

China Water Affairs Group

Growth story continues

Outlook for FY18e

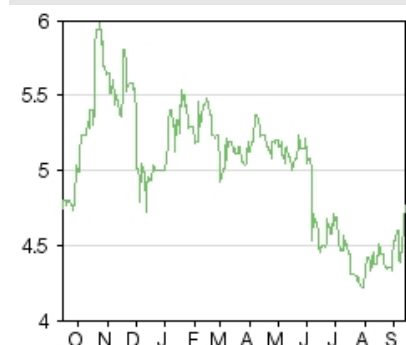
Utilities

13 September 2017

Price **HK\$4.77**
Market cap **HK\$7,675m**

Net debt (HK\$m) as at 31 March 2017	6,232
Shares in issue	1,609m
Free float	47%
Code	855
Primary exchange	HK
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	9.2	4.4	0.6
Rel (local)	4.9	(4.1)	(16.2)
52-week high/low	HK\$6.0	HK\$4.2	

Business description

China Water Affairs (CWA), a mid-sized private water company, is a pioneer in the privatisation of water supply assets in China. The company seeks to create growth via volume/price increases and asset acquisitions. It is a constituent of the FTSE Environmental Opportunities Asia Pacific Index.

Next events

H1 results	November 2017
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China Water Affairs (CWA) delivered a CAGR of 24.7% in top-line growth and a CAGR of 23.4% in EBITDA in FY12-17. We expect its growth story to continue with volume/price increases in the Chinese market and the opportunity to acquire underperforming assets from local governments. We forecast revenue to increase 25% in FY18 and 20% in FY19 (vs consensus of 19% and 14%, respectively), on the back of a 50% increase in capex in FY17 under service concession contracts. Its net debt of HK\$6.2bn and net debt to equity ratio of 70% are at a historical high. The management of capex spending and the pace of acquisitions will be a delicate balancing act against the level of leverage. We reduce our fair value by 6% from HK\$7.12/share to HK\$6.71/share based on sum-of-parts EV/EBITDA valuation as we lower our revenue forecasts for FY18 and FY19 by 6% and 7%, respectively (given CWA's reported FY17 sales were 9% below our previous estimates).

Year end	Revenue (HK\$m)	PBT* (HK\$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
03/16**	4,740	1,505	40	8.0	11.9	1.7
03/17	5,708	1,963	55	20.0	8.7	4.2
03/18e	7,103	2,159	60	12.5	8.0	2.6
03/19e	8,526	2,536	70	15.0	6.8	3.1

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments. **FY16 financials have been restated.

FY17: Growth and profitability on track

CWA posted 20% growth in revenue and 34% growth in EBITDA in FY17. Operating cash flows increased by 25% y-o-y to HK\$1,454m. Meanwhile, capex increased 50% to HK\$1,910m, mainly on water supply capacity expansion under service concession agreements as the sole water supplier in different regions. Net debt increased by 48% to HK\$6.2bn, bringing CWA's net debt to equity ratio from 50% in FY16 to 70% in FY17, a level comparable to HK-listed peers.

Acquisitions: Acceleration on the cards

CWA took a breather from asset purchases, with cash outflows for acquisitions down from HK\$972m in FY16 to HK\$286m in FY17. As the central government is pushing local governments to improve the efficiency of existing infrastructure, CWA intends to speed up acquisitions in central, eastern and southern China.

Valuation: Growth not priced in

We derive our fair value with a sum-of-parts EV/EBITDA valuation and lower our fair value by 6% from HK\$7.12/share to HK\$6.71/share (primarily as a result of our 6% and 7% downward revision of FY18e and FY19e revenue forecasts, respectively). Our net debt calculations are based on management's guidance regarding the likely recovery of HK\$860m loan to China City Infrastructure Group in FY18e and combined capex and acquisitions at c HK\$2bn over the next three years.

Investment summary

Company description: Pioneer in water asset privatisation

CWA, a mid-sized private water company, is a pioneer in the privatisation of water supply assets in China (the so-called TOO model: transfer, own and operate). Currently, the company has extensive and exclusive water supply coverage in over 50 cities (mostly Tier 3/4) in 13 provinces, connecting to 2.9 million users. CWA is a constituent of the FTSE Environmental Opportunities Asia Pacific Index and is included in Shenzhen-Hong Kong Stock Connect.

Financials: Increased capex for future growth

CWA posted 20% top-line growth in FY17 (vs restated revenue for FY16), driven by a 24% increase in its water supply segment (85% of the total revenue) and 67% growth in its sewage treatment segment (contributing 9% of the total revenue).

With acquisitions slowing down from HK\$972m in FY16 to HK\$286m in FY17, the company upped its capex by 50% to HK\$1,910m to maintain its growth engine. Net debt increased by 48% to HK\$6.2bn, bringing its net debt to equity ratio from 50% in FY16 to 70% in FY17.

The financial restatement regarding the reclassification of property, plant and equipment to intangible assets in FY17 aims to bring the reporting of concession rights in line with Hong Kong-listed peers to facilitate like-for-like comparisons. Previously, the assets operating under the TOO model were recognised as property, plant and equipment. Under the new accounting policy, these assets are recognised as intangible assets (concession rights).

Exhibit 1: Change in estimates

Year end 31 March	Revenue (HK\$m)			PBT (HK\$m)			EBITDA (HK\$m)		
	Old	New	% chg.	Old	New	% chg.	Old	New	% chg.
FY18e	7,535	7,103	(5.7%)	2,168	2,159	(0.0%)	2,796	2,831	(1.3%)
FY19e	9,114	8,526	(6.5%)	2,700	2,536	(6.1%)	3,425	3,283	(4.1%)
FY20e	10,542	9,976	(5.4%)	3,128	2,935	(5.1%)	3,973	3,767	(5.2%)

Source: Edison Investment Research

Valuation: EV/EBITDA multiples

We lower our fair value by 6% from HK\$7.12/share to HK\$6.71/share based on a sum-of-parts EV/EBITDA multiple. We think the sum-of-parts EV/EBITDA multiple can best reflect the immediate impact of our reduced revenue and hence EBITDA forecast and incorporate management's guidance on capex/acquisitions and likely net debt positions. We lower our revenue forecasts for FY18 and FY19 by 6% and 7%, respectively, as CWA's reported FY17 sales were 9% below our prior estimates. CWA exited FY17 with net debt of HK\$6.2bn, almost 30% higher than our prior forecast, as a result of 50% higher capex and an HK\$860m loan to China City Infrastructure Group (currently 7.3% owned by CWA). We derive the fair value of HK\$6.71/share based on 7.0x EV/EBITDA multiples for its water business, at a discount of approximately 50% to HK-listed peers, plus 1.3x FY17 book value of its property development and other segments. We assume minorities increase 12.7% from HK\$3.35bn to HK\$3.77bn as CWA continues to make acquisitions. We model its net debt to decrease by 5% from HK\$6.23bn to HK\$5.90bn from FY17 to FY18e based on management's guidance of approximately HK\$2bn capex and acquisitions (vs HK\$2.2bn in FY17) and likely recovery of the HK\$860m loan to China City Infrastructure Group.

Sensitivities: Policy and competition

Investors in CWA should take heed of the following risk factors.

- **Political issues:** While it is the Chinese central government's intention to deleverage local governments with public-private partnerships, the effectiveness of this policy remains to be seen. This may affect the size of the addressable market for CWA.
- **Competitive issues:** CWA's cash outflows for acquisitions in FY17 declined from FY16 by 70% due to increased competition in the secondary market for water infrastructure.
- **Leverage issues:** CWA may continue to take advantage of its competitive funding costs and increase its net debt in absolute terms.

Company description: In pursuit of organic and inorganic growth

CWA is a listed company in Hong Kong offering pure equity exposure to tap water supply in China (with 87% of FY17 revenue from city water supply operation and construction). The company is a pioneer in the privatisation of water supply assets in China.

Opportunity: Under penetration of tap water outside cities

According to the National Statistics Bureau of the PRC, 98% of the city population was covered by the tap water supply network by the end of 2015. However, only 451 million people had access to tap water in 2015, slightly over 30% of the country's entire population. In summary, tap water is under-penetrated especially in Tier 3/4 cities. CWA believes that these cities offer an attractive combination of growth potential and a lighter regulatory burden.

Business model: Asset privatisation as value driver

Management estimates that private enterprises account for only 20% of the water supply industry, and believes that the opportunity for privatisation remains significant. CWA prefers to have total control of its water networks, tariff negotiations and capital budgeting (the TOO model: transfer, own and operate). CWA seeks to acquire water networks at book value from often loss-making local governments, and create value with operational improvements and tariff negotiations. The basis for tariff determination is an ROE range of 8-12%, according to CWA. As a general rule, management hopes to make acquired assets accretive to earnings within two to three years.

Management: Experience and connections

Before founding Silver Dragon Group, the predecessor of CWA, in the 1990s, Chairman Duan Chuan Liang worked for the Ministry of Water Resources of the PRC for more than 10 years. The combination of his political connections and entrepreneurial approach was critical to the growth of the company, especially in the early days.

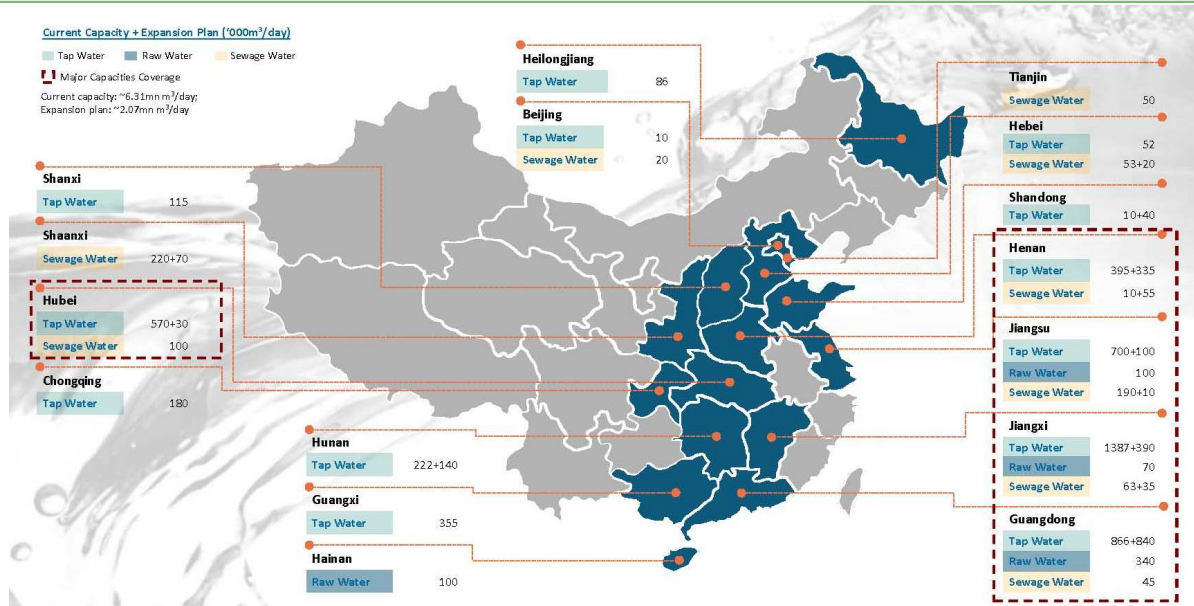
Shareholder returns: Low funding cost plus capital discipline

CWA indicates that its funding cost is approximately 2-3% offshore and 5-10% below benchmark borrowing rates onshore. Management seeks to create value for shareholders with a combination of competitive borrowing costs and, hopefully, a disciplined approach to capital deployment. For instance, CWA prioritises the project opportunities where it has existing customer service networks, to mitigate counterparty risks as a result of heavy leverage of local governments.

Business segment and operations

The majority of CWA's water supply capacity is located in Tier 3/4 cities, under 30- to 50-year exclusive and renewable concession rights. It currently has daily capacity of 6.7m m³ for tap water. On top of its vertically integrated capabilities from raw water processing, tap water supply and sewage treatments, CWA is seeking to enter industrial wastewater treatment by targeting enterprise customers with specific technological requirements (evidenced by its long-term contract with China National Offshore Oil Corporation).

Exhibit 2: CWA's geographic footprint

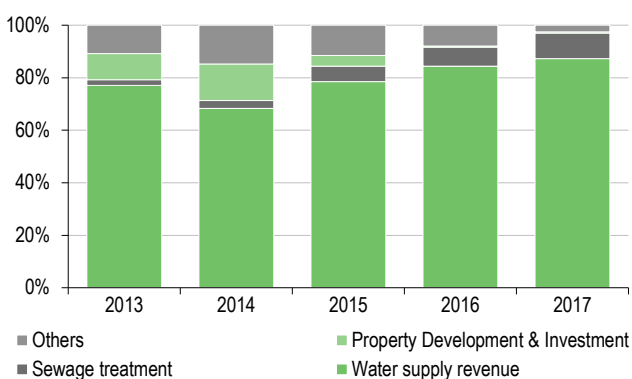


Source: China Water Affairs Group data

Water supply: Volume and pricing growth

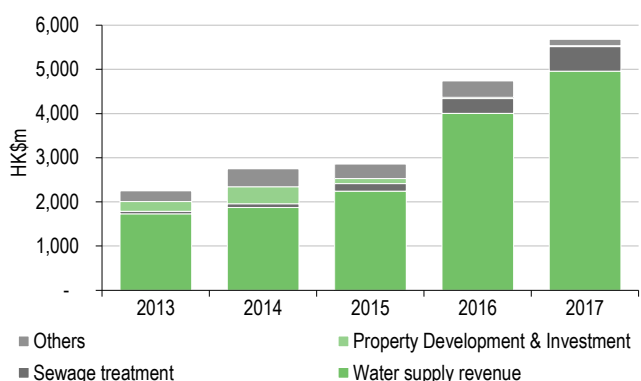
City water supply business is bread and butter for CWA, accounting for approximately 85% of the firm's revenue.

Exhibit 3: Revenue by segment in percentage terms



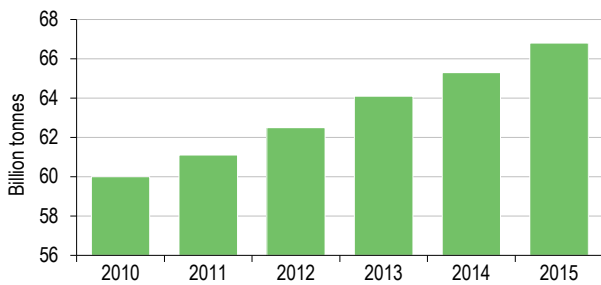
Source: China Water Affairs Group data

Exhibit 4: Revenue by segment in absolute terms

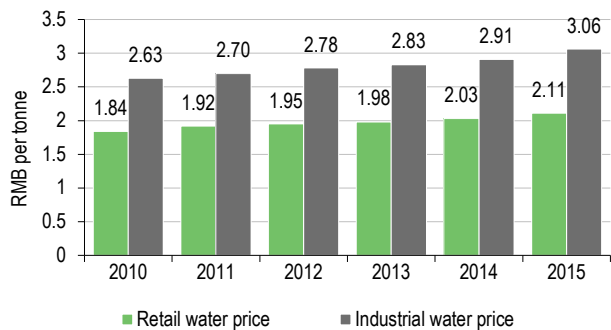


Source: China Water Affairs Group data

The volume of city water supply in China grew from 60bn tonnes in 2010 to 66.8bn tonnes in 2015, at a CAGR of 2.2% according to the data from the Ministry of Housing and Urban-Rural Development. Frost & Sullivan forecasts a CAGR of 2.2% for 2016-20e for the market to increase to 74.4bn tonnes by 2020.

Exhibit 5: City water supply in China


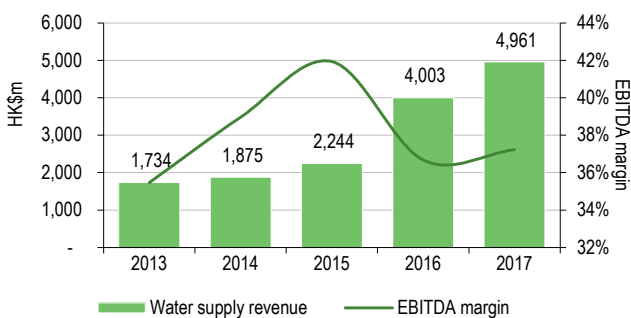
Source: Ministry of Housing and Urban-Rural Development

Exhibit 6: Retail/industrial water prices in China


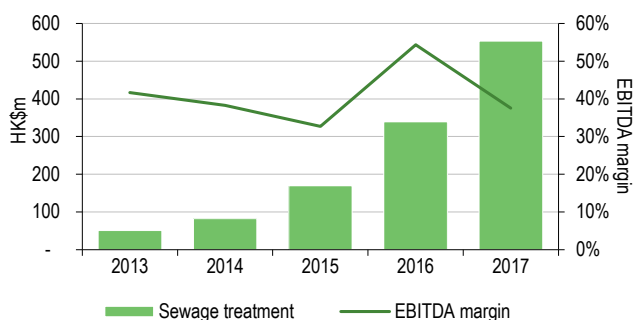
Source: Ministry of Housing and Urban-Rural Development

Sewage treatment: Expanding market size

CWA entered the sewage water treatment market in 2012. This segment reports a CAGR of 82% in FY13-17 in terms of top-line growth from a small base.

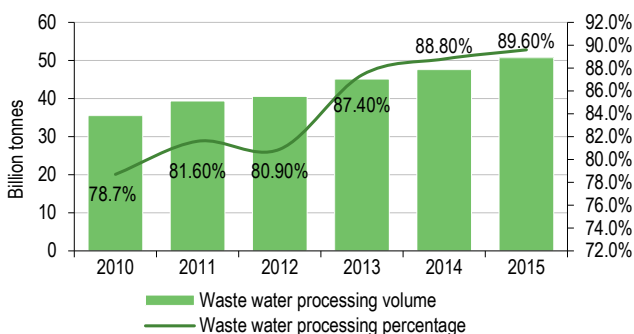
Exhibit 7: Water supply revenue and EBITDA margin date


Source: China Water Affairs Group data

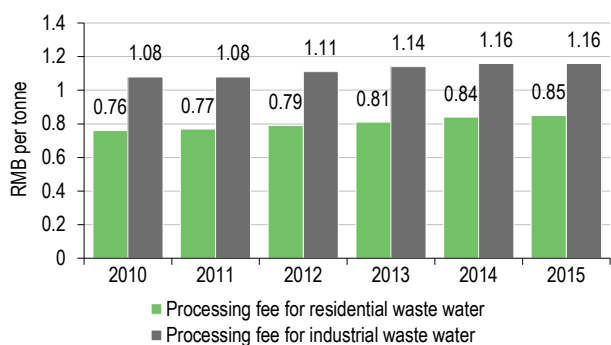
Exhibit 8: Sewage treatment revenue and EBITDA margin


Source: China Water Affairs Group data

The city sewage treatment market has been growing in size rapidly in China since the 1980s, with the city sewage treatment volume up from 35.5bn tonnes in 2010 to 50.7bn tonnes in 2015. The residential waste water processing fee went up from RMB0.76 per tonne in 2010 to RMB0.85 per tonne in 2015, and the industrial waste water processing fee increased from RMB1.08 per tonne to RMB1.16 per tonne during the same period.

Exhibit 9: Waste water treatment market in China


Source: Ministry of Housing and Urban-Rural Development

Exhibit 10: Waste water processing fees in China


Source: Ministry of Housing and Urban-Rural Development

As CWA does not disclose outputs, utilisation or average selling prices, we forecast its revenue based on the Chinese water market growth (in terms of volume and price), CWA's current capacity and plans to continue with a similar rate of capex and acquisition. We forecast CWA's water supply segment to grow 30% in FY18e and 22% in FY19e (vs the CAGR of 30% in FY13-17). We assume only 5% growth for the sewage business as the TOO model (ie asset acquisition) is generally not applicable. We also factor in potential valuation gains and profit realisation of CWA's property development business, reported in 'other' segments. We are conservative about the profitability of the water supply segment in the mid-term as we think the competition in the secondary market may eventually increase acquisition costs for CWA (vs the acquisitions at book value in the past).

Exhibit 11: Segment revenue and EBITDA

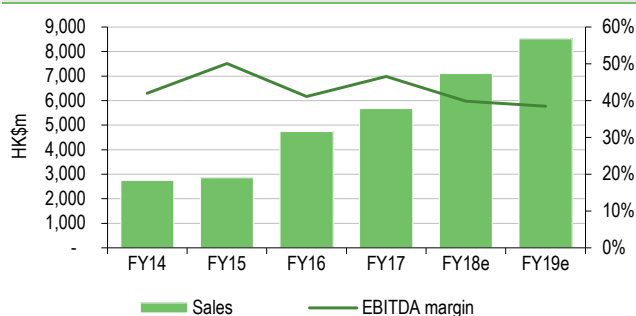
HK\$m	2013	2014	2015	2016	2017	2018e	2019e	2020e	CAGR
Revenue									
Water supply	1,734	1,875	2,244	4,003	4,874	6,347	7,733	9,143	27%
Sewage treatment	51	82	170	339	531	581	610	640	44%
Others	466	789	444	397	303	175	184	193	-12%
Total	2,251	2,747	2,859	4,740	5,708	7,103	8,526	9,976	24%
EBITDA									
Water supply	615	731	941	1,468	1,847	2,106	2,494	2,909	25%
Sewage treatment	21	31	56	184	208	215	226	237	41%
Others	212	125	153	105	289	227	235	245	2%
Total	848	887	1,150	1,757	2,343	2,548	2,955	3,391	22%
EBITDA margin									
Water supply	35%	39%	42%	37%	37%	33%	32%	32%	
Sewage treatment	42%	38%	33%	54%	38%	37%	37%	37%	
Others	45%	16%	34%	26%	173%	130%	128%	127%	
Total	38%	32%	40%	37%	41%	36%	35%	34%	

Source: China Water Affairs Group data; Edison Investment Research. Note: segment-aggregated EBITDA is lower than firm-level EBITDA.

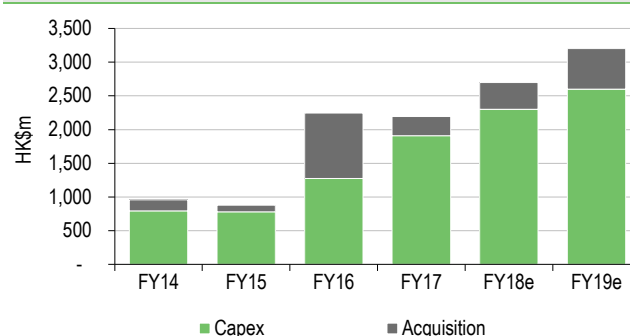
Growth, capex and acquisitions: A balancing act

We model CWA's revenue to grow 25% in FY18 and 20% in FY19 (vs consensus of 19% and 14%, respectively) and operating margins to be 34% in FY18 and 33% in FY19 (vs 40% in FY17), after stripping out the HK\$185m non-cash valuation gain in H117 and factoring in an increase in amortisation of concession rights due to higher capex in FY17. Management guides its FY18e revenue should increase by 20-30% year-on-year. In the absence of CWA's disclosure on outputs and average selling prices, our assumptions for its revenue growth are based on the following:

- a 2.2% CAGR in the volume of city water supply and a CAGR 2-3% in the price of residential and industrial water tariffs in 2011-2015 in China;
- a 7.5% increase in end-of-year nameplate capacity of water supply from 6.23m cubic metres in FY16 to 6.7m cubic metres in FY17; and
- a 50% increase in capex in FY17 under service concession contracts.

Exhibit 12: Revenue and EBITDA growth


Source: China Water Affairs Group data; Edison Investment Research

Exhibit 13: Capex and acquisitions


Source: China Water Affairs Group data; Edison Investment Research

We view CWA's acquisitions and capital expenditures as an integrated vehicle for growth. In FY14 and FY15, the company's capex was close to HK\$800m pa and acquisition cash outflows totalled HK\$165m and HK\$95m, respectively. The combined cash outflows for capex and acquisitions more than doubled in FY16/17 from the FY14/15 level. Understandably, the net debt to equity ratio also went up, from 57% in FY14 to 78% in FY17. CWA's effective interest rate for borrowing also increased from 3.5% to 4.8% during this period, although its funding cost remains competitive in the industry.

Management

Executive Chairman Mr Duan Chuan Liang: After working for the Ministry of Water Resources of the PRC for more than 10 years, Mr Duan founded Silver Dragon Group in the 1990s, the predecessor of China Water Affairs. He is also the chairman and non-executive director of China City Infrastructure Group (2349.HK). He has a bachelor's degree in water conservation and hydro power from the North China College.

Executive Director Ms Ding Bin: Ms Ding Bin has over 10 years of experience in financial management and tax planning. She graduated from Zhengzhou University of Technology in finance and computer management and is a certified public accountant in the PRC.

Executive Director Ms Liu Yu Jie: Ms Liu Yu Jie started her career in investment banking and progressed to corporate management roles. Prior to CWA, she was an executive director of Shanghai Industrial Investment (Holdings) Co and sat on the board of several environmental and resource management companies. She graduated from the University of International Business and Economics with a master's degree in business administration.

Executive Director Mr Li Zhong: Mr Li Zhong is a member of the Standing Committee of the Shenzhen Municipal Committee of the Chinese People's Political Consultative Conference. For more than 20 years, he has served in large state-owned enterprises and US-based corporations. He graduated from Saint Mary's University of Canada with a master's degree in business administration.

Sensitivities

Investors in CWA should be mindful of the following risk factors:

- **Political issues:** While it is the Chinese central government's intention to deleverage local governments with the PPP (public-private partnership) scheme, the effectiveness of this policy remains to be seen. This may affect the size of the addressable market for CWA's acquisitions, but it is difficult to gauge the net effects of various moving parts in the policy landscape.

For instance, local governments are required to steer away from hiding debts via guaranteed purchases, because PPP projects are capped at 10% of the annual budgets for local governments and project development process is long and tedious. This could open up more opportunities for CWA, if more local governments are forced to divest loss-making assets in order to free up their balance sheets.
- **Competitive issues:** CWA's cash outflows for acquisitions in FY17 declined from FY16 by 70% due to increased competition in the secondary market for water infrastructure.
- **Technical issues:** There are currently outstanding options for 10-20m shares according to management in September 2017, after most of the 110.7m options issued on 3 October 2014 (when the share price was HK\$3.4) and 8m issued on 9 September 2015 (when the share price was around HK\$3.4) have been exercised from April 2017.

Exhibit 14: Outstanding options granted to directors and employees up to end March 2017

Option holder	No. of options	Data of grant	Exercise price	Expiration
Chairman Mr Duan Chuan Liang	68,000,000	3 October 2014	HK\$3.6	3 October 2017
Ms Ding Bin	5,000,000	3 October 2014	HK\$3.5	3 October 2017
Ms Liu Yu Jie	3,000,000	3 October 2014	HK\$3.5	3 October 2017
Mr Li Zhong	8,000,000	9 September 2015	HK\$3.5	9 September 2018
Mr Zhao Hai Hu	2,500,000	3 October 2014	HK\$3.5	3 October 2017
Ms Wang Xiaoqin	2,000,000	3 October 2014	HK\$3.5	3 October 2017
Mr Zhou Wen Zhi	1,000,000	3 October 2014	HK\$3.5	3 October 2017
Employees in aggregate	29,200,000	3 October 2014	HK\$3.5	3 October 2017
TOTAL	118,700,000			

Source: China Water Affairs Group data

- **Balance sheet issues:** CWA may lever up its balance sheet to take advantage of its competitive funding costs. While high leverage is not uncommon in this sector, borrowing costs may eventually go up.

Valuation

We lower our fair value by 6% from HK\$7.12/share to HK\$6.71/share based on a sum-of-the-parts EV/EBITDA multiple, as we think this method can reflect the immediate impact of our reduced revenue forecast and the likely net debt positions based on guidance. We lower our revenue forecasts for FY18 and FY19 by 6% and 7%, respectively, as CWA's reported FY17 sales were 9% below our prior estimates. CWA exited FY17 with net debt of HK\$6.2bn, almost 30% higher than our prior forecast, as a result of 50% higher capex and an HK\$860m loan to China City Infrastructure Group (currently 7.3% owned by CWA). We derive the fair value of HK\$6.71/share based on 7.0x EV/EBITDA multiples for its water business, at a discount of approximately 50% to HK-listed peers, plus 1.3x FY17 book value of its property development and other segments. We assume minorities increase 12.7% from HK\$3.35bn to HK\$3.77bn as CWA continues to make acquisitions and the original shareholders of the acquired assets typically retain 30-40% of the stakes. We model its net debt to decrease by 5% from HK\$6.23bn to HK\$5.90bn from FY17 to FY18e based on management's guidance of approximately HK\$2bn capex and acquisitions (vs HK\$2.2bn in FY17e) and likely recovery of the HK\$860m loan to China City Infrastructure Group.

Exhibit 15: EV/EBITDA and book value SOTP valuation

Sum of the parts					
Current price (HK\$)		4.77			
Fair value per share (HK\$)		6.71			
Upside/(downside) to FV		40.6%			
Dividend yield (FY18e)		2.6%			
Total return		43.2%			
Current number of shares (m)		1,609			
Segment	Valuation method	HK\$m	Multiple	Implied value, HK\$m	HK\$/share
City water supply operation and construction	FY18e EBITDA multiple	2,106	7.0	14,744	9.16
Sewage treatment operation and construction	FY18e EBITDA multiple	215	7.0	1,504	0.93
Property development and other segments	FY17 BV multiple	3,244	1.3	4,217	2.62
GROUP ENTERPRISE VALUE				20,465	12.72
Less: FY18e net debt				5,901	3.67
Less: FY18e minorities				3,773	2.35
SOTP VALUATION for Equity				10,550	6.71

Source: China Water Affairs Group data; Edison Investment Research

Exhibit 16: Peer comparison

Company	Ticker	Market cap (local)	Dividend yield FY1 (%)	P/E FY1 (x)	P/E FY2 (x)	P/E FY3 (x)	EV/EBITDA FY1 (x)	EV/EBITDA FY2 (x)	EV/EBITDA FY3 (x)
China Water Affairs	855:HK	7.7bn	2.6	8.0	6.8	5.9	4.9	4.2	3.7
Guangdong Investment	270:HK	73.0bn	4.3	14.6	14.8	14.1	9.3	9.2	8.7
Beijing Enterprises Water	371:HK	55.5bn	2.4	13.6	10.9	9.2	14.2	11.9	10.2
Tianjin Capital	1065:HK	24.7bn	1.6	12.4	11.7		18.0	17.0	
Average HK-listed			2.8	13.5	12.5	11.7	13.8	12.7	9.5
Beijing Capital	600008 CH	33.3bn	1.4	45.8	40.2	34.2	21.9	19.9	19.2
Beijing Originwater Tech	300070 CH	58.9n	0.5	22.9	17.7	13.9	18.8	14.0	10.8
Chongqing Water Group	601158 CH	33.6bn	4.4	20.1	20.6	20.0	14.8	14.3	
Average mainland China			2.1	29.6	26.0	22.7	18.5	16.1	15.0
Veolia Environment	VIE FP	11.3bn	4.1	19.5	16.6	15.1	6.4	6.1	5.8
Suez Environment	SEV FP	10.4bn	4.0	23.4	17.6	15.9	6.8	6.2	5.9
United Utilities	UU/ LN	6.1bn	4.3	19.6	17.3	16.1	13.0	12.3	11.9
Average Europe			4.1	20.8	17.2	15.7	8.7	8.2	7.9

Source: Bloomberg; Edison Investment Research. Note: prices at 12 September 2017. CWA forecasts based on Edison Investment Research estimates, and EV/EBITDA based on net debt exiting FY17, to be consistent with Bloomberg's calculation.

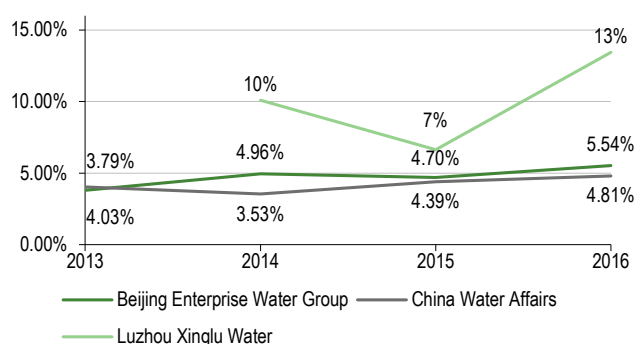
Shareholder value: Low funding cost plus capital discipline

Management seeks to create value for shareholders with a combination of competitive borrowing costs and a disciplined approach to capital deployment.

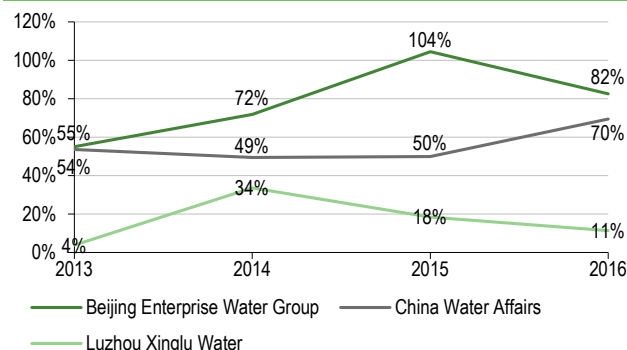
Low borrowing cost

CWA indicates that its funding cost is approximately 2-3% offshore (outside China) and 5-10% below benchmark rates onshore (in China). In January 2017, the company issued a US\$300m five-year senior note at face value and a coupon rate of 5.25% due in 2022.

Compared to Beijing Enterprises Water Group (371.HK), a Beijing government-owned water utility focusing on sewage water treatment, and Luzhou Xinglu Water (2281.HK), a Sichuan-based regional water company with a business model similar to CWA, CWA's effective interest rates for bank loans look competitive. Among the three companies, Luzhou Xinglu Water is the least levered, but its borrowing cost is the highest, possibly due to a smaller scale. Luzhou Xinglu Water also prefers to have ownership of water supply assets. It is currently serving 0.26 million users vs 2.9 million users covered by CWA's networks.

Exhibit 17: Effective borrowing cost


Source: China Water Affairs Group data; Edison Investment Research. Note: CWA FY17 (ending in March) compared to Beijing Enterprise Water Group's and Luzhou Xinglu's FY16 (ending in December 2016).

Exhibit 18: Net debt to equity ratios


Source: China Water Affairs Group data; Edison Investment Research. Note: CWA FY17 (ending in March) compared to Beijing Enterprise Water Group's and Luzhou Xinglu's FY16 (ending in December 2016).

Capital discipline

It is worth noting that CWA holds the view that the quality of the currently available PPP projects in China is not consistent. While it is the intention of the central government to encourage local municipals to use JV/hybrid ownership structures in order to deleverage their own balance sheets and improve the operating efficiency of existing assets, the majority of PPP projects in water and sewage on the market are for new infrastructure, and the repayments primarily come from local governments. CWA indicates that it prioritises on the opportunities where it has existing customer care networks, to mitigate counterparty risks.

Shareholder value

Economic value added (EVA) spread, the delta between WACC (weighted cost of capital) and ROIC (return on invested capital) is a good metric for shareholder value. We think CWA's competitive borrowing cost is a key contributor to its low WACC. Even compared to state-owned enterprises such as Beijing Enterprises Water Group (43.6% owned by Beijing Enterprises, essentially the Beijing city government), CWA's borrowing cost looks competitive. We believe this is the result of CWA's quality assets and stable cash flows. On the other hand, CWA's cost discipline seems to pay off, reflected in a higher ROIC compared to Beijing Enterprises Water Group.

Exhibit 19: WACC, ROIC and EVA spread

Company	Ticker	WACC	ROIC	EVA spread	Comment
China Water Affairs	855.HK	5.08%	7.87%	2.79%	85% revenue from water supply, with ownership of operating assets
Beijing Enterprises Water Group	371.HK	6.61%	6.71%	0.10%	Focusing on sewage treatment; significant exposure to Beijing and Guangdong
Guangdong Investment	270.HK	7.52%	9.10%	1.58%	Conglomerate with water and other infrastructure assets in Guangdong
Tianjin Capital	1065.HK	9.31%	6.43%	(2.89%)	50% owned by Tianjin City Government; focusing on waste water treatment
China Water Industry	1129.HK	7.23%	2.30%	(4.93%)	20% revenue in water supply; 8% in sewage treatment; 50% in construction service; 22% in biogas power generation

Source: Bloomberg; Edison Investment Research

Financials: Earnings quality intact, but risk increases with higher gearing

We lower our revenue forecasts for FY18 and FY19 by 6% and 7%, respectively, as CWA's reported FY17 sales were 9% below our prior estimates. We also revise EBITDA downward for FY18 and FY19 by 1% and 4%, respectively. We assume a certain degree of operating leverage.

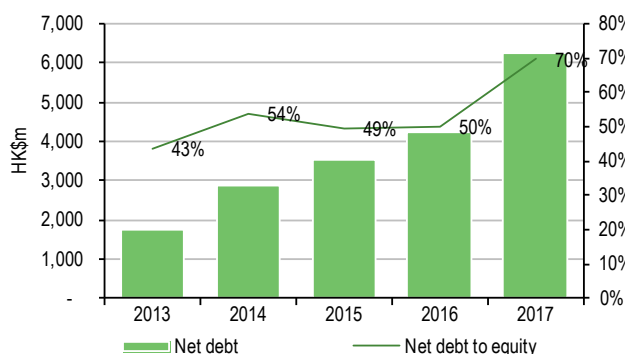
Exhibit 20: Edison earnings versus consensus

HK\$m	2018e	2019e	2020e
Edison revenues	7,103	8,256	9,976
Bloomberg revenues	6,796	7,781	9,058
± Edison vs consensus	4.6%	6.1%	10.1%
Edison EBITDA	2,831	3,283	3,767
Bloomberg EBITDA	2,539	2,980	3,335
± Edison vs consensus	11.5%	10.2%	13.0%
Edison EBIT	2,418	2,828	3,267
Bloomberg EBIT	2,292	2,732	3,121
± Edison vs consensus	4.1%	3.5%	4.7%
Edison net debt	5,901	6,052	5,976
Bloomberg net debt	6,148	6,022	6,163
± Edison vs consensus	(4.0%)	0.0%	(3.0%)

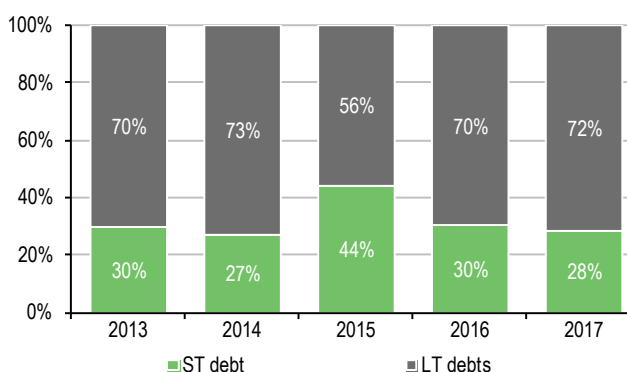
Source: Edison Investment Research, Bloomberg data (7 September 2017).

The quality of its earnings in FY17 is comparable to FY16, both with net operating cash flows as approximately 25% of revenues (vs 9% in FY15). CWA generated net operating cash flows of HK\$1.45bn, 25% up year-over-year.

However, CWA's net debt and leverage are at a historical high, with a net debt up 48% to HK\$6.23bn in FY17 as a result of a 50% increase in capex to HK\$1.910m and the HK\$860m loan to China City Infrastructure Group (currently 7.3% owned by CWA). So far, the short-term debts remain at 30% or lower of the total interest-bearing debts.

Exhibit 21: Net debt and net debt to equity ratio


Source: China Water Affairs Group data

Exhibit 22: Short-term and long-term debt breakdown


Source: China Water Affairs Group data

A major change in CWA's financial reporting in FY17 is the reclassification of the water supply infrastructure under the TOO model from property, plant and equipment to other intangible assets. Management indicates that this restatement is to bring its reporting in line with peers in Hong Kong, as recommended by its new auditor PwC, to facilitate like-for-like comparisons. This restatement has no retroactive impact on operating expenses or operating cash flows.

Revenue: Non-cash HK\$700m increase in restated FY16 top line

In FY17, CWA restated its financials for FY15 and FY16 to bring its accounting policy in line with peers regarding the revenue and asset recognition of concession agreements. This restatement has no retroactive impact on operating expenses or operating cash flows.

On the income statement, a major change is a non-cash HK\$700m increase in FY16 revenue, as a result of estimates on a cost-plus basis for construction services (vs percentage of costs incurred to date and a gross margin assumption). CWA believes that the gross margin assumption used for its estimates at 10.7% is lower than the 20% typically seen among its peers. Management also thinks that the non-cash HK\$700m increase in FY16 revenue is evidence of its prior conservative revenue recognition policy.

Exhibit 23: Segment reporting FY16 before and after restatement

HK\$m	Previous	Restated
Water supply connection income	1,179	797
Water supply construction services (intangible assets)	589	1,496
Water supply operation services	1,447	1,447
Sewage treatment and drainage operation services	279	279
Sewage treatment construction services (financial + intangible assets)	39	39
Sales of goods	354	354
Others	146	145
Total revenue	4,033	4,740

Source: China Water Affairs Group accounts; Edison Investment Research

Balance sheet: PPE reclassified into intangible assets

The water supply infrastructure previously classified as property, plant and equipment is now reclassified to intangible assets, as the amount to be received from end-users is uncertain. These intangible assets are amortised on a straight-line basis over the terms of remaining service concession periods.

Management indicates that its previous accounting policy should in theory result in a lower EBIT number (all else being equal) because depreciation of fixed assets is typically over 10-15 years (vs amortisation of intangible assets under concession contracts typically over 25-30 years of the contract period).

Exhibit 24: Key change in cash flows and balance sheet due to restatement

HK\$m	Before restatement		After restatement	
Year end 31 March	2015	2016	2015	2016
Property, plant & equipment	5,995	6,716	618	590
Other intangibles	176	764	6,526	8,041
Receivables from concession agreements	N/A	N/A	349	541
Depreciation of fixed assets	282	324	N/A	45
Amortisation of intangible assets	9	9	N/A	227
Cash flows from investing activities				
Purchase of property, plant & equipment	(781)	(670)	N/A	(67)
Increase in concession rights for water supply and sewage processing	(6)	(601)	N/A	(1,206)

Source: China Water Affairs Group accounts; Edison Investment Research

Exhibit 25: Financial summary

	HKDm	2016	2017	2018e	2019e	2020e
31-March		HKFRS	HKFRS	HKFRS	HKFRS	HKFRS
PROFIT & LOSS						
Water supply revenue		3,922	4,874	6,347	7,733	9,143
Sewage treatment		318	531	581	610	640
Other segments		500	303	175	184	193
Revenue TOTAL		4,740	5,708	7,103	8,526	9,976
EBITDA		1,951	2,647	2,831	3,283	3,767
Operating Profit		1,647	2,271	2,418	2,828	3,267
Amortization		241	316	348	382	421
Depreciation		63	60	66	73	80
Net Interest expense		(171)	(251)	(289)	(332)	(382)
Profit Before Tax		1,505	1,963	2,159	2,536	2,935
Tax		(305)	(583)	(604)	(710)	(822)
Profit After Tax		1,200	1,379	1,554	1,826	2,113
Net profits contributable to shareholders		749	854	964	1,132	1,310
Average Number of Shares Outstanding (m)		1,508.5	1,541.2	1,609.0	1,609.0	1,609.0
EPS - normalised and fully diluted (c)		40.1	55.4	59.9	70.4	81.4
Dividend per share (c)		8.0	20.0	12.5	15.0	17.5
Water supply revenue growth (%)		78.4	23.9	27.9	21.8	18.2
Sewage treatment revenue growth (%)		99.5	63.1	5.0	5.0	5.0
EBITDA Margin (%)		41.2	46.4	39.9	38.5	37.8
Operating Margin (%)		34.7	39.8	34.0	33.2	32.7
BALANCE SHEET						
Fixed Assets		13,005	15,689	16,735	17,838	19,042
Intangible Assets		8,041	9,630	10,682	11,742	12,807
Plant, property and equipment		590	1,127	1,171	1,231	1,310
Investment properties		908	1,173	1,056	845	676
Investment in associates		1,334	635	826	991	1,189
Other		2,132	3,124	3,000	3,030	3,060
Current Assets		6,966	9,942	9,949	10,060	10,408
Properties Under Development		524	690	621	559	503
Properties Held for Sale		273	289	290	290	290
Inventory		289	285	299	314	330
Trade and Bills Receivables		1,084	872	1,046	1,151	1,266
Due from Non-controlling Equity Holders of Subsidiaries		308	251	264	269	274
Due from Associates		403	409	400	400	400
Prepayments, Deposits and Other Receivables		970	1,743	1,300	1,500	1,700
Pledged Deposits		467	783	783	783	783
Deposits and cash		2,552	4,314	4,645	4,494	4,562
Other		98	306	300	300	300
Current Liabilities		5,557	7,393	7,017	6,884	6,772
Trade and Bills Payables		855	1,097	1,119	1,175	1,234
Accrued Liabilities, Deposits and Other Payables		1,782	2,102	1,892	1,703	1,532
Short-term Borrowings		2,156	3,206	3,206	3,206	3,206
Other		764	988	800	800	800
Long Term Liabilities		5,967	9,275	9,962	10,286	10,790
Long-term Borrowings		5,076	8,123	8,123	8,123	8,123
Other long term liabilities		891	1,152	1,839	2,163	2,667
Shareholders' Equity		8,446	8,963	9,705	10,729	11,888
		1	-	-	-	-
CASH FLOW						
Net Cash Flows from Operating Activities		1,163	1,454	1,776	2,132	2,494
Purchase of property, plant and equipment		(67)	(92)	(110)	(132)	(159)
Increase in concession rights for water supply and sewage processing		(1,206)	(1,818)	(1,400)	(1,442)	(1,485)
Acquisitions/disposals		(972)	(286)	(572)	(601)	(631)
Increase in prepayments and other receivables		0	(1,226)	0	0	0
Repayment of HK\$860m loan from China City Infrastructure Group				860	0	0
Others		578	(120)	0	0	0
Net Cash Flows from Investing Activities		(1,667)	(3,542)	(1,222)	(2,175)	(2,275)
Net Cash Flows before Financing Activities		(504)	(2,088)	553	(43)	219
Dividends		(106)	(136)	(302)	(193)	(241)
Shares issue and/or options exercised		149	84	80	85	90
Net Cash Flow		(673)	(2,019)	331	(151)	68
Opening net debt (CWA definition)		3,541	4,213	6,232	5,901	6,052
Closing net debt/(cash)		4,213	6,232	5,901	6,052	5,984
Net debt to equity ratio (CWA definition)		50%	70%	61%	56%	50%

Source: China Water Affairs Group data; Edison Investment Research.

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Revenue by geography

Management team
Executive chairman: Mr Duan Chuan Liang

Mr Duan Chuan Liang is a water industry veteran, having worked previously for the Ministry of Water Resources in China for over 10 years. He serves as a director of numerous other enterprises in PRC. He graduated from the North China College of Water Conservancy and Hydro Power with a bachelor's degree, specialising in irrigation and water conservancy works.

Executive Director: Ding Bin

Ms Ding Bin joined the group in 2007. She has over 10 years of experience in financial management and tax planning. She graduated from Zhengzhou University of Technology in finance and computing management. Ms Ding is a certified public accountant in the PRC and a member of the Chinese Institute of Certified Public Accountants. Ms Ding was the general manager's assistant and general manager of the finance department prior to her appointment as executive director.

Executive Director: Ms Liu Yu Jie

Ms Liu Yu Jie joined the group in 2014. She graduated from the University of International Business and Economics in Beijing and also obtained an MBA. She has worked in Hong Kong, Singapore and the PRC.

Executive Director: Mr Li Zhong

Mr Li Zhong joined the group in 2015. He graduated from the Beijing University of Chemical Technology and from Saint Mary's University in Canada with an MBA in 1997. He holds registered engineer certifications from both mainland China and Canada, and has served in large state-owned enterprises, US-based corporations and global enterprises in mainland China and Hong Kong for over 20 years.

Principal shareholders

	(%)
Executive chairman Mr Duan Chuan Liang	28.4%
Orix Corporation	18.7%
Norges Bank	4.6%
Citi	3.6%
International Finance Corporation	2.6%
Executive director Li Zhong	1.9%
Vanguard	1.5%
Blackrock	0.9%

Companies named in this report

Guangdong Investment (270.HK); Beijing Enterprises Water Group (371.HK); Tianjin Capital (1065.HK); Beijing Originwater Technology (300070.CH); Chongqing Water Group-A (601158.CH); Veolia Environment (VIE.FP); Suez Environment (SEV.FP); United Utilities (9UU.LN); Luzhou Xinglu Water (2281.HK); Beijing Capital (600008.CH); China Water Industry (1129.HK)

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