EDISON

China Water Affairs Group

Well positioned in a growing market

Annual update

Utilities

8 August 2018

China Water Affairs Group (CWA) is well positioned to take advantage of the favourable trends that we expect in the Chinese water and sewage market. CWA's portfolio of water assets, experienced team, stable financial position and impressive track record should enable the company to continue to grow returns for shareholders.

Year end	Revenue (HK$m)	PBT* (HK$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
03/17	5,708	1,963	55.4	20.0	17.1	2.1
03/18	7,580	2,462	71.8	23.0	13.2	2.4
03/19e	8,935	2,829	81.5	26.2	11.7	2.8
03/20e	10,481	3,384	97.5	29.4	9.7	3.1

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

Impressive track record

CWA's recent FY18 results extended the company's impressive track record. In the period 2013–18, CWA achieved CAGR in EPS of 29.6% and DPS of 35.7%. In the same period, the revenues and segmental profits of the key water business (more than 85% of group profits) grew at a CAGR of 31.5% and 33.3%, respectively. The operating margin for the core water business has remained in the range of c 36–42% since 2011, and in 2018 was 38%. Over a longer 10-year period, CWA has posted CAGR of 32.8% in revenues and 39.8% in operating profits. Despite the strong growth, CWA has preserved its financial strength with total liabilities/total assets at c 61% in 2018 (2013–18 range: 55–65%).

Favourable market; strong position

We believe CWA is capable of achieving further growth in the forecast period. Politics and regulation require further improvements to the Chinese water and sewage infrastructure and, as the recent opinion on changes to the price change mechanism (No. 943) issued by the National Development and Reform Commission (NDRC) acknowledges, tariffs should be reflective of costs and not force operators to supply the domestic water market at a loss. However, even at current tariff levels, CWA has turned previously lossmaking state-owned enterprises into profit through efficiency improvements. Profitability will be further enhanced once tariff rises are implemented. With a government committed to involving private capital in system improvements, CWA, with its track record of success, experienced management team, sound financial footing and diversified portfolio of water assets, is well placed to take advantage of the expected transformation.

Valuation: Upside potential despite recent strength

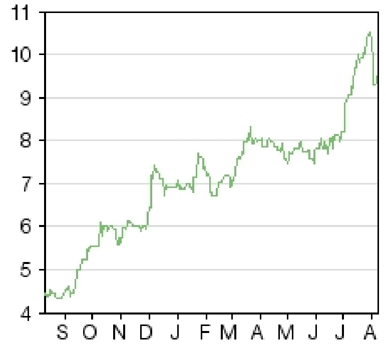
Following the recent NDRC announcement, we have revised our forecasts (FY19e EPS HK$0.815 vs HK$0.762 previously), taking a more optimistic view on the scope for tariff increases and we also revise our minority interest charge. Blended peer group multiples indicate a valuation for CWA of c HK$10.7/share. Applying only peer group P/E multiples, CWA's valuation would rise to HK$11.7/share (FY19) and HK$12.4/share (FY20). The two-year PEG ratio is c 0.9x (at HK$11/share).

Price HK$9.50

Market cap HK$15,285m

Net debt (HK$m) at 31 March 2018	7,801
Shares in issue	1,608.9m
Free float	48.4%
Code	855
Primary exchange	HK
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	5.0	23.4	119.4
Rel (local)	5.2	31.0	115.1
52-week high/low	HK$10.5	HK$4.3	

Business description

China Water Affairs is a pioneer in the privatisation of water supply assets in China. The company seeks to create growth via volume/price increases and acquisitions. It is a constituent of the FTSE Environmental Opportunities Asia Pacific Index.

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Edison profile page

China Water Affairs Group is a research client of Edison Investment Research Limited

Investment summary

Company description: Active in water asset privatisation

CWA is a one-stop water services solutions provider with operations encompassing the supply of raw and tap water, sewage treatment, network construction and maintenance and water resource management. Founded in 2003 and based in Beijing, CWA supplies water to over 58 cities in the People's Republic of China (PRC) (under the transfer–own–operate model) and runs sewage treatment projects (under 25-year franchise agreements – build, operate, transfer (BOT)) spread across a number of provinces and regions. CWA also operates a number of other smaller businesses, including property development. The property business develops and sells land banks accumulated during the past 15 years. Proceeds are used for the development of the core water business. CWA seeks to grow its business both organically, via expansion of the network and tariff increases, and through the acquisition (privatisation) of existing assets.

Valuation: Rating offers further upside

Blended peer group multiples indicate a valuation for CWA of c HK$10.7/share. Applying only peer group P/E multiples (FY1 14.4x and FY2 12.7x) CWA's valuation would rise to HK$11.7/share and HK$12.4/share, respectively. The two-year PEG ratios of 0.8x (at HK$10/share) and 0.9x (at HK$11/share) also appear undemanding for a company with CWA's growth record. Our DCF valuation of HK$13.4 share is sensitive to assumptions on discount rates (we use 8%), terminal growth rates (we use 2%) and long-term EBIT growth rates (we assume 14% pa beyond 2021). Reducing our assumption for EBIT growth from 14% to 12% lowers the DCF valuation to HK$12.2/share (using discount rates of 8% and a terminal growth rate of 2%).

Financials: Growth trajectory to continue

- Revenue growth – we forecast revenue growth of 18% in FY19 and 17% in FY20 (vs CAGR 2013–18 of 27.5%). The water supply business remains the key contributor, accounting for c 85% of revenue in both years.
- Margins – we forecast operating margins for FY19 and FY20 of c 35% (FY18 35.5%).
- EPS and DPS – growth in revenue and stable operating margins lead us to forecast EPS of HK$0.815 for 2019 and HK$0.975 in 2020, based on our assumption of a minority interest of 35% (previously 39%). We assume a pay-out ratio (based on basic EPS) of 32% in FY19 and 30% in FY20 (32.5% in FY18). Our assumptions produce a DPS forecast of HK$0.262 (2019) and HK$0.294 (2020).

Sensitivities: Acquisitions, politics and regulation

- Acquisition – given the acquisitive strategy of the business there is a risk that CWA overpays for an asset, although the scale of this risk is diminished by project diversification.
- Political – the Chinese government has been supportive of the policy of privatisation of water assets, which has allowed CWA to grow. A reversal of this policy, although unlikely in our view, could significantly reduce CWA's growth prospects.
- Local government – CWA operates its projects jointly with local governments, which retain the right to terminate concessions. A breakdown of relations with the local government could pose a threat to a specific project.

  Regulation – CWA is allowed to earn returns of between 8% and 12%. Reductions in the allowed return, although unlikely in our view, could reduce the profitability.

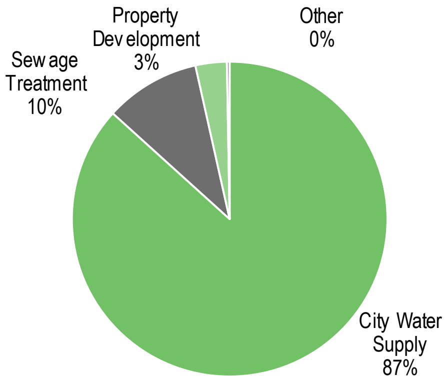
Company description: A utility offering rapid growth

CWA offers pure equity exposure to the Chinese water market and operates water supply assets across 58 Tier 3 and Tier 4 Chinese cities. The business expansion has delivered strong returns for shareholders, with CAGR in the DPS of 35.7% and 29.6% for EPS in the period 2013–18.

Chinese water market remains focus

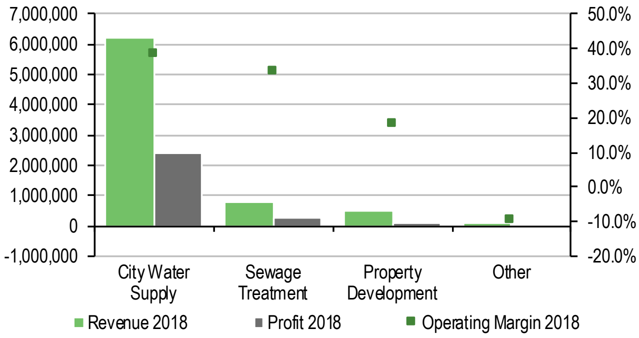
CWA is focused on the Chinese water supply market, with a supply capacity of 8.49m m^3/day currently. In FY18, c. 0.7m m^3/day of additional capacity was added by acquisitions and organic expansion. The water business accounted for 87% of group operating profits in 2018. CWA entered the sewage treatment sector in 2012 and this business has also grown rapidly in recent years and contributed c 10% of operating profits in 2018. Of the other businesses, property development is the most notable, generating c 3% of operating profits in 2018.

Exhibit 1: Percentage of operating profit by division



Source: China Water Affairs, Edison Investment Research

Exhibit 2: CWA – composition of revenues and operating profits 2018 together with operating margin



Source: China Water Affairs, Edison Investment Research

Strategic growth in the Chinese water and sewage market

CWA's strategy is to continue to grow in its core Chinese market. Growth is targeted from expanding existing operations, through additional capex and improving profitability via tariff increases. CWA also seeks to acquire water networks (often loss-making) from local governments and as a result of operational improvements and tariff negotiations to improve profitability. Management targets earnings accretion from the acquisitions on a two- to three-year time frame.

Experienced team has delivered growth

The executive chairman, Mr Duan Chuan Liang, founded the predecessor company to CWA, Silver Dragon Group, in the 1990s. Prior to that, Mr Duan worked for the Ministry of Water Resources in the PRC for over 10 years. As a result of the implementation of its focused strategy, CWA has been able to achieve rapid growth for shareholders, with a CAGR in the period 2013–2018 of 26.1% for operating profits and 29.6% for EPS. The DPS has also been increased significantly (CWA's policy is to pay at least 30% of basic EPS in DPS), achieving a CAGR of 35.7% in the period 2013–18.

Market opportunity facilitates growth

The Chinese government has implemented significant changes to the Chinese water system in order to address the problems of scarce water resources, poor water quality and financially hard-pressed local governments. Water transfer projects and environmental legislation have begun to address some of the issues, but it is, in particular, the privatisation of water assets, encouraged by the central government, that provides a significant market opportunity for CWA.

Chinese water resources and quality

Figures from the World Bank indicate that, in absolute terms, Chinese water resources, at 594.2bn m^3 rank as the fifth most plentiful in the world, after Brazil, the Russian Federation, Canada and Indonesia. On a per-capita basis, the analysis appears less favourable, with China at approximately one-third of the global average, but nevertheless not out of line with some other major industrial economies. The headline figures do not, however, reveal the geographic disparity in terms of water resources between regions and the highly polluted nature of much of the water. According to the United Nations Food and Agriculture Organisation, some areas in the north of the country, such as the Huai and Hai-Luan river basins, possess resources of less than 500m^3/year per inhabitant (below the level defined as 'water scarce' by the UN) versus c 25,000m^3/year per inhabitant in the relatively sparsely populated south-west of the country. A total of 11 provinces in China fall below the 1,000m^3 per capita level, defined by the World Bank as the 'water poverty' mark. Eight provinces are defined as suffering from 'extreme scarcity' with annual water resources below 500m^3 per capita. According to CWA, over 400 out of 660 cities suffer from water shortages. With population and economic growth, and in the absence of intervention, the situation would worsen.

The quality of water has also been a major concern. According to the UN, FAO 'Water Report 37 2012', 80% of the 50,000km of major rivers in China are so polluted that they can no longer support fish. In addition, around urban areas 90% of rivers are said to be seriously polluted, especially in the industrial north of the country. According to the National Development and Reform Commission (NDRC), in 2015 over 30% of China's seven major river systems fell below the expected standard (below grade III).

Government policy to address deficiencies

The Chinese government has taken a number of initiatives to address issues of water scarcity and pollution.

The South-to-North Water Diversion Project involves drawing water from southern rivers and supplying it to the north and thereby reducing water abstraction in the relatively dry Northern provinces. The project will link China's four main rivers and will involve the construction of three diversion routes, across the eastern, central and western parts of China. Planned for completion in 2050, it is estimated the project will cost $62bn and, when complete, will facilitate the diversion of 44.8bn cubic metres of water annually.

As we have already noted, a significant proportion of China's water resources are polluted. To tackle the problems of pollution the authorities have devised a regime of increased supervision and punishment. The revised Water Pollution Prevention and Control Law came into effect on 1 January 2018 with increasing government responsibility and supervision. Over 900,000 river chiefs have been appointed, who will in turn have their performance assessed by public bodies based on the quality of rivers and lakes in their jurisdiction. The river chief system is designed to improve the co-ordination of trans-jurisdictional matters. Stronger enforcement also forms a key part of the law and fines can reach as much as RMB1m with the potential for criminal punishment for significant violations. The Ministry of Ecological Environment, in its recently published 2017 'State of Ecology

& Environment Review', revealed that RMB11.6bn of violation fines were levied in 2017. While the changes have begun to bear fruit in terms of river quality (in 2017, rivers meeting grades I–III rose to 71.8% (from 71.2% in 2016) versus the target of 70%), the picture remains mixed, with groundwater and lakes and reservoirs showing a deterioration.

The 13th Five Year Plan for the Construction of Urban Wastewater Treatment and Recycling Facilities (issued 2017) has set out a number of objectives for increasing the rate of urban sewage treatment, sludge treatment and expansion of the sewage pipe network. In total, investment is expected to reach RMB560bn, c 31% higher than the expenditure envisaged in the 12th Five Year Plan.

The rapid rate of urbanisation in China and the weak financial state of the local governments' balance sheets have also led to the Chinese authorities to encourage the participation of private capital in the provision of water services and this has created a significant business opportunity for CWA and allowed it to grow its business strongly in recent years. In addition, the recent economic policy document (943 – June 2017) from the NDRC called for, among other issues, more stringent discharge standards for sewage, competitive bidding for sewage treatment contracts and the introduction of a pricing mechanism for sewage treatment and sludge. Most importantly for CWA, in our view, NDRC 943 advocates the establishment of a price-adjustment mechanism that fully reflects the costs of the water supplied, so that the residential water price is no longer below cost level and prices in the non-residential section of the market allow for a reasonable profit level to be earned.

Market size figures for water treatment and sewage

The underlying Chinese water market has been growing modestly over the longer term, at a rate of c 1%, although domestic usage has been growing more rapidly, at almost 3%, over the same period. However, the percentage of the market that has been privatised remains small (c 15% of the water market is currently in private hands), allowing significant scope for expansion.

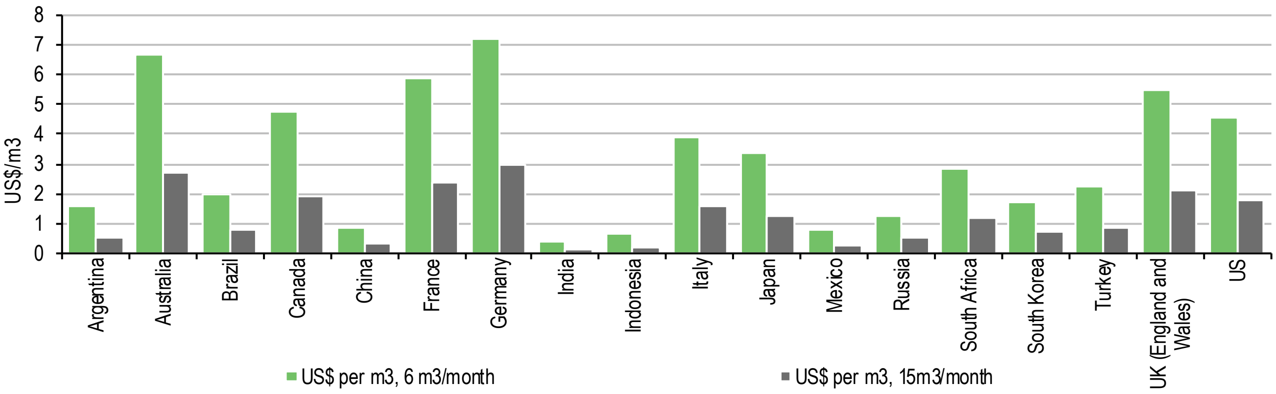
Exhibit 3: China – growth in water usage by sector 1980–2013

Sector	1980 (in 100m^3)	2013 (in 100m^3)	Average growth rate 1980–2013 (% pa)
Agricultural	370	392	0.175
Industrial	46	141	3.337
Domestic	28	75	2.941
Total	444	618	0.997

Source: Ministry of Environment Protection of PRC (2013)

Despite recent rises, water tariffs in China remain low. A comparison of international water tariffs shows clearly that China remains well below international averages for industrialised nations. Tariffs correspond to c 1% of average disposable income compared to a world average of c 3–5%, providing potential for upward revision over time.

Exhibit 4: International comparison of water tariffs for customers using 6m^3/month and 15m^3/month



Source: IBNet Tariffs DB

Competitive position

As a pioneer of the public–private partnership in the water supply business in China and integrated across the entire water supply value chain (using the TOO model), CWA has been able to expand more rapidly than some of its competitors and has established an extensive network of contacts with local governments. The network, covering 58 cities (operated using 30–50-year contracts) allows CWA to ensure that it is not overly exposed to adverse regulatory/political outcomes in any one specific area. The direct collection of tariffs from the end user also provides for a stable income and cash flow. Although international water companies have made some inroads into the Chinese market, recent history (since the financial crash) would suggest that they have pulled back from the market. We believe that CWA's local knowledge, Chinese credentials, experienced management team and proven track record have made it a trusted partner of local governments and place it in a strong position to grow the business.

CWA business model

CWA's strategy is to exploit the growth opportunity in the Chinese water market. As we have already seen, the water business remains the core component of profitability and has grown rapidly in recent years, with the principal profit drivers being price increases and volume growth (organic and acquisitive). In the case of acquisitions, CWA will buy water assets (often loss-making) from local authorities, and improve and expand the system while applying for tariff increases. The regulation allows for an 8–12% (post-tax) return on equity.

Exhibit 5: Organic growth of CWA's water supply business in 2018

Region	Company	Capacity (m^3/day)
Huizhou, Guangdong	Daya Bay	130,000
Huaihua, Hunan	Yuanchen	40,000
Jingzhou, Hubei	Jianglin Silver Dragon	30,000
Shangrao, Jiangxi	Wannian Silver Dragon	25,000
Changsha, Hunan	Changsha (China Water)	10,000
Yungcheng, Shanxi	Pinglu	10,000
Pingxiang, Jianxi	Luxi	5,000
Total		**250,000**

Source: China Water Affairs

Exhibits 5 and 6 show that in 2018 acquired projects accounted for c 64% of the total increase in capacity, with organic growth accounting for the other 36%. In total, the capacity additions of 702,000 m^3/day represent an increase of c 9% in capacity. Customer numbers increased from 2.9m at year-end FY17 to 3.3m at FY18 (+c 14%). In FY18, CWA was also successful in negotiating tariff increases in 16 cities (versus seven in each of the previous two years). Since the year-end, a further eight cities have agreed tariff increases. We believe the scale of the tariff increases varies significantly, from as little as 2% in some cases, up to a maximum of 20%.

Exhibit 6: Acquired water supply projects in 2018

Region	Company	Capacity (m^3/day)
Shishou, Hubei	Urban and Rural Water Supply Integration	220,000
Ji'an, Jiangxi	Ji'an Silver Dragon	80,000
Shangqiu, Henan	Xiayi Water Supply	50,000
Heyuan, Guangdong	Heping Water Supply	50,000
Jiaozuo, Henan	Wuzhi Minsheng Water Supply	30,000
Xingtai, Hebei	Xinhe Silver Dragon	22,000
Total		**452,000**

Source: China Water Affairs

CWA entered the sewage market in 2012 and this business has grown quickly too (2013–18 CAGR in operating profit: 66.5%) to a point where it contributes c 10% of operating profits. An additional 205,00m^3/day of sewage treatment capacity was added as a result of organic growth in 2018 and four cities agreed tariff increases (one each in the previous two years).

Increasingly, CWA will also seek to explore the provision of value-added water services and the development of a direct drinking water business (not regulated and not subject to return caps). Growth is targeted by both organic and acquisitive routes with the continuing disposal of non-core assets used, in part, to fund the expansion.

CWA scope of operations

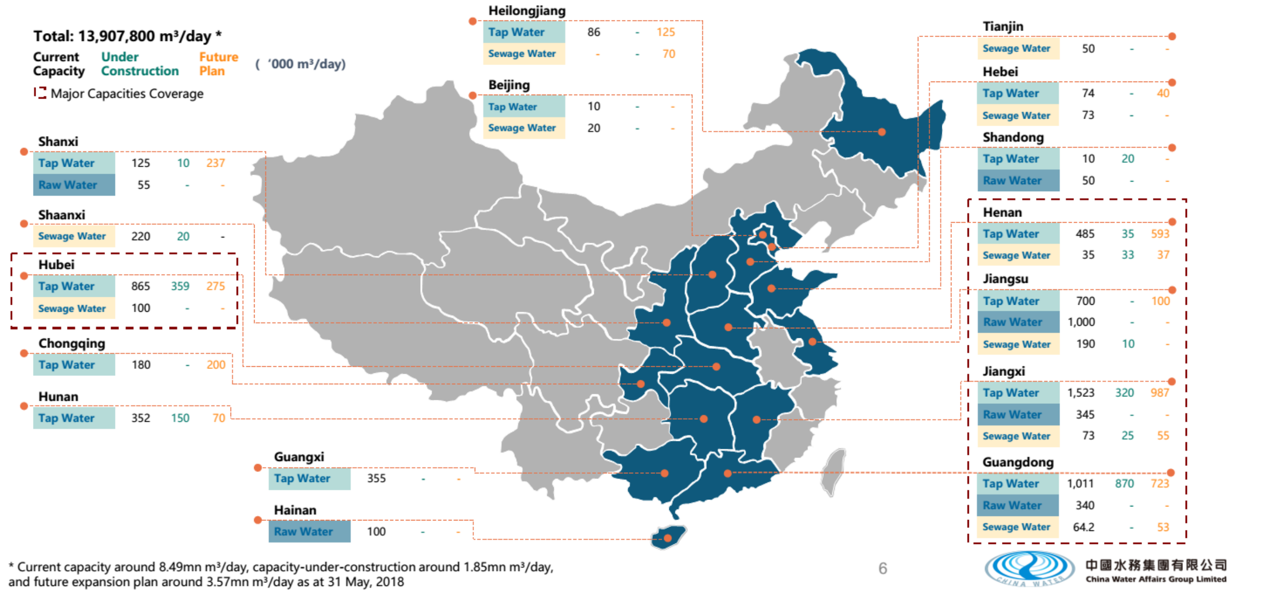
CWA now serves 58 cities in the east and north of China, spread over 13 provinces and three independent municipalities. Most of the cities served are small to medium-sized (Tier III or IV). The distribution network is over 135,000km in length. In total, CWA serves 3.3m people and its assets have a total designed capacity of 13.91m m^3/day. The current capacity of 8.49m m^3/day will be supplemented by 1.85m m^3/day of assets currently under construction and 3.57m m^3/day of plans for future expansion (Exhibit 7).

Exhibit 7: CWA capacity as at 31 May 2018

(million m^3/day)	Capacity (current)	Construction	Planned
Tap	5.776	1.764	3.350
Sewage	0.825	0.088	0.215
Raw	1.890	0.000	0.000
Total	**8.491**	**1.852**	**3.565**

Source: China Water Affairs

Exhibit 8: CWA geographical coverage 31May 2018



Source: China Water Affairs

Disposals finance growth

The growth is, in part, funded by the disposal of non-core assets and this forms a key part of CWA's strategy. In 2018, CWA disposed of assets worth HK$833m and plans to increase the rate of disposals to over HK$1,000m in 2019. A significant proportion of the disposal proceeds are generated by the profits on property development and investment. Unwanted water assets (eg water treatment plants) are either developed by CWA's own property development business or sold on to other developers for cash.

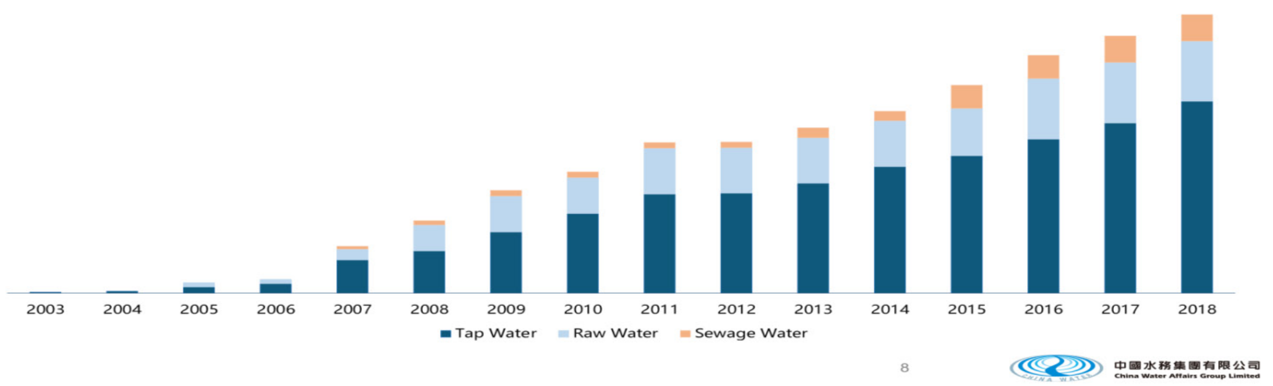
Exhibit 9: CWA non-core asset disposals 2018

Typethe profits	Amount (HK$m)	Comment
Property Development and Investment	446	Sold property projects in Jingzhou, Hubei and Zhoukou and Henan.
2349.HK Shares and Assets Disposal	180	Recouped cash of around HK$180m
Land Asset Disposal	107	Sold two pieces of land in Ningxiang and Hunan
Tourism Asset Disposal	100	Reduced CWA's share in Fairy Lake (JV with local government), Xinyu, Jiangxi to 10% (from 65%)
Total	**833**	

Source: China Water Affairs

CWA's long-term growth record

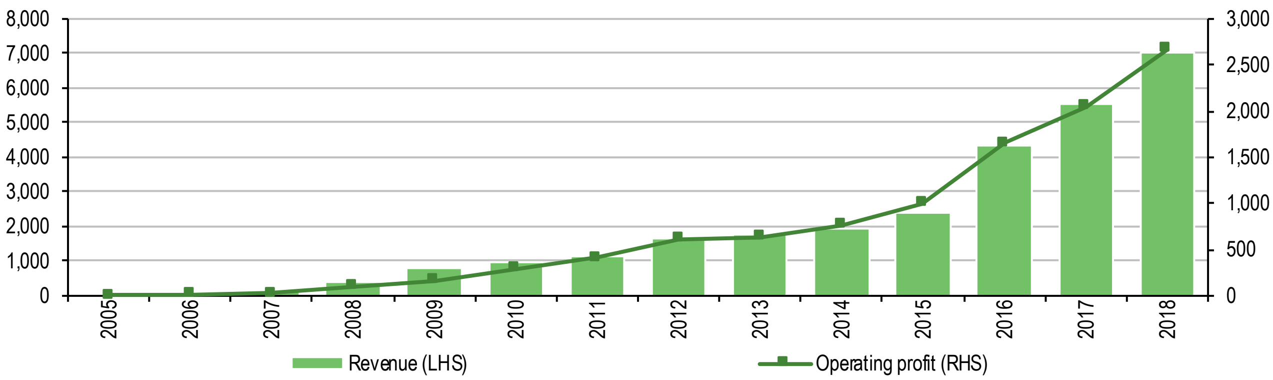
Exhibit 10: CWA capacity growth 2003-18



Source: China Water Affairs

The increased capacity (illustrated graphically but unfortunately not quantified by CWA) has been accompanied by rising revenues and profitability as shown in Exhibit 11. Over the period since 2008, CWA has achieved CAGR of 32.8% in revenues and 39.8% in operating profits. The operating margin for the core water business has remained in the range of 36–41% since 2011, and in 2018 was 38%, marking an improvement over the 37% margin recorded in 2017. Over the past five years, revenues and segmental profits in the key water business have grown at a CAGR of 31.5% and 33.3%, respectively.

Exhibit 11: CWA core water business revenue and profit growth, 2005–2018 (HK$m)



Source: China Water Affairs

FY18 results exceed expectations

CWA posted continuing year-on-year growth in group revenue (HK$7,580m, +32.8%), recurring operating profit (HK$2,718m, +37.5%) and EPS (71.8c, +29.6%). The growth reported exceeded our expectations for both revenue (HK$7,069m) and EPS (64.9c). The performance was aided by property profits, tariff hikes, acquisitions and an improvement in the cost-to-income ratio. It is worth noting that, excluding fair value gains on investment properties and a change in the fair value of derivative financial assets, CWA's growth in operating profit was 37.5%. The DPS was increased to 23.0c (Edison FY18e: 19.6c) and represented c 32% of basic EPS, in line with CWA's policy of paying at least 30% of basic EPS as a DPS. The headline numbers can be seen in Exhibit 12.

Exhibit 12: CWA FY18 versus FY17 – key figures				
		2017	2018	% change
Revenue	HK$000	5,707,895	7,580,176	32.8%
Gross profit	HK$000	2,484,905	3,270,636	31.6%
Operating profit	HK$000	2,271,093	2,691,382	18.5%
PBT	HK$000	1,962,625	2,462,111	25.4%
Profit for the year	HK$000	1,379,346	1,761,524	27.7%
Attributable to owners	HK$000	853,634	1,140,518	33.6%
EPS – basic	HK$ cents	56.720	72.6200	28.0%
EPS – diluted	HK$ cents	55.3900	71.8200	29.7%
Short-term borrowings	HK$000	3,205,875	3,450,300	7.6%
Long-term borrowings	HK$000	8,123,092	7,431,752	-8.5%
Total borrowings	HK$000	11,328,967	10,882,052	-3.9%
Total liabilities	HK$000	16,668,776	17,434,878	4.6%
Total assets	HK$000	25,631,709	28,589,287	11.5%
Liabilities/assets	%	65.0%	61.0%	
Equity	HK$000	8,962,933	11,154,409	24.5%

Source: China Water Affairs

The core water business (c 82% of group revenues) saw revenues and operating profits increase by 25.1% (to HK$6,204m) and 30.1% (to HK$2,401.9m), respectively. The profit growth resulted from tariff increases, capacity expansion (acquisitive and organic) and a strong performance from construction and connection. The sewage business saw year-on-year growth in revenues of 47.1% and 30.4% in profits. Once again, tariff hikes and capacity expansion fuelled growth along with construction and connection work. The relative contributions of each of CWA's divisions can be seen in Exhibit 13.

Exhibit 13: CWA segmental revenues and profits, FY18 versus FY17						
	2017 Revenue	2017 Profit	2018 Revenue	2018 Profit	% change revenue	% change profit
City water supply	4,960,825	1,846,595	6,204,059	2,401,861	25.1%	30.1%
Sewage treatment	552,940	207,760	813,636	270,955	47.1%	30.4%
Property development	22,033	315,991	478,659	88,859	2072.5%	(71.9%)
Other	172,097	(27,076)	83,822	(7,780)	(51.3%)	(71.3%)
Total	**5,707,895**	**2,343,270**	**7,580,176**	**2,753,895**	**32.8%**	**17.5%**

Source: China Water Affairs – NB Total segmental profits do not correspond to operating profits as they do not include unallocated corporate income and expenses, options expenses, gains on disposals and fair value gains taken through the P&L.

As CWA continues to expand the scope of its operations, net debt rose to HK$7,801m, but the balance sheet remains healthy and the ratio of total liabilities to total assets reduced from 65% to 61%, helped by the recovery of HK$833m from the sale of non-core assets. The returns on capital employed, according to our calculations, were 10.3%

Outlook remains favourable

The 13th Five Year Plan and the recent opinion issued by the NDRC (934) show that the government remains committed to an improvement in environmental standards and accepts the idea that improved standards will require tariffs to be placed on an economic footing. This political direction of travel is clearly a positive for CWA. The reform of the water supply market in China is at an early stage and the implementation of the public–private partnership model is expected to accelerate. CWA's competitive position is strong and its financial position remains sound, with cash inflow and disposal proceeds underpinning growth. CWA is a stable (cash flow is relatively immune from economic fluctuations) but growing utility business with the opportunity to offer additional services, such as the provision of hazardous waste services and direct drinking water (unregulated with the potential for significantly higher margins). We believe the outlook for CWA remains favourable.

Management

Executive chairman Mr Duan Chuan Liang: Mr Duan worked in the Ministry of Water Resources of the PRC for more than 10 years, before founding the Silver Dragon Group in the 1990s. Mr Duan has over 30 years' experience of the water industry and he has a bachelor's degree in water conservation and hydro power from North China College of Water Conservation and Hydro Power. Mr Duan is also is the chairman and non-executive director of China City Infrastructure Group.

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

Executive director Ms Liu Yu Jie: Ms Liu Yu Jie has been working in Hong Kong, Singapore and the PRC for over 20 years in total. She graduated from the University of International Business and Economics in Beijing and is also the executive director of New Universe Environmental Group.

Executive director Mr Li Zhong: graduating from St Mary's University of Canada with a master's degree in business administration, Mr Li Zhong is a member of the Standing Committee of the Shenzhen Municipal Committee of the Chinese People's Political Consultative Conference, as well as being the director of Shenzhen Bus Group and the honorary chairman of the Hong Kong Volunteers Association. He has served in large state-owned enterprises and US-based corporations for over 20 years.

Sensitivities/risks

- Acquisition – given the acquisitive strategy of the business, there is a risk that CWA overpays for an asset, although the scale of this risk is diminished by CWA's portfolio of assets.
- Political – the Chinese government has been supportive of the policy of privatisation of water assets that has allowed CWA to grow. A reversal of this policy, although unlikely in our view, could significantly reduce CWA's growth prospects. CWA is also beholden to the government for the various permits necessary to operate its business. Failure of the government to renew these permits would represent a significant negative outcome for CWA.
- Local government – CWA operates its projects jointly with local government, which retains the right to terminate concessions. Local governments often offer support to CWA in the forms of grants subsidies and low interest rate loans. A breakdown of relations with the local government could pose a threat to a specific project.
- Regulation – CWA is allowed to earn returns of between 8% and 12%. Adjustments to tariffs and returns could reduce the profitability of CWA's water projects.

Valuation

We use peer valuation multiples cross-referenced to a DCF to arrive at a suggested valuation for CWA.

For the comparable valuation analysis, we have selected a range of mid-sized to large Chinese and international water companies and tabulated the P/E, EV/EBITDA, Yield and P/B multiples (for FY1 and FY2) to obtain sector averages. An average of peer group multiples indicate a valuation for CWA of c HK$10.7/share. Applying only peer group P/E multiples (FY1 14.4x and FY2 12.7x) CWA's valuation would rise to HK$11.7/share and HK$12.4/share, respectively. The two-year PEG ratios of 0.8x (at HK$10/share) and 0.9 x (at HK$11/share) also appear undemanding for a company with CWA's growth record (sector average of 1.2x).

Exhibit 14: Peer group comparable valuation multiples

	Ticker	Market cap	Price	P/E (x)			EV/EBITDA (x)		Yield (%)		Price/Book (x)		PEG (x)
			(local)	Hist	FY1	FY2	FY1	FY2	FY1	FY2	FY1	FY2	2 yr
Guangdong Investment	270:HK	86,088	13.16	15.8	17.3	16.2	11.1	10.4	4.2	4.7	2.0	2.0	N/A
Beijing Entps. Water	371:HK	38,403	4.08	9.9	8.3	7.1	12.4	10.4	4.2	5.0	1.5	1.3	0.6
Ct Environmental Grp.	01363:HK	6,191	0.98	8.8	8.1	6.8	6.3	5.3	2.6	3.7	1.2	1.0	N/A
Tianjin Capital	1065:HK	11,763	3.28	N/A	7.7	7.3	9.5	9.0	2.5	2.8	0.7	0.7	N/A
Beijing Capital	600008 CH	19,186	3.98	32.4	25.3	22.1	15.1	13.4	2.3	2.4	1.6	1.5	1.7
Beijing Originwater Tech	300070 CH	39,854	12.65	16.3	12.5	9.1	10.3	7.6	0.9	1.1	1.9	1.6	0.6
Chongqing Water Grp.	601158 CH	25,872	5.39	14.0	15.6	15.0	N/A	N/A	5.0	5.0	N/A	N/A	N/A
Tus-Sound Enviro. Resources	000826 CH	21,816	15.25	15.5	13.0	10.3	12.2	9.7	1.7	2.3	1.4	1.3	0.6
Suez	SEV FP	7,565	12.17	16.9	19.7	17.4	7.6	7.4	5.3	5.4	1.2	1.2	N/A
Veolia	VIE FP	10,617	18.85	16.7	16.4	14.5	6.6	6.3	4.7	5.0	1.6	1.6	2.3
United Utilities	UU/LN	4,921	720.00	16.1	14.1	14.1	11.3	10.7	5.7	5.9	1.7	1.6	N/A
Average					**14.4**	**12.7**	**10.2**	**9.0**	**3.6**	**3.9**	**1.5**	**1.4**	**1.2**
Multiples Of CWA@	HKD/share	10.0		13.9	12.3	10.3	7.9	5.5	2.6	2.9	2.0	1.8	0.8
		11.0		15.3	13.9	11.3	8.4	5.9	2.4	2.7	2.2	1.9	0.9

Source: Edison Investment Research, Bloomberg. Prices as at (6th August 2018).

We have also constructed a DCF, valuing cash flow to 2024 assuming capex of HK$2,200m pa and using as a base-case long-term EBIT growth of 14%, a discount rate of 8% and a terminal growth rate of 2%. The valuation is sensitive to assumptions on discount rates and long-term EBIT margins, but as can be seen from Exhibit 16, using our base case assumptions a valuation of HK$13.4/share is obtained. Reducing the long-term growth assumption for EBIT, from 14% to 12% or raising the discount rate to 9% would reduce the valuation to HK$12.2/share or HK$10.8/share respectively. Exhibit 15 shows the sensitivity of the DCF valuation to changes in discount rate and terminal growth assumptions, while Exhibit 16 shows the impact of variations to assumptions on long-term EBIT growth.

Exhibit 15: CWA DCF valuation sensitivity to discount rates and terminal growth rates

	0%	1%	2%
7.00%	12.2	14.2	17.1
8.00%	10.0	11.5	13.4
9.00%	8.3	9.4	10.8
10.00%	7.0	7.8	8.8
11.00%	5.9	6.5	7.3
12.00%	5.0	5.5	6.1
13.00%	4.3	4.7	5.2

Source: Edison Investment Research

Exhibit 16: CWA DCF valuation sensitivity to changes in long-term margin assumptions

Margin Scenario	EBIT Growth 21-24e (%)	Valuation HK$/share
1	10%	11.0
2	12%	12.2
3	14%	13.4
4	16%	14.7
5	18%	16.1
6	20%	17.5

Source: Edison Investment Research

Financials

- We have revised our estimates to reflect more optimistic assumptions on the scope for tariff increases, following the publication of NDRC 943. We have also taken the opportunity to refine our assessment of the likely level of minority interest.
- Revenue growth – we forecast revenue growth of 18% in FY19 and FY20 (vs CAGR 2013–18 of 27.5%). The water supply business remains the key contributor, accounting for c 85% of revenue in both years. We assume growth in connection income (+18%), construction services (+20%) and (+21%) in water supply operations in FY19 and FY20.
- Operating margins – we forecast stable operating margins for FY19 and FY20 of c 35% (FY18: 35.5%). The margin for the key water business remains just under 36% for both FY19 and FY20.
- Capex – our forecasts are based on annual capex of HK$2,200m for FY19 and FY20.
- Tax rate – we assume a tax rate of 28% for FY19 and FY20 (FY18: 28%).
- Equity issue/repurchase – we do not include equity issues or share buyback in our forecasts.
- Leverage – based on our forecasts, total liabilities/total assets decline from 61% in FY18, to 59% in FY19 and 55% in 2020. Net debt/equity declines from 109% in FY18, to 81% in 2020.
- Minorities and EPS – we now forecast minority interests equivalent to c 35% of net income in both FY19 and FY20 (FY18 35% – three-year average 39%) producing basic EPS for FY19 of HK$0.815 and HK$0.975 for FY20.
- DPS – we assume a payout ratio (based on basic EPS) of 32% in FY19 and 30% in FY20 (32.5% in FY18). Our assumptions produce a DPS forecast of HK$0.262 (2019) and HK$0.294 (2020).

Exhibit 17: Financial summary

HK$m	2017	2018	2019e	2020e	2021e
31-March	HKFRS	HKFRS	HKFRS	HKFRS	HKFRS
PROFIT & LOSS					
Water supply revenue	4,874	6,204	7,490	8,964	10,207
Sewage treatment	531	814	854	897	942
Other segments	303	562	591	620	651
Revenue TOTAL	5,708	7,580	8,935	10,481	11,800
EBITDA	2,646	3,097	3,599	4,212	4,871
Operating Profit	2,271	2,691	3,104	3,653	4,239
Amortization	315	334	390	429	472
Depreciation	60	71	105	130	160
Net Interest expense	(251)	(289)	(340)	(344)	(312)
Profit Before Tax	1,963	2,462	2,829	3,384	4,011
Tax	(583)	(701)	(792)	(948)	(1,123)
Profit After Tax	1,379	1,762	2,037	2,437	2,888
Net profits contributable to shareholders	853	1,141	1,318	1,576	1,869
Average Number of Shares Outstanding (m)	1,505	1,571	1,609	1,609	1,609
EPS - fully diluted (HK c)	55.4	71.8	81.5	97.5	115.6
Dividend per share (c)	20.0	23.0	26.2	29.4	34.8
EBITDA Margin (%)	46.4	40.9	40.3	40.2	41.3
Operating Margin (%)	39.8	35.5	34.7	34.9	35.9
BALANCE SHEET					
Fixed Assets	15,689	19,581	21,061	22,524	23,849
Intangible Assets	10,316	13,499	15,209	16,880	18,408
Plant, property and equipment	1,127	1,695	1,690	1,660	1,600
Investment properties	1,173	909	705	546	424
Investment in associates	635	661	576	481	376
Other	2,438	2,817	2,882	2,957	3,042
Current Assets	9,942	9,008	9,472	9,511	12,078
Properties Under Development	690	1,370	1,370	1,370	1,370
Properties Held for Sale	289	597	550	550	550
Inventory	285	348	410	481	541
Trade and Bills Receivables	872	1,055	1,244	1,459	1,642
Due from Non-controlling Equity Holders of Subsidiaries	251	260	302	361	428
Due from Associates	409	563	563	563	563
Prepayments, Deposits and Other Receivables	1,743	1,293	1,524	1,788	2,013
Pledged Deposits	783	570	570	570	570
Deposits and cash	4,314	2,511	2,500	1,930	3,961
Other	307	440	440	440	440
Current Liabilities	7,393	8,649	8,025	6,558	7,129
Trade and Bills Payables	1,097	1,626	1,300	1,400	1,500
Accrued Liabilities, Deposits and Other Payables	2,102	2,306	2,748	3,263	3,607
Short-term Borrowings	3,206	3,450	2,542	185	-
Other	988	1,267	1,434	1,710	2,021
Long Term Liabilities	9,275	8,786	9,912	11,123	12,361
Long-term Borrowings	8,123	7,432	8,432	9,432	10,432
Other long term liabilities	1,152	1,354	1,480	1,691	1,930
Shareholders' Equity	8,963	11,154	12,597	14,354	16,437
	-	-	-	-	517
CASH FLOW					
Net Cash Flows from Operating Activities	1,452	1,632	2,579	3,555	4,018
Purchase of property, plant and equipment	(92)	(100)	(100)	(100)	(100)
Increase in concession rights for water supply and sewage processing	(1,808)	(2,500)	(2,100)	(2,100)	(2,000)
Acquisitions/disposals	(283)	0	0	0	0
Increase in prepayements and other receivables	(1,226)	0	0	0	0
Others	(134)	(171)	112	112	104
Net Cash Flows from Investing Activities	(3,543)	(2,771)	(2,088)	(2,088)	(1,996)
Dividends	(135)	(369)	(422)	(473)	(561)
Shares issue and/or options exercised	(38)	301	0	0	0
Other	245	(362)	(173)	(206)	(245)
Net Cash Flow	(2,020)	(1,569)	(103)	787	1,216
Opening net debt (CWA definition)	4,213	6,232	7,801	7,904	7,116
Closing net debt/(cash)	6,232	7,801	7,904	7,116	5,901
Net debt to equity ratio (CWA definition)	70%	70%	63%	50%	36%

Source: China Water Affairs, Edison Investment Research

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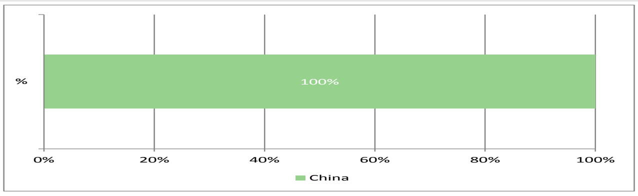
Revenue by geography



Management team

Executive chairman: Mr Duan Chuan Liang

Mr Duan Chuan Laing worked for the Ministry of Water Resources in China for over 10 years. He serves as a director of numerous other enterprises in the 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: Ms 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 obtained an MBA. She has worked in Hong Kong, Singapore and the PRC.

Executive Director: Mr Liu 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 (Taken from Bloomberg 5 July 2018)	(%)
Mr Duan Chuan Liang	29.16
Orix Corporation	18.10
Li Zhong	2.33
Vanguard Group	1.80
Blackrock	1.07

Companies named in this report

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