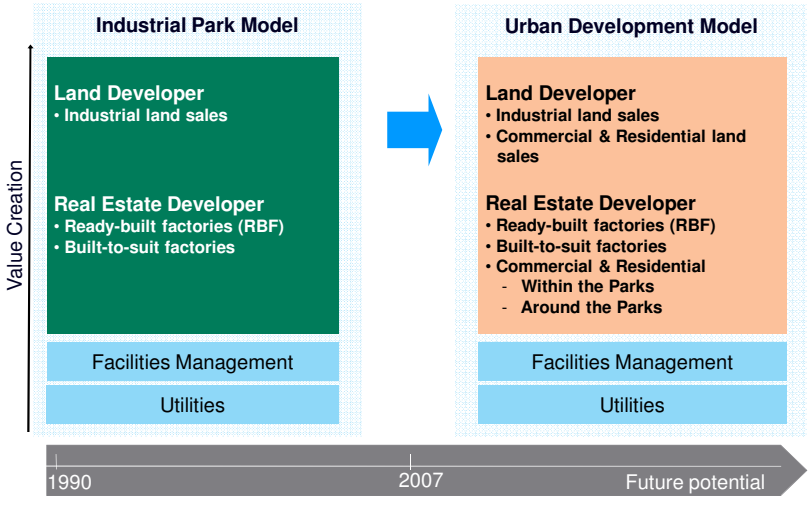
Sharpen Competitive Edge
Business Model



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Why PPP?

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Why PPP?

- Strategic Fit
- Complement our global total water solutions footprint
- Showcase our leadership in operational and integrated water solution provider expertise



- Opportunity for future collaborations across entire supply chain to reap technology and optimization benefits
- Diversity in different business models in different sectors increases Sembcorp Group experience and provides opportunities for continuous improvements through sharing via our global best practices network
- Enhances international and global organizational skills within the Group

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Sembcorp PUB PPP Commercial Structure

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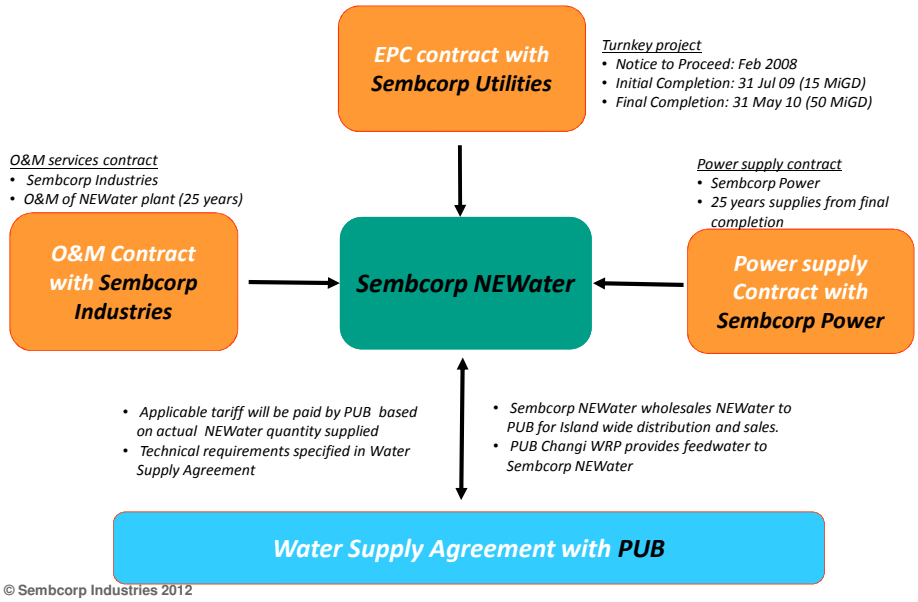
Contracts Structure



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Facilities Description

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Production of NEWater



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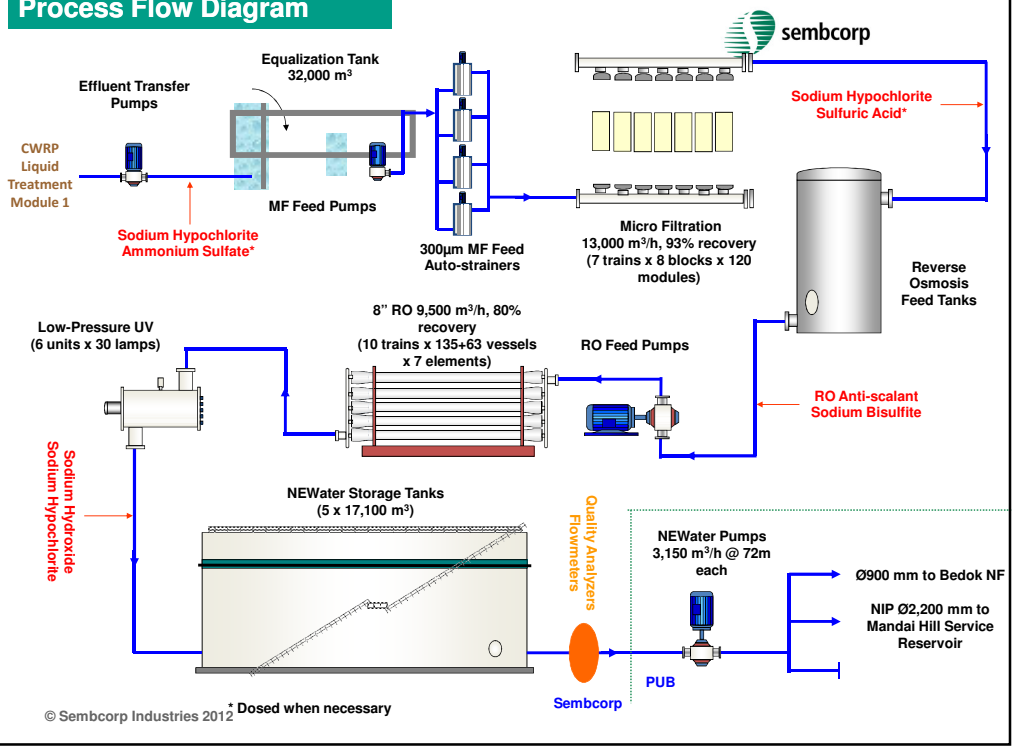
Process Flow Diagram



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Plant Layout - Architecture

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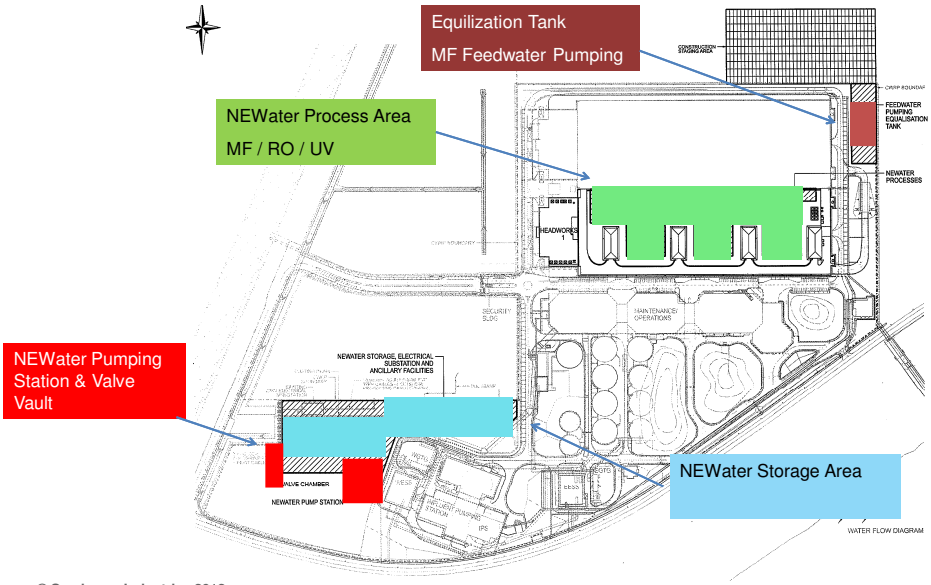
32

Plant Layout



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Feedwater Tank Inlet



Feedwater Source: ~300K M3/D
Secondary treated effluent from
PUB Changi Water Reclamation Plant

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Equalization and Diversion Tanks
L85m x W32m x H11m – 32K M^3



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Micro Filtration Feed Pump System
~ 4K M^3/H, 450KW, Variable Speed Drive



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Auto Strainer System
Amiad 20” Dia, 300 microns



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Micro Filtration Trains
Siemens Memcor, 7 trains x 8 Blocks x 120 modules
13K M^3/H, 93% Recovery



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Reverse Osmosis Trains
Toray, 9.5K M3/H, 80% recovery
10 trains x 135 vessels x 7 elements



© Sembcor

Ultra-violet Disinfecting System
6 units



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NEWater Storage Tanks
Dia 40M x H14.3M, 5 x 17K M^3



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NEWater Pumping Station
5 x ~3K M^3/H



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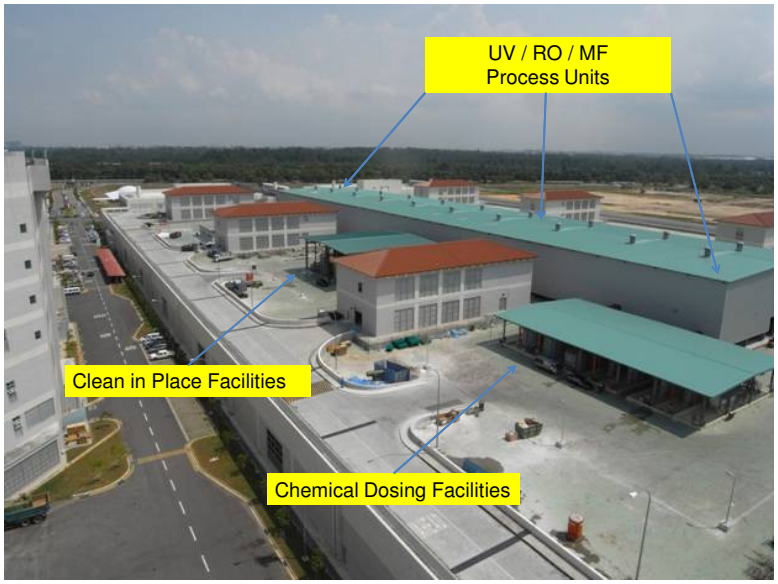
Process Plant Area



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PPP Critical Success Factors

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PPP – Critical Success Factors



- Long term contract with outputs defined
- Clear sharing and allocation of risks
- Performance based payment mechanism
- Rewards and costs sharing for continuous improvements

- Services Delivery Management not construction nor goods supply contract management
- Proactive and transparent plant information monitoring and sharing – collaboration attitude
- Relationship = Partnership (mentality must be actively cultivated with Senior Management sponsorship)



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Examples on Critical Success Factors

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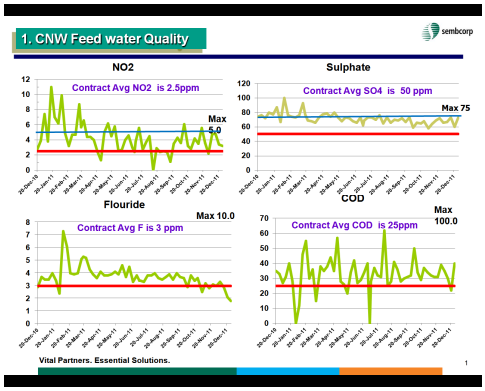
Some Examples of CSFs

- ✓ Long term contract with output defined
  - ❑ Sembcorp will provide innovative, essential and cost effective solutions (see our tag line)
- ✓ Clear sharing and allocation of risks
  - ❑ Each party assumes risks they are in best position to manage
- ✓ Rewards and costs sharing
  - ❑ Sembcorp will optimize but some technology needs piloting
- ✓ Services Delivery Management
  - ❑ Feedwater quality wide fluctuation task force
  - ❑ Proactive and open communication can be a very effective low costs solution too



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Some Examples of CSFs



- ✓ Relationship management
  - ❑ Proactively seek to improve on relationship
  - ❑ Assign the right people (flexible mentality)
  - ❑ Senior Management sponsorship (commit the resources)
  - ❑ Take the opportunity to Celebrate every success regardless of size
  - ❑ Proactively champion plant performance continuous improvements (seek common goals)

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Moving On – Next 20 Years

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Relationship Management is Key

- PPP is interdependent and long term in nature
- Step – in rights is good on paper and is lose – lose
- Build up partnership based on common ground – mutual benefits
  - Flexibility
  - Behaviors to support mutual respect and understanding
  - Transparent and open communications
  - Seek common goals

Coming together is a beginning; keeping together is progress; working together is success.



- Henry Ford

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