# **China Water and Environment (Positive)**

Flowing strongly

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# **NOMURA**

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# Positive in 2010F

### Pressing water shortages raise awareness of conservation

- Severe drought in southern Chinese provinces has threatened rice crops and reservoirs.
- Macau and Zhuhai rely on the Xijiang River in Guangdong, and they experience salt tides.

### ■ 12<sup>th</sup> Five-Year Plan to lend further support to the sector

- Continued focus on water conservation: bodes well for tariff hikes and privatisation, in our view.
- Investment of RMB700bn during 2011-15F (up from RMB330bn during 2006-10) in wastewater treatment industry is forecast by the Ministry of Construction.
- Opportunities in recycling water: target to recycle 10% of wastewater emission in urban area by 2015F, representing a CAGR of 24% from 2009.

### Tariff hikes should come in steeper and more widely

- Avg water tariffs in 36 major cities grew by 8%, from RMB1.7/m3 in Jun 2009 to RMB1.84/m3 in Jun 2010
- Chinese water tariffs only account for 0.8% of disposable household income.

### Wastewater treatment: maturing, but growth will be sustained

- As the market matures, capacity growth should slow to 8% pa from 2010F, compared with 11-16% in 2006-08, by assuming a wastewater treatment ratio of 90% by end-2015F.
- But we are not close to over-capacity, given third- and fourth-tier cities and counties are still showing wastewater treatment ratios of 30-50%, compared with 73% in urban areas in 2009 and 80%-95% in OECD countries.



#### ...continued

### Tap water supply remains a privatisation story

Management ability in M&A execution and track record are key success factors.

### Waste-to-energy is the next attraction

- Industry is still in its infancy, though proper legislation should open up opportunities.
- WTE should outshine other waste treatment projects in terms of capacity growth, at 17% CAGR versus 10% in overall waste treatment, given it has higher environmental standards and energy efficiency but accounts for less than 20% of China's residential waste currently being treated, compared with 80% from landfill sites.
- Defensive against rising commodity prices and inflation
- Risks: intensifying competition, rising interest costs
- Our stock-picking criteria and preferences
  - Search for company-specific strengths to identify outperformers in the sector solid track records and rich catalysts for growth in 2010-11F, followed by quality management, undemanding valuations, and healthy balance sheets.
  - Preferences for quality players: Guangdong Inv't (270 HK, BUY), China Everbright Int'l (257 HK, BUY).
  - Risks/rewards opportunities: Beijing Enterprises Water (371 HK, BUY), China Water Affairs (855 HK, BUY), Sound Global (SGL SP, BUY).
  - NEUTRAL on Hyflux (HYF SP) due to financial risks as overhangs.
  - Avoid Tianjin Capital Environmental (1065 HK, REDUCE).



# Valuation summary

			1	/alua	tion su	mmai	y of	stocl	ks ur	ıder c	ove	rag	е									
			Price		Market												Net d	ebt/ec	uity			
			target	Price	сар	Fiscal	l	P/E (x)	)	PEG	-	P/B (>	()	Υ	ield (%	6)		(%)		R	OE (%	)
Company	Ticker	Rating.	Curr. L	Curr.	US\$mn)	Y/E	09	10F	11F	09-11F	09	10F	11F	09	10F	11F	09	10F	11F	09	10F	11F
China Everbright Intl	257 HK	Buy	5.50	3.66	1,712	Dec	34.4	22.6	18.2	0.7	2.9	2.6	2.4	0.6	0.9	1.1	24	41	57	8.0	11.7	13.0
Guangdong Investment	270 HK	Buy	5.20	3.87	3,100	Dec	11.9	10.4	9.2	0.9	1.4	1.3	1.2	2.8	3.3	3.7	23	19	7	11.8	12.6	13.0
Beijing Enterprises Water	371 HK	Buy	3.80	2.49	1,374	Dec	48.2	20.2	16.7	0.1	3.3	2.9	2.4	n.a.	n.a.	n.a.	88	135	134	7.3	16.7	17.0
China Water Affairs	855 HK	Buy	3.80	2.83	483	Mar	26.6	22.7	18.5	0.2	1.0	0.9	0.9	1.8	1.9	2.0	48	50	48	3.7	4.4	5.1
Sound Global Ltd	SGL SP	Buy	1.10	0.74	654	Dec	17.1	12.0	9.2	0.5	2.8	2.3	1.8	n.a.	n.a.	n.a.	(80)	(80)	(70)	18.1	21.2	22.2
Hyflux Limited	HYF SP	Neutral	3.70	3.16	1,151	Dec	22.6	21.1	15.1	0.9	4.6	5.1	4.2	1.1	1.0	1.7	64	174	176	20.5	24.2	28.1
Tianjin Capital	1065 HK	Reduce	1.55	2.57	471	Dec	13.6	16.6	27.2	n.a.	1.0	1.0	1.0	3.5	2.8	1.7	78	41	38	7.4	5.9	3.5
Average							24.9	17.9	16.3		2.4	2.3	2.0	1.9	2.0	2.0	35	54	56	11.0	13.8	14.5

Note: Prices as of 13 September 2010; market cap figure for Tianjin Capital only includes H-share value; there are variances in the numbers above relative to those in the related company reports, given that the above table shows recurring and fully-diluted EPS, and EBITDA excludes profits from associates. Prices and price targets in local currency. Source: Nomura International (Hong Kong) Limited

- Guangdong Investment (270 HK, BUY) is our top pick defensive utility play with attractive valuations.
- China Everbright International (257 HK, BUY) is a quality player with a healthy balance sheet.
- Beijing Enterprises Water (371 HK, BUY) is exposed to emerging growth, but higher risks are seen in FY10F.
- China Water Affairs (855 HK, BUY) is set for capacity growth; value from landbank yet to be revealed.
- Sound Global Ltd (SGL SP, BUY) has made a successful switch to BOT; awaiting listing in HK.
- Hyflux (HYF SP, NEUTRAL) has financial risks as an overhang; recommend waiting for better entry points.
- Tianjin Capital Environmental (1065 HK, REDUCE) is still pending a tariff cut a major overhang on the stock.

# Water value chain

#### Water value chain

Fresh water resources

### Raw water distribution

#### Nature and return

Mainly involved in the transportation of raw water from natural sources to tap water supply plants
Also invest in raw water projects, e.g. water dams, reservoirs, long-distance transfer pipelines
Return controlled by government

#### Pros

Tariff is a natural pass-through to downstream

#### Cons

Huge capex and investment Less opportunities for privitization given raw water transportation involves social/safety concerns

#### Guangdong Investment

Shanghai Chengtou

## Tap water supply

#### Nature and return

Treatment and distribution of tap water.

Allowable ROE of 8% (unlevered) to 12% (levered)

Meter installation: Unregulated at 50%-70% GPM

Construction: Unregulated at 30% GPM

#### Pros

Beneficial to tariff hike
Margin expansion from reducing non-revenue water
(leakage) and SG&A cost
Unregulated return on meter installation
Ownership of assets (e.g. land and pipelines)
Regional monopoly and last mile to end-users
First hand exposure to receivables (end-user billing
and tariff collection)

#### Conc

Organic growth of  ${\sim}3\%$  p.a. by urbanization Limited visibility on acquisition growth (privitization of distressed SOE)

Usually more labor intensive

### Wastewater treatment

Discharge to rivers/sea

#### Nature and return

Usually operate under BOT/TOT arrangements
Local government is the only customer
Allowable ROE of 8% (unlevered) to 12%
(levered)

#### Pros

Strong visibility on capacity growth from new projects, due to under-penetration Warranted by IFRIC 12 accounting standard, recognizes non-cash income during construction period

#### Cons

Heavy regulatory risk, given wastewater treatment fee is heavily subsidized Limited operating leverage from tariff hike and cost reduction



Source: Nomura research

# Water quality classification

### **Quality classification of water resources**

Content	Measurement	Class I	Class II	Class III
Chrome	(degree)	15	20	30
Turbidity	(degree)	3	10	20
Total dissolved solids	(mg/L, CaCO3)	450	550	700
Iron	(mg/L)	0.3	0.5	1.0
Manganese	(mg/L)	0.1	0.3	0.5
COD	(mg/L)	3.0	6.0	6.0
Chlorate	(mg/L)	250	300	450
Sulfate	(mg/L)	250	300	400
Fluoride	(mg/L)	1.0	1.2	1.5
Arsenic	(mg/L)	0.1	0.1	0.1
Nitrate	(mg/L)	20	20	20
Total bacteria	(/mL)	100	200	500
Total coliform	(/L)	3	11	27

Source: State Environmental Protection Administration (SEPA)

### **Quality breakdown of treated wastewater**

(mg/L)	IA	IB	II	III
COD	50	60	100	120
BOD	10	20	30	60
SS	10	20	30	50
Fat	1	3	5	20
Petroleum	1	3	5	15
Anionic Surfactant	0.5	1	2	5
Nitrogen	15	20	-	-
Ammonian - temperature above 12'c (at or below 12'c)	5(8)	8(15)	25(30)	-
Phosphorus - on and before 31 Dec 2005	1	1.5	3	5
Phosphorus - from 1 Jan 2006	0.5	1	3	5
Chroma	30	30	40	50
PH	6~9	n.a.	n.a.	n.a.
Coli group (unit/L)	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>4</sup>	-

Source: SEPA

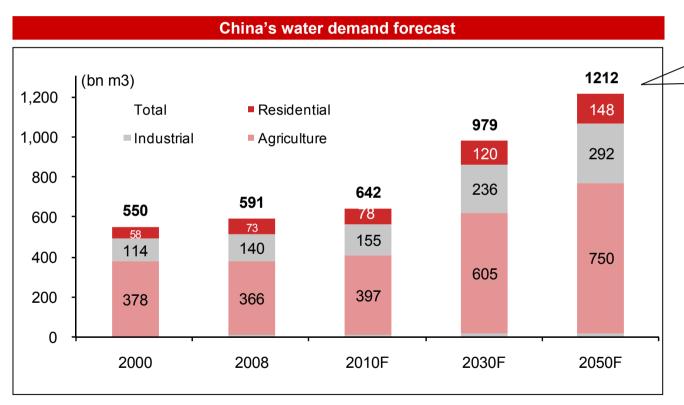
### Water hygiene standards by Ministry of Health

(Number of indicators)	Old rule	New rule
Micro-organism	6	10
Disinfectant	4	7
Inorganic compound	21	32
Organic compound	53	101
Physical	20	25
Radiation emittent	2	2
Total	106	177

Source: H2O-China

# Rising water demand

Demand for water is rising along with urbanisation and population growth



We forecast a CAGR of 1-3% over 2011-50F for China's urban water demand, in line with the Ministry of Construction estimates

Source: China Statistical Yearbook, Nomura estimates

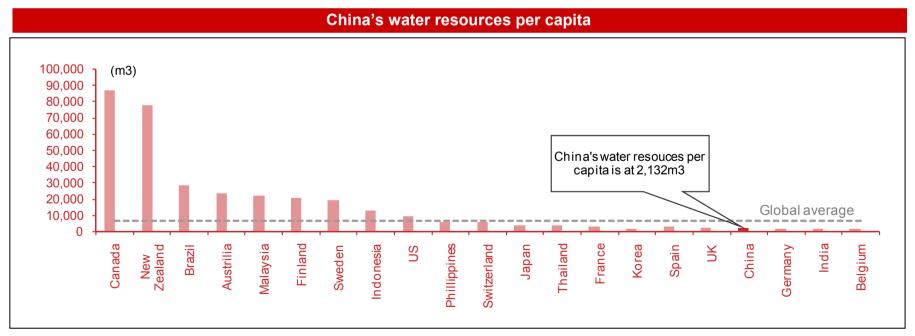
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# Severe water shortages in China

Water resource in China (2,132m³ per capita) is only 20% of the global average (6,624m³ per capita).

- Major cities short of water: Of the 660 cities in China, over 400 suffer water scarcity of 16mn m3 per day
   annual production value equivalent to RMB200bn
- Uneven water distribution: Per capita volumes in northern China are 1/5 of those in the south, hence some major cities in the north face more severe water shortages.

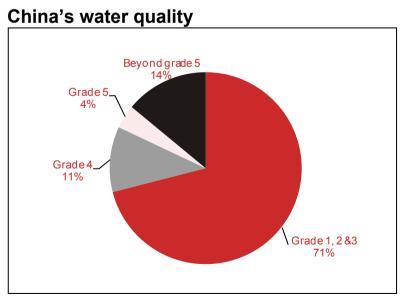


Source: World Bank

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# Water pollution exacerbating scarcity

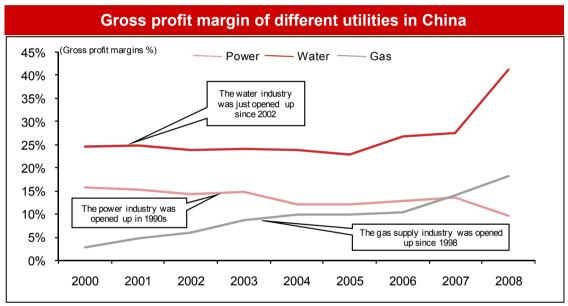
- About 50% of the country's wastewater is released into rivers and the sea without treatment.
- In FY08, 13.2mn tonnes of Chemical Oxidation Demand (COD) from industrial and residential water consumption are being discharged into China's rivers and the sea annually, in addition to 1.3mn tonnes of ammonia and nitrogen.
- SEPA states that out of 161 emergency incidents concerning the environment in 2006, 59% involved water.
- The World Health Organization (WHO) and SEPA suggest that water scarcity due to pollution costs China RMB95-199bn pa. Pollution-related scarcity is believed to be the cause of drought, which cost China another RMB25bn pa through loss of grain and other crops.
- Overall, the World Bank and SEPA estimate that water shortages, inefficient water usage, and pollution could cost 8-10% of the nation's GDP.

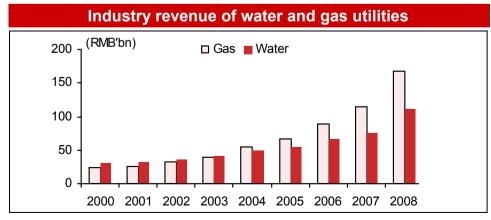


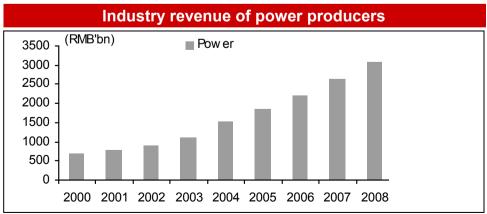
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# **Growth potential for China's water industry**

Profitability yet to be explored in China's "just-opened" water market



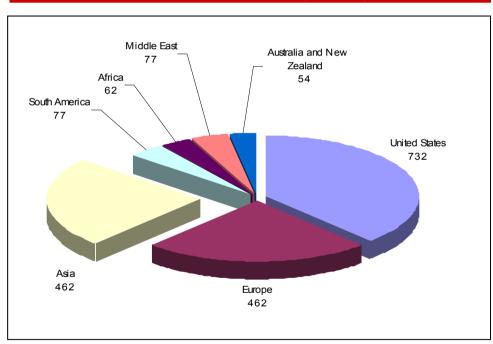




# **Growth potential for China's water industry**

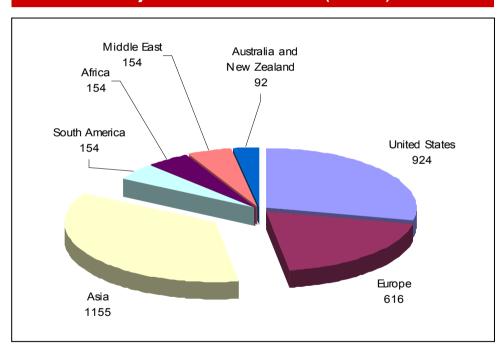
Water revenue in Asia is growing as a proportion of the global market

#### Water revenue in 2005 (RMBbn)



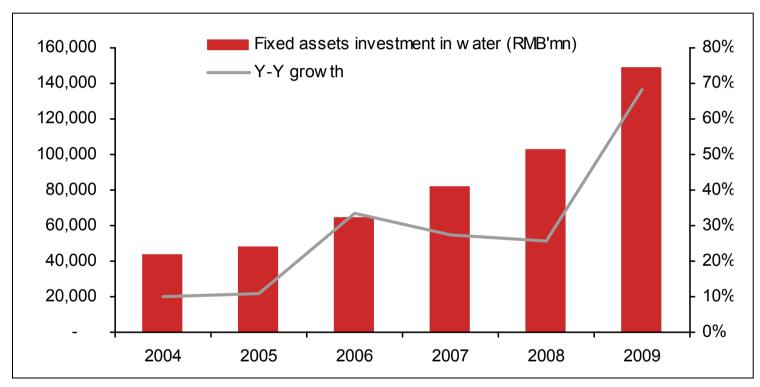
#### Source: GHD Consulting, for both 2005 and 2010F figures

#### Projected revenue in 2010F (RMBbn)



# **Growth potential for China's water industry**

### China's fixed asset investment in water



Source: CEIC

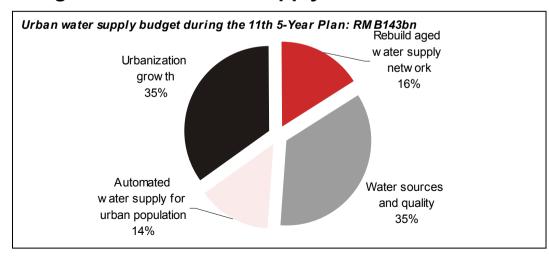
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# **Urban tap water supply**

### Growth opportunities in urban tap water supply

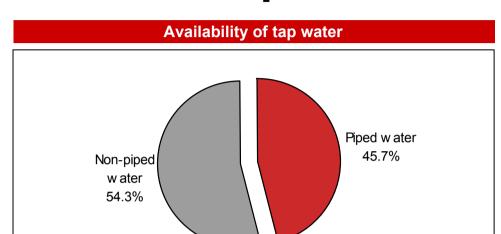
- Under-invested market the majority of tap water supply utilities are still held by the government.
- Under-penetration 54% of China's households are not connected to water pipelines and 74% are not equipped with proper bathing facilities, according to the China County Population Census.
- Basic water utilities are necessities in China's development plan, and demand is rising at a 1-3% CAGR, in line with the Ministry of Construction's long-term growth forecast.
- Strong government support RMB143bn will be spent on urban water supply over 2006-10, and we expect more from the 12<sup>th</sup> Five-Year Plan (2011-2015), which will include a focus on environmental protection.
- Change in water usage habits through urbanisation.

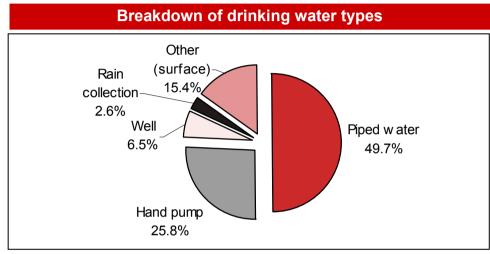
### Budget for urban water supply under the 11th Five-Year Plan (2006-10)



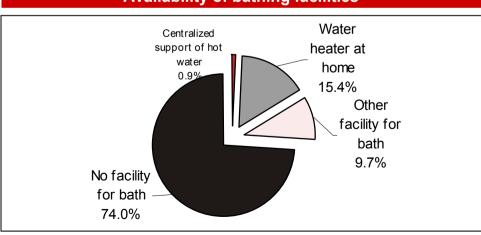
Source: Ministry of Construction

# Poor water penetration in China

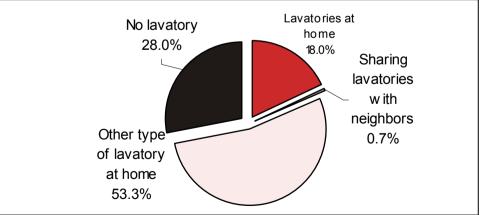




#### Availability of bathing facilities



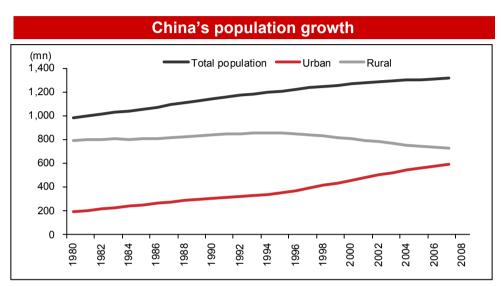
Availability of lavatories



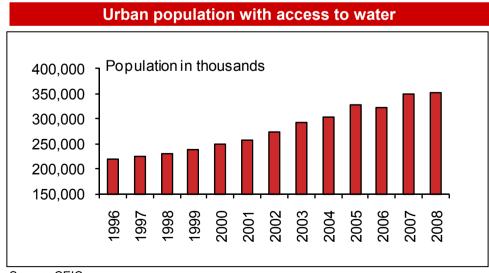
Source: China County Population Census, Third National Health Services Survey

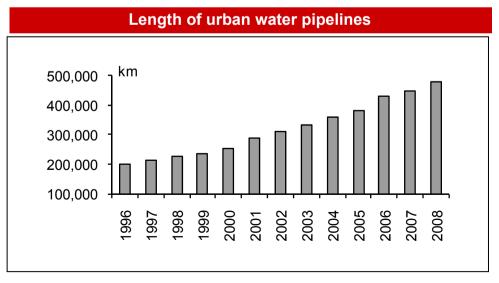
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# Organic growth by penetration and population









Source: CEIC © Nomura International (Hong Kong) Limited

# Change in water usage habits

### Urbanisation should change water usage habits

- Chinese residents consume only 15-20 litres of fresh water per day, according to Ministry of Water Resources, since: 1) a large proportion of the rural population does not have stable water supply; and 2) China has only recently built up infrastructure for heavy water use.
- This compares with 150-300 litres/day in developed countries and 20-100 litres/day in developing countries, according to UNESCO. A conventional toilet flush consumes 10-15 litres, while a shower consumes 15-35 litres per minute and a full bath would use 150 litres.

#### Water consumption in developed countries (by activity)

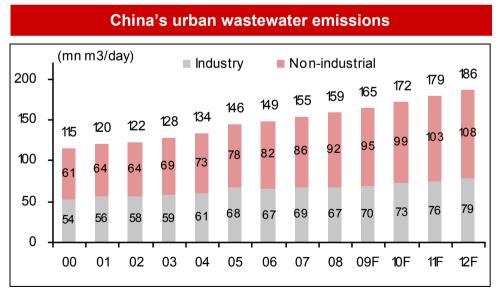
Activities	Litres used
Toilet flushes	10 - 15
Shower (per minute)	15 - 35
Bath (full tub)	150
Laundry machine (full load)	160 - 220
Dishwasher	25 - 55
Dishwashing by hand (tap running)	110
Shaving (tap running)	20 - 30
Brushing teeth (tap running)	10 - 30

Source: GWN Water

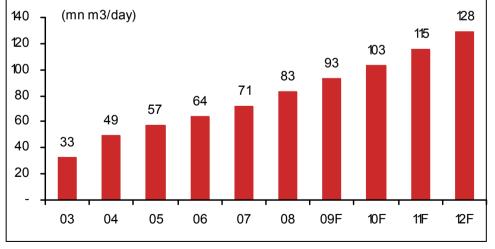


# Sewage treatment also in great demand

- Unlike urban water supply, which has existing infrastructure, wastewater treatment is still in the development stage and far behind the government's 11th Five-Year Plan target. We see significant near-term growth potential, given the following:
  - Severe under-investment and under-penetration.
  - Environmental pollution under current conditions.
  - Many cities still lack a full sewage pipeline network.
- Investment of RMB700bn during 2011-15F (up from RMB330bn during 2006-10) in wastewater treatment industry is forecast by "The Water Market", a magazine published by the Ministry of Construction.



China's wastewater treatment capacity



Source: SEPA

# Wastewater treatment slowing in 2011-15F

- Capacity ramp-up looks on track to meet the government's 2010 target, given the Ministry of Construction estimates the wastewater treatment ratio in urban cities would reach 73% in 2009, according to Chinese Enterprises News (7 January, 2010), implying capacity growth of 16%, on our estimates.
- If we assume urban China attains a wastewater treatment ratio of 90% by end-2015F, compared to the 75% target set for end-2010F, we see capacity growing at ~8% pa during this period slower than the 11-16% seen in 2006-2008.
- But we are not close to over-capacity, given third- and fourth-tier cities and counties are still showing wastewater treatment ratios of 30-50%, compared with 73% in urban areas in 2009.

#### Residential wastewater emission and capacity matrix (urban cities)

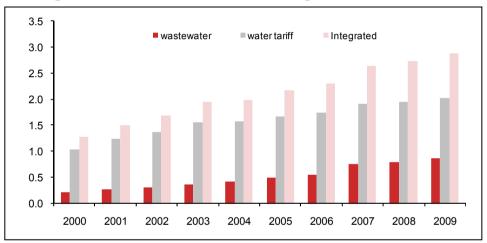
Urban area   residential wastewater	2003	2004	2005	2006	2007	2008	2009F	2010F	2011F	2012F	2013F	2014F	2015F
Wastewater emission (bn m3/year)													
Industrial	21.2	22.1	24.3	24.0	24.7	24.2	25.2	26.2	27.3	28.4	29.5	30.8	32.0
Non-industrial	24.7	26.1	28.1	29.7	31.0	33.0	34.4	35.8	37.2	38.8	40.3	42.0	43.7
Total	45.9	48.2	52.4	53.7	55.7	57.2	59.5	62.0	64.5	67.1	69.9	72.8	75.7
Emission growth (%)	4.6%	5.0%	8.7%	2.4%	3.7%	2.7%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
Treatment capacity (mn m3/day)	32.8	49.1	57.3	63.7	71.5	83.0	96.5	103.2	111.8	120.8	130.4	140.6	151.5
Capacity growth (%)	n.a.	49.6%	16.5%	11.2%	12.2%	16.1%	16.4%	7.0%	8.3%	8.1%	8.0%	7.8%	7.7%
Utilization/efficiency factor (x)	0.6	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Wastewater treatment ratio (%)	42.1%	43.6%	48.4%	57.9%	62.8%	65.3%	73.0%	75.0%	78.0%	81.0%	84.0%	87.0%	90.0%

Source: National Bureau of Statistics, Xinhua News

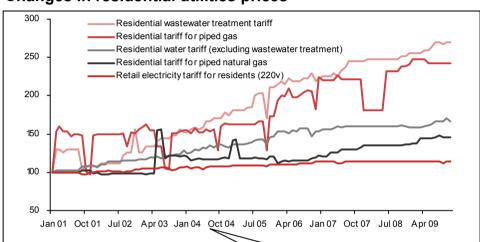
# Water tariffs on an uptrend

Water tariffs of 36 major cities grew by 8%, from RMB1.7/m3 in Jun 09 to RMB1.84/m3 in Jun 10

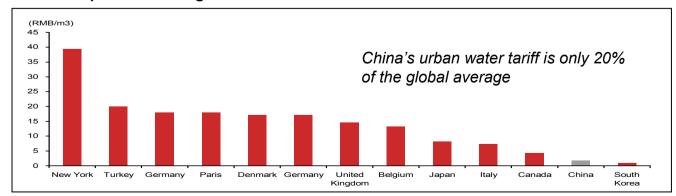
#### Average water tariffs in China's 100 largest cities



#### Changes in residential utilities prices



#### Tariff comparison among different countries/cities



China's water tariffs account for only 1% of average household disposable income, versus 2-8% for electricity bills and 3% recommended by the Ministry of Housing as an effective benchmark to reflect water conservation

Source: H2O-China, NUS Consulting, International Trade Administration

# Some water tariff hikes since January 2009

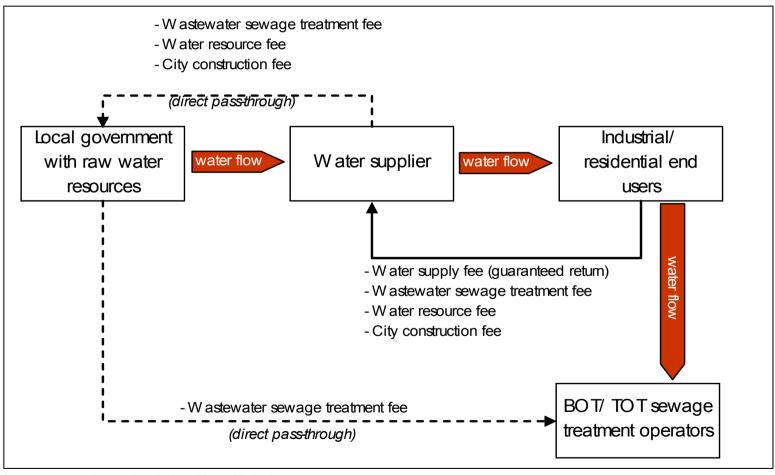
Unit: RMB/m3	Before	After	% of changes	Effective date
Guangzhou, Guangdong				
Waste water treatment				
		0.9 (water consumption under 22 m3)	28.6	
Residential	0.70	1.2 (water consumption within 23-30 m3	71.4	
		1.5 (water consumption above 30 m3)	114.3	
Industrial	0.70	1.40	100.0	1-Jan-09
Administration	0.70	1.20	71.4	
Business	0.70	1.40	100.0	
Sepcial industry	0.70	1.90	171.4	
Zhanjiang, Guangdong				
Waste water treatment fee				
Phase 1	0.61	0.71	16.4	1-Mar-09
Phase 2	0.71	0.86	21.1	1-Dec-09
Phase 3	0.86	1.00	16.3	1-Dec-10
Integrated water tariff				
Residential	2.05	2.18	6.3	
Industrial	2.28	2.41	5.7	
Business	3.20	3.33	4.1	1-Dec-09
Administration	2.30	2.43	5.7	1-Dec-09
Special Industry	4.04	4.17	3.2	
Integrated	2.32	2.45	5.6	
Nanjing, Jiangsu				
Residential				
- Tap water supply	1.14	1.24	8.8	
- Waste water treatement	1.10	1.30	18.2	
- Water resource fee	0.20	0.20	-	1-Apr-09
- City development surcharge	0.06	0.06	-	
Total	2.50	2.80	12.0	
Total	2.80	3.10	10.7	End 2010
Tianjin				
Residential	3.40	3.90	14.7	
Industrial	6.20	6.70	8.1	
Business	6.20	6.70	8.1	1-Apr-09
Administration	6.20	6.70	8.1	
Special industry	20.60	21.10	2.4	
Shanghai				
Residential				
- Tap water supply	1.03	1.33	29.1	
- Waste water treatment	0.90	1.08	20.0	20-Jun-09
Integrated	1.84	2.30	25.0	1
- Tap water supply	1.33	1.63	22.6	
- Waste water treatment	1.08	1.30	20.4	20-Nov-10
Integrated	2.30	2.80	21.7	
Shenzhen, Guangdong				
Industrial	2.25	3.3-3.6	46.67-60	Unknown
Residential	1.90	2.5-2.6 (water consumption under 22 m3)	31.58-36.84	Unknown

Unit: RMB/m3	Before	After	% of changes	Effective date
Lanzhou, Gansu				
Residential	1.45	1.75	20.7	
Administration	1.76	2.50	42.0	
Business	2.50	2.80	12.0	1-Nov-09
Industrial	1.90	2.53	33.2	
Special business	10.00	15.00	50.0	
Chifeng, Inner Mongolia				
Waste water treatment	0.25	0.60	140.0	1-Mar-09
Beijing				
Residential				
- Tap water supply	1.70	1.70	-	
- Water resource fee	1.10	1.26	14.5	22-Dec-09
- Waste water treatment	0.90	1.04	15.6	22-Dec-09
Total	3.70	4.00	8.1	
Anqing, Anhui				
Residential	0.96	1.20	25.0	
Industrial	1.15	1.30	12.7	
Business	1.62	1.62	-	1-Dec-09
Administration	1.14	1.44	26.3	
Special industry	1.73	2.30	33.1	
Ningbo, Zhejiang				
Phase 1				
Residential	2.20	2.75	25.0	
Business	4.30	5.30	23.3	1-Dec-09
Industrial	5.10	6.10	19.6	
Special business	10.80	10.80	-	
Phase 2				
Residential	2.75	3.20	16.4	
- Tap water supply	2.10	2.40	14.3	
- Waste water treatment	0.65	0.80	23.1	
Business	5.30	5.95	12.3	
- Tap water supply	3.50	4.15	18.6	
- Waste water treatment	1.80	1.80	_	1-Jul-10
Industrial	6.10	6.75	10.7	
- Tap water supply	3.50	4.15	18.6	
- Waste water treatment	2.60	2.60	-	
Special business	10.80	12.80	18.5	
- Tap water supply	9.00	11.00	22.2	
- Waste water treatment	1.80	1.80	-	
Yangzhou, Jiangsu	1100	77.00		
Tunganoa, olangoa	2.57	2.77	7.8	End 2009
		3.0 (water consumption under 22 m3)	8.3	L110 2000
Residential	2.77	4.5 (water consumption within 23-30 m3)	62.5	End 2010
	<sup></sup> '' ⊢	6.0 (water consumption above 30 m3)	116.6	L110 20 10
Shenyang, Liaoning	<b>.</b>	c.c (water consumption above 50 mo)	110.0	
Residential	1.90	2.40	26.3	Unknown
เงอเนอกแตเ	1.50	2.40	20.3	OHKHOW

Source: People's Daily

# Water tariffs overview

#### Water tariff collection

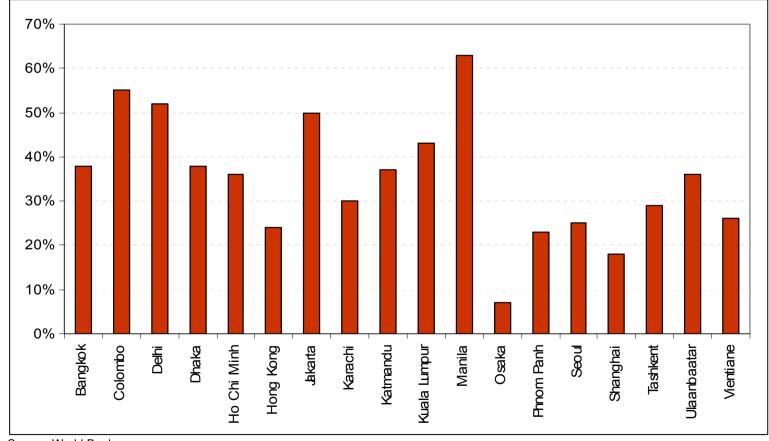


Source: Nomura International (Hong Kong) Limited

# Non-revenue water

### China's non-revenue water exceeds 20%, according to government officials

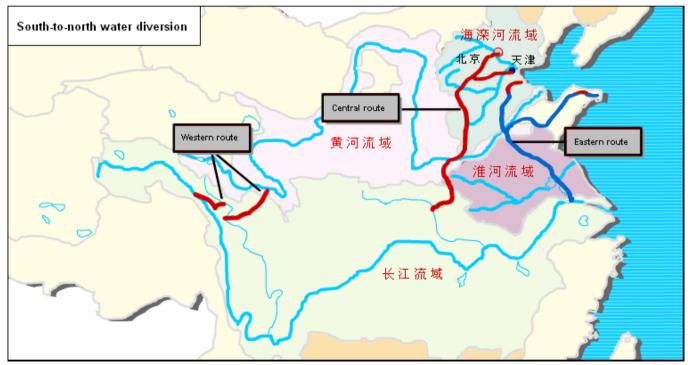
- Singapore: non-revenue water declined down from 10.6% in 1989 to 5% in 2000.
- Developed countries: generally at 7-9%.



Source: World Bank

# South-to-north water diversion project

- Eastern route will involve diversion of water from the lower reaches of the Yangtze River to Shangdong province, Tianjian municipality and the eastern part of Hebei province.
- Central route will divert water from the Hanjiang river, a tributary of the Yangtze river, to Beijing and Tianjin, as well as Hebei and Henan provinces.
- Western route will divert water from the Dadu, Yalong and Tongtian Rivers, to the upper reaches of the Yellow River, and is expected to increase water supply to the Ninxia Hui Autonomous Region, the Inner Mongolia Autonomous region and Shaanxi province.



Source: Bureau of South to North Water Transfer of Planning Design and Management



# Water industry reforms

### Regulatory changes in the water industry

Date	Particulars Particulars Particulars Particular Particul
Prior to 1985	Water in China was provided as national welfare, where the use of water was meant to be "costless".
1985	The National Council issued a policy to establish connection between tariffs and costs of water supply. Consequently, most provinces and municipals individually developed local pricing schemes on
	water tariffs, and water was no longer a free good. However, water tariffs remained at bottom levels and governmental entities experienced severe debt collection problems from end users.
1993-1994	The Ministry of Water Resources and the Pricing Bureau drafted the Water Tariff Management Scheme and submitted to the National Council in 1994 for approval. The approval process was enduring as parties involved contributed comments and prompted for further amendments, and so the tariff scheme was left pending for final approval.
1998	On September 23, 1998, the Ministry of Construction enacted the City Water Supply Pricing Scheme (Issuance [1998]1810) to introduce two-tier and progressive pricing methods, which scientifically
1000	defined water tariff calculations applicable to city water supply operations for the first time. Details are summarized as follows:
	Two-tier pricing - Water tariffs comprised two components, i.e. capacity and measurement charges. Capacity charge is defined to compensate initial fixed asset costs incurred when water supply
	was first setup, such as pipeline infrastructures, water treatment facilities and other initial setup costs. Measurement charge is defined to recover operating and subsequent maintenance costs. This pricing method is targeted for non-residential users.
	Progressive pricing - Water tariffs are defined by (1) water usage, (2) quality improvement, and (3) market conditions, weighted by coefficients of 1 to 1.5 to 2, respectively. This pricing method is
	targeted for residential water users.
	Guaranteed return - city water suppliers are entitled to operate at a return on equity (after tax) of 8%-10%, with a maximum of 12% under leveraged businesses.
	Debtor risk - Water suppliers can shut down water supply in the event of end-users who are unable to repay tariffs for two months and beyond.
2000	At the 10th National 5-Year Plan, recommendations have been made to view water as a commercial product, and prices should be set according to its scarcity.
2002	Revision on Water Resources Law. Water consumption will be charged based on the actual amount of water consumption, and the progressive water tariff system will be executed if users exceed their
	water quotas.
April 2002	"Further Improvement of City Water Supply Pricing Scheme" jointly enacted by the NDRC, Ministry of Finance, Ministry of Construction, Ministry of Water Resource, and Ministry of Environmental Protection.
	To introduce ladder water tariff for tap water supply, levy wastewater treatment tariff nationwide, and encourage privatization/commercialization of water utilities in large and medium cities.
2003~ 2005	The "One Household, One Water Meter" policy issued by the NDRC, Ministry of Construction, and related governmental bodies.
2004	On January 1, 2004, the Water Tariff Management Scheme was finally approved and enacted jointly by the NDRC and Ministry of Water Resources to reform pricing on water resources fee (the cost of
	water resources that is collected from end-users and passed through to the government). This policy ensures water exploitation projects and construction work relating to water resources obtain reasonable returns. Details are summarized as follows:
	For agricultural use - water resources fee is defined to recover cost of production with no mark-up for profits.
	For non-agricultural use - water resources fee is defined to provide a return on equity (after tax) of 2%-3% above the interest rates used in long-term loans suggested by domestic commercial banks.
	Sewage tariff - Sewage tariff is collected along with water supply tariff, but calculated and approved separately.
2006	NDRC announced the pricing basis of water supply companies. Urban water supply tariff comprises water manufacturing costs, transportation costs, and SGA expenses.
2007	State Council published working plans in "Energy savings and pollution reduction".
	Urban sewage treatment- increase urban wastewater treatment capacity by 45mn ton under the 11th Five-Year Plan, and bring urban sewage treatment ratio above 70%.
	Seawater desalination - increase seawater desalination daily capacity by 70k m3 in 2007, and up by 900k m3 during 11th Five-Year plan.
	Urban sewage treatment fee - set a national benchmark for wastewater treatment tariff at RMB 0.8/m3

Source: Nomura research



# Water industry reforms

### **Comparison of new and old Water Resources Laws**

New Water Resource Law (2002)	Old Water Resource Law (1988)
<b>Article 7</b> : The state will establish a water abstraction permit system, and anyone who consumes the water resource shall pay accordingly for this usage.	Article 32: the state will establish a water abstraction permitting system.
<b>Article 12</b> : The State Council's Ministry of Water Resources shall be in charge of the unified administration of water resources throughout the entire country.	<b>Article 9</b> : The state shall carry out a system of unified administration on water resources in association with administration at various levels and by various departments.
<b>Article 30</b> : The Ministry of Water Resources should consider maintaining the flux in rivers, the water level in lakes and water reservoirs, and the water table of groundwater at a reasonable level and should consider maintaining the self-purification capability for water bodies when drafting the development and utilization plan of water resources.	No corresponding rules
<b>Article 49</b> : Water consumption will be charged based on the actual amount of water consumption, and the progressive water tariff system will be executed if users exceed their water quotas.	No corresponding rules

Source: US Department of Commerce, International Trade Administration

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# Favourable government policies

### **Targets under the 11<sup>th</sup> Five-Year Plan**

Event	Details	Remarks
China's National 11th Five-Year Plan (2006- 2010)	<ol> <li>Increase penetration of water supply to serve 100 million people in rural areas by 2010. Currently, 250 million people in rural areas do not have safe drinking water supply.</li> <li>Increase wastewater treatment ratio to 70%.</li> </ol>	According to State Council directives, plans for water-treatment facilities should be included in local government budgets as capital construction.
	3. Increase urban water supply capacity by 40 billion m3 annually.	
	<ol> <li>Project to spend RMB470bn for water improvement (Rmb330bn for sewage improvement) during 2006-10, with the majority of this to come from foreign investment</li> </ol>	
	5. Reduce water consumption per unit of GDP figure by 20%.	

Government authority	Details	Remarks
Pipeline Reconstruction Policy issued by the Ministry of Construction and NDRC	<ol> <li>Reduce leakages by 5%, which would reduce non-revenue water by 1 billion m3</li> <li>Improve water service stability and hygienic conditions of water pipelines</li> <li>Restore even water pressure over pipelines to reduce bottleneck</li> </ol>	This policy encourages municipal governments and water companies to raise investments for the replacement and addition of new pipelines, and provides an allowance to raise water tariffs in order to recover additional investment costs.
	<ul><li>problems</li><li>Increase water supply penetration by 5%, benefiting a population of 229 million (non-agricultural population is 159 million)</li></ul>	

Source: NDRC, Ministry of Construction

# Favourable government policies (cont'd)

### Recent policies to counter pollution

Government authority	Details
Ministry of Construction	1. In July 2007, the ministry stated that about 42% of cities in China are without sewage treatment capabilities. A policy was set to achieve certain national targets by 2010, such as achieving a waste-water treatment rate of above 70% (major cities: above 70%; smaller towns and suburb areas: 30%–60%), adding sewage capacity of 45 mn m3, and increasing the use of recycled water by 3.5bn m3.
	<ol> <li>In Jan 2008, the Ministry of Water Resources approved a plan to spend RMB33bn to raise water quality for 2008, which was 40% more than original budget.</li> </ol>
State Environmental Protection Administration (SEPA)	<ol> <li>In Jan 2008, SEPA stated it aimed to reduce COD (chemical oxygen demand), a measure of water pollution, by 5% from its 2005 level.</li> <li>Authorities will step up the country's waste water treatment capacity by 12mn tons in 2008, with the aim of making sure all waste water in 36 major cities is treated by end-2009.</li> </ol>

Source: NDRC

# China's RMB4tn stimulus package

### Details of China's RMB4tn stimulus package announced in November 2008

#### Items

- 1 Increase spending on public housing programs
- 2 Increase spending on rural infrastructure projects, including water, renewable energy, road, and electricity networks
- 3 Increase spending on public transportation projects, including railway, high way and airports
- 4 Increase spending on health care and education
- 5 Increase spending on environmental protection, including waste water treatment, energy conservation and forest restoration
- 6 Support the high-tech industry via encouraging innovation, and boost the development of the service industry
- 7 Accelerate the reconstruction of the disaster-affected areas
- 8 Increase rural and urban household income via increasing procurement prices for grain products and various types of direct subsidies
- 9 Reform the value-added tax (VAT) regime, to reduce the tax burden of enterprises by RMB120bn
- 10 Remove bank lending quotas and increase the size of total loans

#### Breakdown of stimulus plan by monetary value

Items	RMBbn	%
Railways, roads, airports and power grids	1,800	45.0
Post-earthquake reconstruction	1,000	25.0
Rural development and infrastructure projects	370	9.3
Housing	280	7.0
Ecology and environmental protection	350	8.8
Innovation	160	4.0
Healthcare and education	40	1.0
Total	4,000	100.0

Source: Xinhua, Chinawater

#### Breakdown of RMB20bn water budget for 4Q08

Items	RMBbn	%
Water conservancy and river diversion	7	35
Safety of drinking Water	5	25
Rural irrigation	3	15
Reinforce risky water reservoirs	3	15
South-to-North water diversion project	2	10
Total	20	100

## Gas versus water

■ While both water resources and natural gas are in excess demand (i.e., severe shortages), there is no substitute for water, and water volume demand is relatively inelastic to price changes

	Urban natural gas supply	Urban tap water supply and wastewater treatment
Government policies	Government encourages use of clean energy to reduce green house gas emissions.	Encourage conservation of water consumption (targeted to reduce water consumption per unit of GDP figure by 20%) and increase water supply capacity by 40bn m <sup>3</sup> annually.
Environmental and social benefits	Reduces green house gases significantly, such as $SO_2$ , $NO_x$ , and $CO_2$ .	Improve water quality and minimise endangered use of underground water.
Market potential for investors	The gas distribution sector started privatising over a decade ago.	China revised the Water Resource Law in 2002 to fully open up the market for private sectors.
Set up cost and market penetration	China's natural gas industry is still in its infancy. Many cities are without gas pipelines. Therefore, initial setup costs will be high, but will benefit from high future growth owing to low penetration rate at initial stage.	Tap water supply: most urban cities in China have existing supply pipelines, market penetration more established but yet to be improved. Wastewater treatment: market rather underdeveloped and the government targets reaching a sewage treatment ratio of 70% by 2010 (from 63% in 2007).
Revenue mix	One-off connection fees (which are for initial pipeline expansion and represents over 50% of total revenue) and recurring gas supply tariff.	Tap water supply: revenue is driven by recurring water tariff as pipelines are pre-existing, one-off connection fees represents small portion of total revenue. Wastewater treatment: treatment tariff receivable from the government.
Available resources	China is one of the world's largest gas reserve countries, with proven reserves of 2,500bn m <sup>3.</sup> However, available production supply is still scarce and the nation expects to rely on imports in the near future.	Water resource volume per capita is only 2,152 m³, a quarter of the world's average. China suffers a water shortage of 40bn m³ annually.
Input cost	The NDRC has introduced a gradual market-driven pricing policy for natural gas. Under certain restrictions, increases in well-head gas prices can be passed through to industrial end-users through tariff hikes. No such mechanism for residential end-users; residential tariffs are closely regulated.	Tap water supply: water resources fees charged by the government at minimal amount are automatically passed through to end-users. Wastewater treatment: wastewater intake is guaranteed and provided by the government at no cost.
Substitutes	Electricity.	No found substitute.

Source: Nomura research

# Division of power among regulators

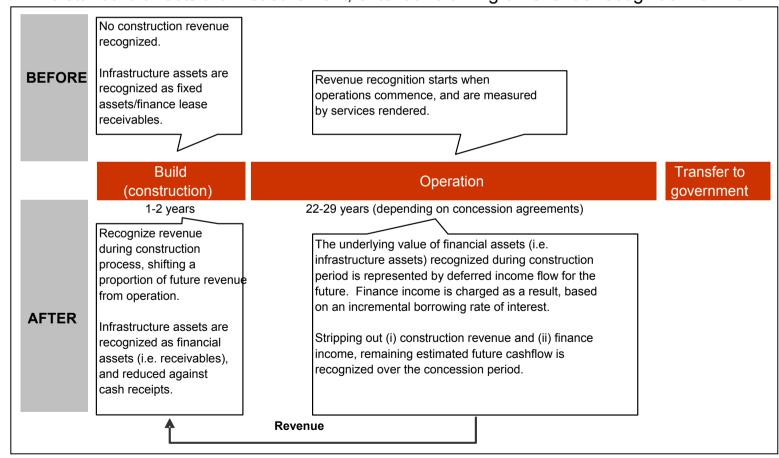
China is realigning responsibility for water-related policies across three main government bodies, through more
distinct functions and responsibilities — the Ministry of Water Resources (MWR), Ministry of Construction (MoC)
and State Environmental Protection Administration (SEPA)

Functions	Ministry of Water Resources	Ministry of Construction	State Environmental Protection Administration
Supply value chain	Raw water distribution	Tap water supply	Wastewater treatment
Reservation and conservation			
- Water resource reservation	✓		✓
- Water engineering	✓	✓	•
- Flood control	✓	•	
- 1 lood control	•		
Agricultural			
- Irrigation	✓		
- Rural residential usage	✓		
Industrial			
- Water usage	✓	✓	
- Wastewater discharge			✓
Residential (urban)			
- Water usage	✓	✓	
- Wastewater discharge		✓	✓

Source: NDRC, Nomura research

# IFRIC 12 accelerates profit

- IFRIC 12 "service concession arrangements" is a new accounting standard, effective for financial periods beginning on or after 1 January, 2008
- This standard affects the measurement, extent and timing of revenue recognition for BOT/TOT projects

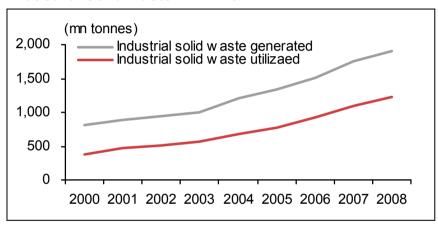


Source: Nomura International (Hong Kong) Limited

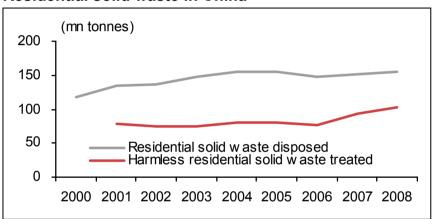
## Waste treatment is the next attraction

Chinese municipalities currently generate about 154mn tonnes of residential (municipal) waste in 2008. By 2030, this could increase to 480mn tonnes — nearly double that projected for the US over the same period.

#### Industrial solid waste in China



#### Residential solid waste in China



#### China: residential solid waste treatment in urban area – demand and supply

Residential solid waste in urban area	FY03	FY04	FY05	FY06	FY07	FY08	FY09F	FY10F	FY11F	FY12F	FY13F	FY14F	FY15F
Capacity for waste treatment ('000 tonnes/day)	219.6	238.5	256.3	258.0	271.8	315.2	345.2	378.2	417.0	458.7	503.5	551.7	603.4
Capacity growth (%)		9%	7%	1%	5%	16%	10%	10%	10%	10%	10%	10%	9%
Residential waste collected (mn tonnes/year)	148.6	155.1	155.8	148.4	152.2	154.4	162.1	170.2	178.7	187.6	197.0	206.9	217.2
Waste output growth (%)	9%	4%	0%	-5%	3%	1%	5%	5%	5%	5%	5%	5%	5%
Residential waste treated (mn tonne/year)	75.4	80.8	80.5	77.5	94.3	103.1	108.2	113.6	119.3	125.3	131.5	138.1	145.0
Implied utilization/efficiency (%)	95%	94%	87%	83%	96%	91%	90%	90%	90%	90%	90%	90%	90%
Waste treatment ratio	51%	52%	52%	52%	62%	67%	69%	72%	76%	79%	83%	86%	90%

Source: National Bureau of Statistics; Nomura International (Hong Kong) Limited

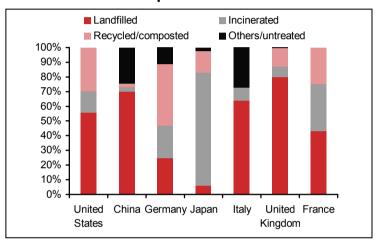
Recently targeted by the Ministry of Construction, versus 70% set in the 11th Five Year Plan

Assumed target for 12th Five-Year Plan

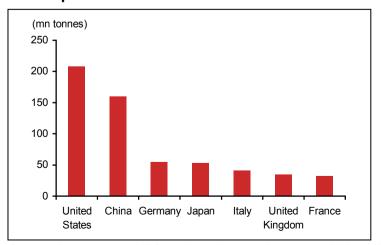
# Waste-to-energy outshines other waste treatment — growing at 17% CAGR

- Based on guidelines set out by the Environmental Protection Bureau, China is expected to have 300 WTE plants by end-FY15F, from ~100 in FY08 and 75 in FY07; and also electricity generation from WTE plants of 3bn kWh in 2010 (0.1% of total power demand), up from 0.2bn kWh in 2007.
- This would imply a capacity CAGR of 17% for WTE projects during this period, higher than the 10% implied for wastewater treatment and 6%-8% for power and coal industries during 2010-12F.

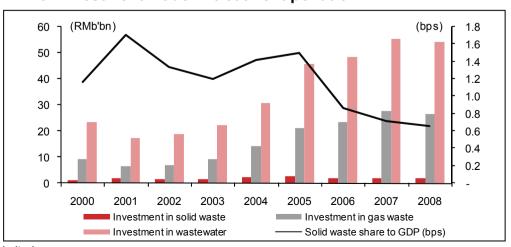
#### Treatment of municipal waste



#### Municipal waste collection volume



### China: investment made in treatment pollution



# **Company profiles**

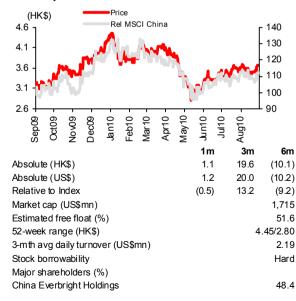
# China Everbright International [257 HK, BUY, PT: HK\$5.50]

- Recent new projects underpin continued growth. Since January 2010, CEI has won a WTE project (capacity: 600 tonnes/day) in Huidong county, Guangdong, a wastewater treatment project (10k tonnes/day) and a straw-fired biomass project (800 tonnes/day and 2x15MW) in Xinyi city, Jiangsu, and a straw-fired project (800 tonnes/day and 2x18MW) in Suzhou city, Anhui.
- 1H10 results review. China Everbright International (CEI) reported profit of HK\$245mn (up 24% y-y), in line with our expected HK\$237mn, due to 35% EBITDA growth in WTE segment. Although 1H10 profit accounts for 41% of our full-year estimate, we expect further growth in 2H10F once construction of Huidong WTE and Zhenjiang landfill projects commence; hence our FY10F estimates are attainable, in our view. Utilisation of WTE plants is ramping up and operations look on track; we expect operational income will continue to expand, enriching cashflow. Waste-processing volume in 1H10 reached 922k tonnes (up 32% y-y); on-grid power generation was up 47% to 215mn kWh.
- Strong exposure to up-cycle in WTE. Waste-related projects now account for 54% of CEI's gross profit, on our estimates, and are increasingly related to other segments owing to under-penetration. Apart from its recent entry into Guangdong and Anhui, we believe CEI could be considering more projects in northern China. We see such projects as potential share price catalysts.
- Reiterate BUY. CEI is trading at 18x FY11F EPS, vs peers' 16x. We think the premium is warranted as we think WTE expansion should provide higher returns. CEI's quality output in both wastewater treatment and waste-to-energy should be reflected in higher ROE spread against peers, as the government raises the bar on environmental protection, in our view. Also, growth momentum remains strong, on our reading. We believe any potential new projects would be catalysts for the share price. Reaffirming BUY.

Note: Valuations are based on closing share prices as of 13 September 2010.

Key financials & val	uation	S		
31 Dec (HK\$mn)	FY09	FY10F	FY11F	FY12F
Revenue	1,766	3,090	3,778	4,278
Reported net profit	372	593	732	888
Normalised net profit	367	593	732	888
Normalised EPS (HK\$)	0.11	0.16	0.20	0.24
Norm. EPS growth (%)	18.5	50.6	23.5	21.2
Norm. P/E (x)	34.4	22.6	18.2	15.0
EV/EBITDA (x)	20.8	15.8	13.3	11.1
Price/book (x)	2.9	2.6	2.4	2.1
Dividend yield (%)	0.6	0.9	1.1	1.3
ROE (%)	10.1	12.3	13.7	14.8
Net debt/equity (%)	23.6	41.0	57.0	65.6
Earnings revisions				
Previous norm. net profit		593	732	888
Change from previous (%)		-	-	-
Previous norm. EPS (HK\$)		0.16	0.20	0.24
Source: Company, Nomura estimates				

#### Share price relative to MSCI China



# China Everbright International Sum-of-parts valuation (floor valuation)

#### Floor valuation based on replacement cost

Wastewater	
Existing capacity ('000m3)	1,690
Secured projects to be completed by 2009 ('000m3)	-
Total capacity	1,690
Replacement cost of wastewater treatment plants (RMB/m3)	1,840
Replacement cost of wastewater treatment plants (HK\$'mn)	3,731
Waste-to-energy	
Existing capacity (ton)	8,750
Projects assumed to be completed by FY11F (ton)	1,000
Total capacity	9,750
Replacement cost of waste-to-energy plants (RMB/ton)	490,000
Replacement cost of waste-to-energy plants (HK\$'mn)	5,733
Solid waste disposal	
Total investment cost for 600k tons in capacity (RMB'mn)	234
Existing capacity accounts for only 33% (or 200k tons) of total capacity (HK\$'mn)	93
Alternative energy, biomass, and BT contracts	
Assumed investment accumulated in alternative energy at book value (HK\$'mn)	1,231
Methane-to-energy	
Total investment cost for Phase 1 & 2 (RMB'mn)	41
Total investment cost in HK\$'mn	49
Infrastructure investment	
Book value of infrastructure business (e.g. toll road operations) in FY08 (HK\$'mn)	719
Property investment	
Book value of investment properties in HK and PRC in FY08 (HK\$'mn)	35
Environmental technology and construction management	
Book value of in FY08 (HK\$'mn)	58
Other financial assets and deposits	
Book value as of end-FY08	1,409
Adjusted net debt as of FY11F (HK\$'mn)	(1,420)
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Total fair value	11,636
Total number of shares (mn)	3,650
NAV per share (HK\$)	3.20

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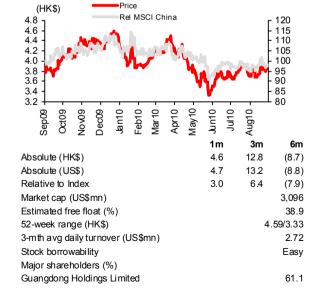
36 Source: Nomura research

# Guangdong Investment [270 HK, BUY, PT: HK\$5.20]

- **Defensive portfolio: low-risk and steady growth.** We like Guangdong Investments Ltd's (GDI) water monopoly in Hong Kong and defensive growth in China. In our view, the company is well established in raw water distribution (63% of FY09F earnings), property investment (25%), department stores (10%), and hotel operations (5%), which should enable it to generate free cashflow to fund expansion in China.
- Limited downside in shopping mall project in Tianjin. The land (23,000m2) that GDI acquired in Tianjin for construction of a large-scale shopping mall on top of the metro station looks well priced when compared with the development next door by Hang Lung Properties (101 HK, HK\$27.70, BUY). We believe GDI has made a good first step with this project while it presents few near-term catalysts (completion expected in FY13F), it should ultimately add HK\$0.50/share to GDI's value based on DCF (not in our price target).
- 1H10 results review. Guangdong Investment (GDI) reported 1H10 profit of HK\$1,125mn (HK\$0.181/share), up 11% y-y. Stripping out one-off items which included changes in fair value of derivative financial instruments (HK\$126mn), net increase in fair value of investment properties (HK\$48mn) and impairment of PP&E (HK\$7mn) recurring profit rose by 4% y-y to HK\$1,189mn, in line with our estimates. Results accounted for 48% of our FY10F estimate. We believe continued economic improvement would support stronger earnings in 2H10F.
- Valuations attractive. GDI is trading at 9x FY11F P/E, a discount to water utilities' 16-18x and integrated utilities in Hong Kong at 12-25x. GDI traded at 14-18x one-year forward P/E during FY05-07. BUY on attractive valuations.

Note: Valuations are based on closing share prices as of 13 September 2010.

Key financials & valuations					
31 Dec (HK\$mn)	FY09	FY10F	FY11F	FY12F	
Revenue	5,916	6,174	7,156	7,615	
Reported net profit	2,044	2,349	2,666	2,689	
Normalised net profit	2,008	2,349	2,666	2,689	
Normalised EPS (HK\$)	0.32	0.38	0.43	0.43	
Norm. EPS growth (%)	(0.1)	16.3	13.1	0.5	
Norm. P/E (x)	12.2	10.4	9.2	9.1	
EV/EBITDA (x)	6.7	6.2	5.0	4.4	
Price/book (x)	1.4	1.3	1.2	1.1	
Dividend yield (%)	2.8	3.3	3.7	3.7	
ROE (%)	12.6	13.2	13.6	12.6	
Net debt/equity (%)	23.3	19.2	6.8	net cash	
Earnings revisions					
Previous norm. net profit		2,349	2,666	2,689	
Change from previous (%)		-	-	-	
Previous norm. EPS (HK\$)		0.38	0.43	0.43	
Source: Company, Nomura estimates					

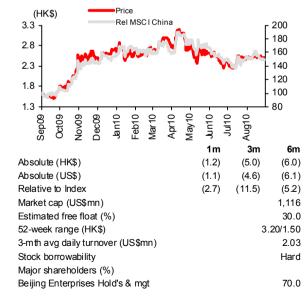


# Beijing Enterprises Water [371 HK, BUY, PT: HK\$3.80]

- Capacity up 1.3x in FY09, momentum continues. BEW's capacity pipeline (operating + under-construction) grew 1.3x in FY09 to 3.5mn m3, which should see BEW being near the top in the nation in terms of wastewater treatment capacity. We assume the pipeline will reach 6.0mn m3 by end-FY10F, in line with guidance, and would be done through acquisitions and/or new project bidding. Potential asset injections from its parent of 1.3mn m3 in 2H10F should be priced fairly and value accretive to BEW's P/BV of 2.9x in FY10F, which we have not assumed in our forecasts.
- **Higher risks identified for FY10F.** While we remain bullish on the water sector, we note that competition has intensified over time, as more private and state-owned enterprises enter the field. We believe the market has already priced-in high expectations for BEW's growth in FY10F, while any potential delay in capacity expansion and decline in IRR could prompt downside to the share price. Also, its 135% net debt-to-equity by end-FY10F looks alarming, as Chinese interest rates are being hiked, and dilution risk from equity funding required in hitting the capacity targets.
- 1H10 results review. Beijing Enterprises Water (BEW) reported 1H10 profit at HK\$145mn (EPS: HK4.06¢) lower than our estimated HK\$212mn. 1H10 results made up 27% of our FY10F estimates, which we think are still achievable because BEW historically records larger construction revenue and capacity addition in the second half of the year. This is because most construction in China begins later in the year. (BEW's 1H09 earnings contributed to 20% of FY09 earnings.)
- Reiterating BUY. We view valuations as attractive as BEW shares are now trading at 16x FY11F P/E and 0.3 PEG, vs the sector's 13-25x and 0.5, respectively. Maintain BUY.

Note: Valuations are based on closing share prices as of 13 September 2010.

Key financials & valuations					
31 Dec (HK\$mn)	FY09	FY10F	FY11F	FY12F	
Revenue	1,730	7,826	7,946	5,950	
Reported net profit	193	530	670	841	
Normalised net profit	207	530	670	841	
Normalised EPS (HK\$)	0.07	0.15	0.18	0.21	
Norm. EPS growth (%)	38.0	125.0	20.5	18.7	
Nom. P/E (x)	44.8	20.2	16.7	13.3	
EV/EBITDA (x)	27.1	13.9	12.4	9.9	
Price/book (x)	3.3	2.9	2.4	2.1	
Dividend yield (%)	0.0	0.0	0.0	0.0	
ROE (%)	8.8	18.3	18.8	18.8	
Net debt/equity (%)	88.3	134.8	134.1	97.7	
Earnings revisions					
Previous norm. net profit		530	670	841	
Change from previous (%)		-	-	-	
Previous norm. EPS (HK\$)		0.15	0.18	0.21	
Source: Company, Nomura estimates					

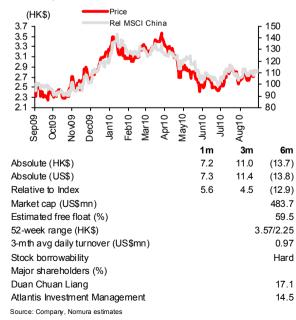


# China Water Affairs [855 HK, BUY, PT: HK\$3.80]

- Growth from potential acquisitions in 2nd-/3rd-tier cities. We believe CWA will look for new tap water projects in second-/third-tier cities in Eastern, Southern and Central China, where it already has a presence. More than 10 projects are currently under discussion. In our view, sector fundamentals bode well from: 1) rising water demand; 2) the upward tariff trend; and 3) privatisation.
- Water still the focus; land asset disposal pending. We think the water segment will remain CWA's focus following the recent stake disposal of its hydropower business and CWIIC. Plans to dispose of 129,000 m2 of land to its property vehicle are still on the table.
- Catalysts to watch for in FY11F. Potential catalysts in FY11F include: 1) expansion of 100,000m3 of daily capacity each at the Yongchuan and Zhengcheng projects; 2) an increase in Zhencheng's equity stake (from 15%); 3) additional tariff hikes (approval already received at three projects for 5-28% increase); and 4) a rise in property revenue from the sale of development in Xinyu. We note that the first two catalysts have not been factored into our model. Higher-than-expected tariff hikes could also be a catalyst as we only assume 4% growth pa vs management guidance of 6-8%.
- Undemanding valuation, maintain BUY. We recently revised up our FY11F revenue estimate by 25% on higher water sales and property revenue, but cut our earnings forecast by 12% mainly on a 63% jump in finance cost on higher borrowing. As such, we recently cut our PT by 10% to HK\$3.80. Still at an undemanding valuation (17x P/E and 1.3x P/B in CY11F vs peers' 16x-27x and 2.1x), the shares are attractive as we believe further upside could come from acquisition of new projects and higher-than-expected capacity growth.

Note: Valuations are based on closing share prices as of 13 September 2010.

Key financials & val	luation	S		
31 Mar (HK\$mn)	FY10	FY11F	FY12F	FY13F
Revenue	1,398	1,631	1,888	2,109
Reported net profit	301.6	197.9	257.1	289.4
Normalised net profit	141.0	197.9	257.1	289.4
Normalised EPS (HK\$)	0.11	0.15	0.19	0.22
Norm. EPS growth (%)	441.8	33.9	29.9	12.6
Norm. P/E (x)	26.6	20.3	16.8	15.0
EV/EBITDA (x)	12.8	8.6	7.2	6.2
Price/book (x)	1.5	1.4	1.3	1.2
Dividend yield (%)	1.8	1.9	2.0	2.0
ROE (%)	13.6	7.6	9.4	9.9
Net debt/equity (%)	71.5	74.9	70.7	64.9
Earnings revisions				
Previous norm. net profit		224.7	278.7	322.5
Change from previous (%)		(11.9)	(7.8)	(10.3
Previous norm. EPS (HK\$)		0.17	0.21	0.24
Source: Company, Nomura estimates				



# **China Water Affairs**

# Additional value extracted from land pieces

CWA's total land (mn m2)	5.63	For conservative reasons, we assume high	
Assumed efficiency ratio (%)	35% -	execution risk in monetizing the land that	
Equity portion to CWA (%)	80%	CWA holds, and not all land is available for	
Useable land attributable to CWA (mn m2)	1.58	sale/redevelopment.	
% used for selling as vacant land	50%		
Value from selling as vacant land pieces		Value from re-developing vacant land pieces	
Vacant land to sale (mn m2)	0.79	Vacant land to re-develop (mn m2)	0.79
		Plot ratio (x)	2.0
		Sellable gross area if developed as residential properties (mn	
Acquisition cost at distressed prices (RMB/m2)	500	m2)	1.58
Cost for clearing the site (RMB/m2)	50		
Conversion price of land use right (RMB/m2)	300	Acquisition cost at distressed prices (RMB/m2)	500
Total cost (RMB/m2)	850	Cost for clearing the site (RMB/m2)	50
, ,		Conversion price of land use right (RMB/m2)	300
Market value for vacant land pieces (RMB/m2)	1,000	Re-development cost into residential properties (RMB/m2)	2,500
,		Total cost (RMB/m2)	3,350
		Market value for residential properties in 2nd/3rd tier cities (RMB/m2)	4,000
Value gained (RMB'mn)	118	Value gained (RMB'mn)	1,025
Total gain (RMB'mn)	1,143		
Outstanding shares of CWA (mn)	1,327		
Forex (RMB:HKD)	1.12		
Additional value from CWA's land pieces (HK\$/share)	1.00		

Source: Company data, Nomura International (Hong Kong) Limited

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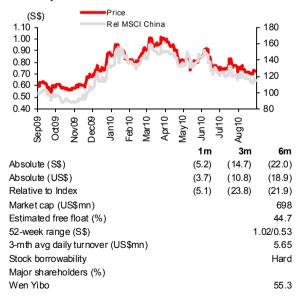
# Sound Global Ltd [SGL SP, BUY, PT: S\$1.10]

- Successful integration into BOT. Leveraging on specialised R&D in treatment technology and its parent's experience in water operations, Sound Global is finding success in its downward integration to become a full wastewater utility, from a pure EPC vendor, which exploits a sustainable earnings stream and allows better differentiation against equipment/construction plays, given that the EPC model has low entry barriers. With 11 BOT projects already in the pipeline, Sound Global is committed. From internal resources, management seeks to add 1.0mn m3 of new BOT projects near term, while a potential dual-listing in Hong Kong could fund another 1.0mn m3. Also, its unlisted parent has wastewater and tap water projects on hand totalling 3.5mn m3 and 0.3mn m3, respectively resources waiting to be unlocked.
- Pending HK listing. Sound Global has submitted an application with the Stock Exchange of Hong Kong for dual listing in HK by way of introduction, which would allow for shareholders in Singapore to transfer their shares and have them traded in HK instead. This is positive for the company as it will still have to go through the rigorous regulatory approval process. We believe this could give investors who normally shy away from S-chips or are wary of S-chips' corporate governance some added confidence.
- Issuances of CB. Recent CB issuance (principal amount RMB885mn) will help ensure funding for bidding of additional BOT projects. We estimate RMB800mn could fund ~1mn ton of daily wastewater treatment capacity (assuming 60% gearing), on our estimates, which could double its current capacity.
- **BUY on attractive valuations; re-rating in sight.** We find Sound Global's discount vs. its peers unjustified, given that the gradual expansion in BOT and stronger industrial outlook should support a continued re-rating of the stock, in our view.

Key financials & valuations 31 Dec (RMBmn) FY08 FY09F FY10F FY11F 1.294 Revenue 1.025 1.835 2.457 Reported net profit 231.6 261.4 372.6 486.6 Normalised net profit 231.6 261.4 372.6 486.6 Normalised EPS (RMB) 0.19 0.20 0.29 0.38 Norm. EPS growth (%) 40.9 87 42 5 30.6 Norm. P/E (x) 192 16.9 118 9.1 EV/EBITDA (x) 14.0 10.0 6.7 4.8 Price/book (x) 3.5 2.8 2.3 1.8 Dividend yield (%) 1.0 0.0 0.0 0.0 **ROE** (%) 18.1 21.2 22.2 18.8 Net debt/equity (%) net cash net cash net cash Earnings revisions 372.6 486.6 Previous norm. net profit 261.4 Change from previous (%) Previous norm. EPS (RMB) 0.20 0.29 0.38

### Share price relative to MSCI China

Source: Company, Nomura estimates



Source: Company, Nomura estimates

Note: Valuations are based on closing share prices as of 10 September 2010.

Epure International changed its company name and ticker from Epure International (EPUR SP) to Sound Global Ltd (SGL SP) on 5<sup>th</sup> March 2010.

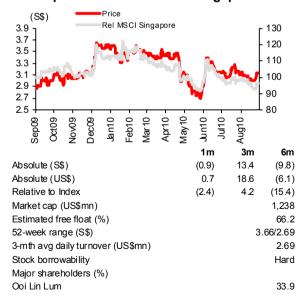
# Hyflux Limited [HYF SP, NEUTRAL, PT: S\$3.70]

- Hyflux should keep gearing checked. Hyflux's fast-growing gearing had been a market concern, which may counter future growth ahead. Net-debt-to-equity was 74% as of September 2009, up 14pps q-q and 20pps higher from end-FY08, due to aggressive capex for the desalination plants in Algeria. However, management reiterated that: 1) it can repay trade payables by cash from EPC revenue generated by the Algerian projects on percentage of completion; and 2) Algeria has no restriction in capital repatriation, so liquidity at the head office in Singapore is not a concern despite the aggressive capex.
- Privatisation of Hyflux Water Trust. Hyflux announced that it will form a 50:50 JV with Mitsui & Co., Ltd to develop water projects in China and to privatise Hyflux Water Trust (HFYT SP), the listed subsidiary which holds most of Hyflux's China projects. The JV is offering to acquire all of the remaining HWT units not controlled by Hyflux for S\$0.78 per unit, a premium of 17% over the volume-weighted average price of the units for the last one month. Hyflux will also inject four of its China water projects into the JV for US\$53.1mn.
- 1H10 results review. Hyflux's net earnings in 1H10 came in at S\$33.7mn, up 9% y-y, in line with our estimated S\$33.2mn. The first half results accounted for 41% of our full-year FY10F estimate, which included contributions from the Libya project in 2H10. However, given negotiation delays in the project, we believe contributions from Libya are unlikely to start in 2010. 1H10 revenue came in at S\$241.7mn, up 9% y-y, with contributions from the Middle East making up 77% of total (from 59% in 1H09) and China at 19% (from 38% in 1H09). This is mainly due to increased contributions from the Magtaa project.
- Valuations at par with peers. Valuation is level with peers in China. We would wait for more catalysts to create better entry points.

Note: Valuations are based on closing share prices as of 10 September 2010.

Key financials & valuations					
31 Dec (S\$mn)	FY09	FY10F	FY11F	FY12F	
Revenue	525	721	936	960	
Reported net profit	75.0	81.5	114.1	124.3	
Normalised net profit	75.0	81.5	114.1	124.3	
Normalised EPS (S\$)	0.14	0.15	0.22	0.24	
Norm. EPS growth (%)	26.8	8.2	40.1	8.9	
Nom. P/E (x)	22.4	21.0	15.0	13.8	
EV/EBITDA (x)	16.1	15.4	12.6	11.8	
Price/book (x)	4.5	4.9	4.1	3.5	
Dividend yield (%)	1.1	1.1	1.7	2.2	
ROE (%)	24.0	24.8	32.6	29.6	
Net debt/equity (%)	64.0	174.0	175.7	152.2	
Earnings revisions					
Previous norm. net profit		81.5	114.1	124.3	
Change from previous (%)		-	-	-	
Previous norm. EPS (S\$)		0.15	0.22	0.24	
Source: Company, Nomura estimates					

### Share price relative to MSCI Singapore



Source: Company, Nomura estimates

# Tianjin Capital Environmental [1065 HK, REDUCE, PT: HK\$1.55]

- Outlook still bearish with a potential tariff cut pending. The Tianjin government's proposed cut on TCEP's wastewater treatment tariff is still pending. According to our recent update with management, a tariff cut remains a possible outcome suggesting a reduction to the industry benchmark of RMB0.8-1.2/m3, from the existing RMB1.93/m3. We believe that this asset restructuring would not be attractive although the government may compensate TCEP by buying back its wastewater pipelines. The new Tianjin Water Bureau is studying TCEP's pricing mechanism again, and we believe that it will take over a year to finalise a decision. We have assumed a tariff cut and asset restructuring in 2H10F.
- **1H10 results review.** TCEP's 1H10 reported net profit came in at RMB129.7mn (EPS: RMB0.09), up 20% y-y and higher than our expected RMB108mn. Profits in 1H10 account for 65% of our full-year estimate given our base-case forecast assumes a substantial tariff cut for TCEP's projects in Tianjin (from RMB1.93/m3 to RMB0.80-1.20/m3) in FY10F. However, following our recent check with management, we think the pending tariff cut may be delayed to end-FY10F or early-FY11F, which prompts potential upside to our FY10F estimates. Since the tariff cut and the accompanied asset restructuring from the Tianjin government remain on the table, our long-term view (negative) on TCEP is unchanged.
- Valuation still excessive. TCEP is still running a 8-6% ROE in FY09-10F (peers: 13%), with declining EPS and limited visibility in capacity growth. At 26x FY11F P/E, valuation appears excessive compared to peers' 9-18x, and we believe its discounted FY11F P/BV of 0.9x (peers: 1.2-2.3x) is justified. Maintain REDUCE.

Note: Valuations are based on closing share prices as of 10 September 2010.

Key financials & valuations				
31 Dec (RMBmn)	FY09	FY10F	FY11F	FY12F
Revenue	1,226	1,087	932	967
Reported net profit	243.0	199.0	121.5	139.7
Normalised net profit	243.0	199.0	121.5	139.7
Normalised EPS (RMB)	0.170	0.139	0.085	0.098
Norm. EPS growth (%)	5.2	(18.1)	(39.0)	15.0
Norm. P/E (x)	13.3	16.2	26.5	23.1
EV/EBITDA (x)	8.2	8.4	12.2	11.4
Price/book (x)	1.0	0.9	0.9	0.9
Dividend yield (%)	3.5	2.9	1.8	2.0
ROE (%)	7.6	5.9	3.5	4.0
Net debt/equity (%)	78.1	40.7	38.1	35.7
Earnings revisions				
Previous norm. net profit		199.0	121.5	139.7
Change from previous (%)		-	-	-
Previous norm. EPS (RMB)		0.139	0.085	0.098
Source: Company, Nomura estimates				



# Valuation methodology and risks

Company	Ticker	Valuation methodology	Investment risks
China Everbright Intl	257 HK	DCF methodology, employing a WACC of 10.5% and 2% growth rate.	Our target prices are subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs,
Guangdong Investment	270 HK	DCF methodology, employing a WACC of 10.0% and no terminal growth.	capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our
China Water Affairs	855 HK	SOTP: DCF to value water and infrastructure businesses, employing a WACC of 10.5% with no terminal growth rate. HK\$1/share value on CWA's land bank.	forecasts, and hence our target prices.
Beijing Enterprises Water	371 HK	DCF methodology, employing a WACC of 10.5% with no terminal growth rate.	
Tianjin Capital	1065 HK	Our price target is derived using DCF, with a WACC of 12.0% and no terminal growth rate.	
Hyflux Limited	HYF SP	Our price target is based on DCF valuation, with a WACC of 7.5% and a terminal growth rate of 4.5%.	
Sound Global	SGL SP	Based on SOTP, by valuing the EPC division using an 18x P/E over FY10F EPS, and the BOT division based on DCF method using a 10% WACC with no terminal growth.	

Source: Nomura International (Hong Kong) Limited



# Any Authors named on this report are Research Analysts unless otherwise indicated ANALYST CERTIFICATIONS

We, Ivan Lee and Elaine Wu, hereby certify (1) that the views expressed in this Research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of our compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

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On August 2, 2010, Hyflux Ltd. ("Hyflux") and Mitsui & Co., Ltd. ("Mitsui") announced the signing of a joint venture agreement to develop water projects in China. A newly formed 50:50 joint venture company, Galaxy NewSpring Pte. Ltd. ("JV Company") will serve as the partners' vehicle for investing, developing, and managing projects in China's water sector. The JV Company will acquire four water treatment plants from Hyflux's subsidiary Spring China Utility Ltd. for US\$53.1 million. The JV Company has also submitted a delisting proposal for Hyflux Water Trust ("HWT") and intends to make an exit offer to acquire all of the HWT units not controlled by the JV Company, Hyflux, Mitsui, Hyflux Asset Management Pte. Ltd., Hyflux Water Projects Ltd or the trustee-manager of HWT (collectively the "JV Parties") for S\$0.78/unit. The Offer is subject to 1) the approval of a delisting resolution by HWT's unitholders, and 2) the JV Company receiving valid acceptances in respect of such number of units that, when taken together with the units owned, controlled or agreed to be acquired by the JV Parties, will comprise not less than 75% of the total voting rights of HWT at the close of the exit offer.

Nomura acted as financial adviser to Mitsui in connection with the joint venture and for both Hyflux and Mitsui in connection with the delisting proposal and exit offer.

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\*The Nomura Group as defined in the Disclaimer section at the end of this report.



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The rating system is a relative system indicating expected performance against a specific benchmark identified for each individual stock. Analysts may also indicate absolute upside to price target defined as (fair value - current price)/current price, subject to limited management discretion. In most cases, the fair value will equal the analyst's assessment of the current intrinsic fair value of the stock using an appropriate valuation methodology such as discounted cash flow or multiple analysis, etc.

#### Stocks:

- A rating of "1", or "Buy", indicates that the analyst expects the stock to outperform the Benchmark over the next 12 months.
- A rating of "2", or "Neutral", indicates that the analyst expects the stock to perform in line with the Benchmark over the next 12 months.
- A rating of "3", or "Reduce", indicates that the analyst expects the stock to underperform the Benchmark over the next 12 months.
- A rating of "RS-Rating Suspended", " indicates that the rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the company.

Benchmarks are as follows: **United States/Europe**: Please see valuation methodologies for explanations of relevant benchmarks for stocks (accessible through the left hand side of the Nomura Disclosure web page: <a href="http://www.nomura.com/research">http://www.nomura.com/research</a>); **Global Emerging Markets (ex-Asia)**: MSCI Emerging Markets ex-Asia, unless otherwise stated in the valuation methodology.

#### Sectors:

- A "Bullish" stance, indicates that the analyst expects the sector to outperform the Benchmark during the next 12 months.
- A "Neutral" stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next 12 months.
- A "Bearish" stance, indicates that the analyst expects the sector to underperform the Benchmark during the next 12 months.

Benchmarks are as follows: United States: S&P 500; Europe: Dow Jones STOXX® 600; Global Emerging Markets (ex-Asia): MSCI Emerging Markets ex-Asia.

# Explanation of Nomura's equity research rating system for Asian companies under coverage ex Japan published from 30 October 2008 and in Japan from 6 January 2009:

#### Stocks:

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Price Target – Current Price) / Current Price, subject to limited management discretion. In most cases, the Price Target will equal the analyst's 12-month intrinsic valuation of the stock, based on an appropriate valuation methodology such as discounted cash flow, multiple analysis, etc.

- A "Buy" recommendation indicates that potential upside is 15% or more.
- A "Neutral" recommendation indicates that potential upside is less than 15% or downside is less than 5%.
- A "Reduce" recommendation indicates that potential downside is 5% or more.
- A rating of "RS" or "Rating Suspended" indicates that the rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the subject company.
- Stocks labelled as "Not rated" or shown as "No rating" are not in Nomura's regular research coverage.

#### Sectors:

- A "Bullish" rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a positive absolute recommendation.
- A "Neutral" rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a neutral absolute recommendation.
- A "Bearish" rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a negative absolute recommendation.



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#### Stocks:

- A rating of "1", or "Strong buy", indicates that the analyst expects the stock to outperform the Benchmark by 15% or more over the next six months.
- A rating of "2", or "Buy", indicates that the analyst expects the stock to outperform the Benchmark by 5% or more but less than 15% over the next six months.
- A rating of "3", or "Neutral", indicates that the analyst expects the stock to either outperform or underperform the Benchmark by less than 5% over the next six months.
- A rating of "4", or "Reduce", indicates that the analyst expects the stock to underperform the Benchmark by 5% or more but less than 15% over the next six months.
- A rating of "5", or "Sell", indicates that the analyst expects the stock to underperform the Benchmark by 15% or more over the next six months.
- Stocks labeled "Not rated" or shown as "No rating" are not in Nomura's regular research coverage. Nomura might not publish additional research reports concerning this company, and it undertakes no obligation to update the analysis, estimates, projections, conclusions or other information contained herein.

  Sectors:

A "Bullish" stance, indicates that the analyst expects the sector to outperform the Benchmark during the next six months.

A "Neutral" stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next six months.

A "Bearish" stance, indicates that the analyst expects the sector to underperform the Benchmark during the next six months.

Benchmarks are as follows: **Japan**: TOPIX; **United States**: S&P 500, MSCI World Technology Hardware & Equipment; **Europe**, by sector — *Hardware/Semiconductors*: FTSE W Europe IT Hardware; *Telecoms*: FTSE W Europe Business Services; *Business Services*: FTSE W Europe; *Auto & Components*: FTSE W Europe Auto & Parts; *Communications equipment*: FTSE W Europe IT Hardware; **Ecology Focus**: Bloomberg World Energy Alternate Sources: **Global Emerging Markets**: MSCI Emerging Markets ex-Asia.

# Explanation of Nomura's equity research rating system for Asian companies under coverage ex Japan published prior to 30 October 2008:

#### Stocks:

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Fair Value - Current Price, Subject to limited management discretion. In most cases, the Fair Value will equal the analyst's assessment of the current intrinsic fair value of the stock using an appropriate valuation methodology such as Discounted Cash Flow or Multiple analysis etc. However, if the analyst doesn't think the market will revalue the stock over the specified time horizon due to a lack of events or catalysts, then the fair value may differ from the intrinsic fair value. In most cases, therefore, our recommendation is an assessment of the difference between current market price and our estimate of current intrinsic fair value. Recommendations are set with a 6-12 month horizon unless specified otherwise. Accordingly, within this horizon, price volatility may cause the actual upside or downside based on the prevailing market price to differ from the upside or downside implied by the recommendation.

- A "Strong buy" recommendation indicates that upside is more than 20%.
- A "Buy" recommendation indicates that upside is between 10% and 20%.
- A "Neutral" recommendation indicates that upside or downside is less than 10%.
- A "Reduce" recommendation indicates that downside is between 10% and 20%.
- A "Sell" recommendation indicates that downside is more than 20%.

#### Sectors:

A "Bullish" rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a positive absolute recommendation.

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Price targets, if discussed, reflect in part the analyst's estimates for the company's earnings. The achievement of any price target may be impeded by general market and macroeconomic trends, and by other risks related to the company or the market, and may not occur if the company's earnings differ from estimates.



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投資信託のお申込み(一部の投資信託はご換金)にあたっては、国内投資信託の場合には、お申込み金額に対して最大3.675%(税込み)、外国投資信託の場合には、最大5.25%(税込み)の申込(換金)手数料をいただきます。また、換金時に直接ご負担いただく費用として、国内投資信託の場合には、換金時の基準価額に対して、最大1.0%の信託財産留保金、外国投資信託の場合には、最大1.0%の信託財産留保金をご負担いただく場合があります。投資信託の保有期間中に間接的にご負担いただく費用として、国内投資信託の場合には、信託財産の純資産総額に対する信託報酬(最大2.1315%(税込み))のほか、運用成績に応じた成功報酬をご負担いただく場合があります。また、その他の費用を間接的にご負担いただく場合があります。外国投資信託の場合も同様に、運用会社報酬等の名目で、保有期間中に間接的にご負担いただく費用があります。

投資信託は、主に国内外の株式や公社債等の値動きのある証券を投資対象とするため、当該資産の市場における取引価格の変動や為替の変動等により基準価格が変動します。従って損失が生じるおそれがあります。投資信託は、個別の投資信託毎に、ご負担いただく手数料等の費用やリスクの内容や性質が異なりますので、ご投資にあたっては目論見書や契約締結前交付書面をよくお読みください。

株券、出資証券、投資証券を当社の口座でお預かりする場合には、1年間に3,150円(税込み)の口座管理料をいただきます。加えて、外国証券をお預かりする場合には、1年間に3,150円(税込み)の口座管理料をいただきます。契約の内容により割引される場合がございます。

なお、これら以外の有価証券や金銭のお預かりについては料金をいただきません。

証券保管振替機構を通じて他の証券会社へ株券等を移管する場合には、銘柄ごとに、移管する数量に応じて、10.500円(税込み)を上限額として移管手数料をいただきます。

信用取引には、売買手数料(約定代金に対し最大1.365%(税込み)(20 万円以下の場合は2,730 円(税込み)))、管理費および権利処理手数料をいただきます。加えて、買付の場合、買付代金に対する金利を、売付けの場合、売付け株券等に対する貸株料および品貸料をいただきます。委託保証金は、売買代金の30%以上で、かつ30 万円以上の額が必要です。信用取引では、委託保証金の約3.3 倍までのお取引を行うことができるため、株価の変動により委託保証金の額を上回る損失が生じるおそれがあります。詳しくは、上場有価証券等書面、契約締結前交付書面、等をよくお読みください。

#### 野村證券株式会社

金融商品取引業者 関東財務局長(金商)第142 号

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