

Beijing Enterprises Urban Resources Group (3718 HK)

Waste Management

26 Feb 2020

Initiate with BUY

TP: HK\$1.20/CP: HK\$0.97

Integrated Waste Management Solution Provider: Initiation

Basic Share Information

Market cap	HK\$3.49bn / US\$0.45bn
Daily traded value (3mth)	US\$2.70mn
Shares outstanding	3,600mn
Free float (%)	38%
1 yr high - low	HK\$0.97-HK\$0.61



Source: Factset

	1mth
Absolute	47.0%
Absolute USD	46.5%
Relative to MSCI China	48.7%

HK\$m	2018A	2019E	2020E	2021E
Revenue	2,212	3,020	3,211	3,464
(+/-)	142%	37%	6%	8%
Net profit	172	273	403	449
(+/-)	104%	59%	48%	11%
Gross margin	28.2%	26.3%	27.8%	28.3%
Net margin	19.4%	9.1%	12.6%	13.0%
ROE	10.6%	12.3%	15.8%	14.6%

Source: Company data, HTI estimates

Note: The table above reflects financial information of BEUR's continuing operations.

Increasingly Stringent Environmental Protection

We initiate on Beijing Enterprises Urban Resources Group (BEUR) with a BUY rating following its post-IPO research blackout period. BEUR is an integrated waste management solution provider in China. According to Frost & Sullivan (F&S), BEUR was the 4th largest provider of environmental hygiene services in China's private sector in terms of revenue in 2018, with a market share of 1.6%, and the 6th largest provider of hazardous waste treatment in terms of total designed treatment capacity for waste disposal in China at end-2018 with a market share of 0.7%. F&S expects the waste management market to grow at a CAGR of 10.6% from 2018 and reach Rmb3,384.9bn in 2023. In recent years, the PRC government has prioritized the development and implementation of environmental protection laws and regulations in its agenda. In environmental hygiene, we believe BEUR should benefit from increasing outsourcing of governmental tenders to private enterprises as the market is forecasted at a CAGR of 14.6% over 2019-23. In hazardous waste treatment, we believe the company is well-positioned to capture the 13.6% market CAGR over 2019-23 driven by increasingly stringent regulatory requirements on hazardous waste treatment, and the demand for hazardous waste treatment business as hazardous waste has not yet been treated from historical operations for many enterprises. Among the 46 major categories of hazardous waste under the National Catalog of Hazardous Waste, BEUR is able to treat 38.

Earnings & Valuation: We forecast 7% and 6% sales CAGR for environmental hygiene services and hazardous waste treatment respectively over FY20-21 amid rising public awareness of local environmental issues and level of environmental compliance enforcement. GPM should expand slightly thanks to higher sales contribution from high GPM hazardous waste treatment business. As a result, we forecast net earnings (excluding discontinued operation) at 27% CAGR over FY20-21. The closest listed peer in Hong Kong is Dongjiang Environmental (895 HK), which is currently trading at 11x FY19 PE and 9x FY20 PE on Bloomberg. This is below 3-year average PER of 16x in a range of 11x-20x. We excluded the period prior to 2017 when shares were trading at 20x-50x PER. Its FY19 PBR of 1.2x is also below its 3-year average of 2x and at the bottom of the range of 1.2x-3.4x. However, we expect BEUR to have a significantly higher ROE of 14.6% in FY20 compared to Dongjiang's 8.9% as of Q3 FY19. We value BEUR based on 11x FY20 PER on HK\$0.11 FY20 EPS at a premium to Dongjiang given its higher ROE and cash flow generative Environment Hygiene Services business. This implies a target price of HK\$1.20 with 24% potential upside.

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Company Outline

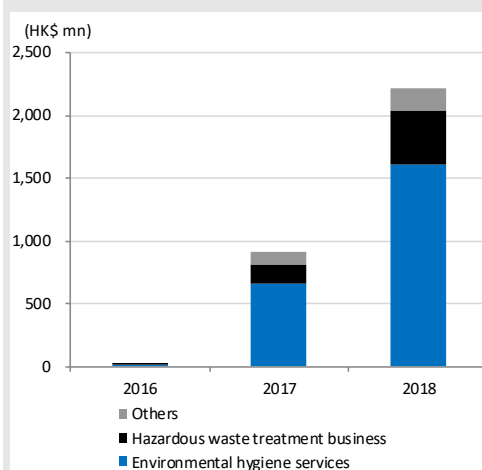
Beijing Enterprises Urban Resources Group (BEUR) is an integrated waste management solution provider in China. According to Frost & Sullivan (F&S), BEUR was the 4th largest provider of environmental hygiene services in China's private sector in terms of revenue in 2018, with a market share of 1.6%, and the 6th largest provider of hazardous waste treatment in terms of total designed treatment capacity for waste disposal in China at end-2018 with a market share of 0.7%.

Business

BEUR's business consists of three segments, namely 1) environmental hygiene services, 2) hazardous waste treatment business and 3) others.

- **Environmental hygiene services.** BEUR utilizes existing public facilities to provide comprehensive environmental hygiene services, including comprehensive road cleaning, garbage sorting, garbage collection and transportation, garbage transportation station management and others.
- **Hazardous waste treatment business.** BEUR processes and disposes hazardous waste for industrial companies and medical institutions and charges them waste treatment fees. The business mainly covers collection, transportation, storage and disposal of wastes such as medical waste and industrial solid waste. In 2018, BEUR extended its business to the recycling and reuse of materials from industrial waste.
- **Others.** Represents waste electrical and electronic equipment treatment business. BEUR sells dismantled products after dismantling waste electrical and electronic equipment and disposing the hazardous waste contained therein.

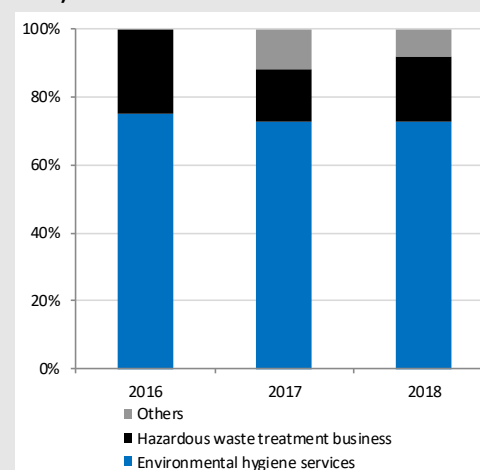
Revenue Breakdown (2016-2018)



Source: Company data

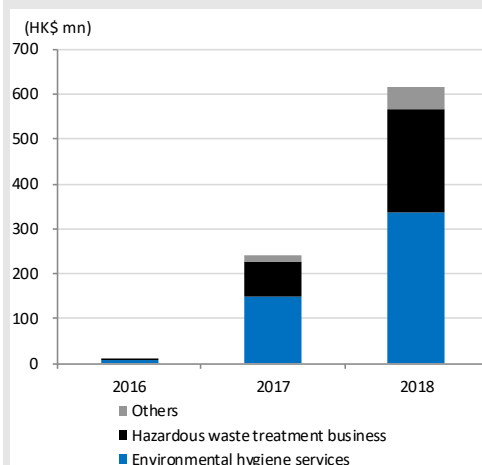
Note: Represents revenue from BEUR's continuing operations

Revenue Breakdown as % of Total Revenue (2016-2018)



Source: Company data

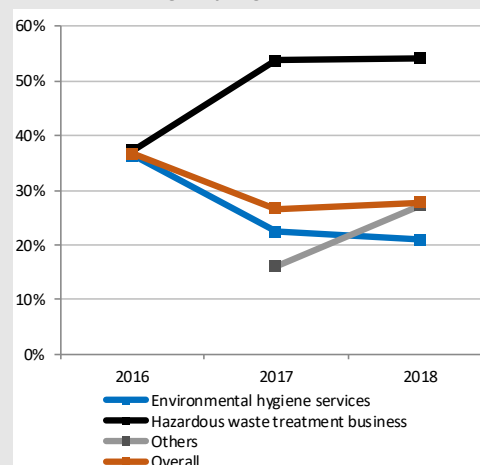
Gross Profit Breakdown (2016-2018)



Source: Company data

Note: Represents gross profit for BEUR's continuing operations

Gross Profit Margin by Segment (2016-2018)



Source: Company data, Bloomberg, HTI estimates

Note: Represents gross profit margin for BEUR's continuing operations

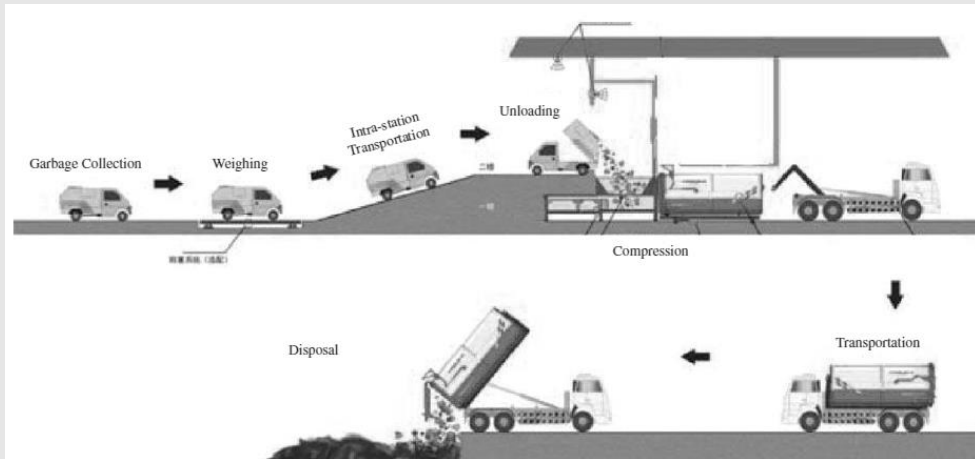
Environmental Hygiene Services

BEUR also provides Environmental Hygiene Services, which accounted for 75.1%, 72.6% and 72.9% of its 2016, 2017 and 2018 total revenue, respectively. BEUR utilizes existing public facilities, including garbage transportation stations and public toilets, to provide comprehensive environmental hygiene services. BEUR's environmental hygiene services primarily cover comprehensive road cleaning, garbage sorting, garbage collection and transportation, garbage transportation station management, public toilet management, manure collection and transportation, greenway maintenance and river cleaning services.

➤ **Services**

- Comprehensive road cleaning. This includes manual cleaning, mechanized cleaning and other road cleaning services such as snow removal and ice shoveling.
- Garbage sorting. Electrical garbage bag dispensers and electrical garbage sorting dumpsters are installed in certain neighborhoods to achieve hazard-free treatment and recycled use of garbage.
- Garbage collection and transportation. BEUR collects household garbage from dumpsters and transports them to designated garbage transportation stations on a daily basis with fully enclosed vehicles.
- Garbage transportation station management. Such management has been designed to ensure effectiveness and efficiency. Spray deodorization systems are installed to reduce negative impact brought by odor in the surrounding environment.

Flow Chart of Garbage Transportation Station Management Process



Source: Company data

- Public toilet management. BEUR assigns specific personnel to manage public toilets and maintains and has set out clear management standards to ensure that satisfactory cleaning and other services are provided
- Manure collection and transportation. Includes removal, collection and transportation of manure from residential and business units and public toilets to designated locations
- Greenway maintenance. Includes watering, fertilization, weeding, pruning, pest prevention and cleaning of greenways
- River cleaning. BEUR assigns municipal workers and cleaning vessels to clean rivers

Illustration of Environmental Hygiene Services (1)



Source: Company data

Illustration of Environmental Hygiene Services (2)



Source: Company data

► **Projects.** BEUR manages most of the environmental hygiene service projects under Operation & Maintenance (“O&M”) model. Under this model, BEUR’s customers outsource the municipal projects whose construction has been completed or nearly completed to BEUR and BEUR acts as a third-party professional municipal operator for operation and maintenance. BEUR also operates certain projects under other models:

Project model	Main characteristics
Build-Transfer-Operate (BTO)	Under this model, a private enterprise is entitled to a concession from the private or public sector to finance, design, construct, and operate a facility stated in the concession contract. During concession period, the project developer recovers full investment with margin from grantors and provides operating services
Transfer-Operate-Transfer (TOT)	Under this model, government transfers the right of ownership or operation of the project to investors with compensation for a certain period. Investors then recover their full investment and are entitled to a reasonable amount of compensation through operation pursuant to the contract. Upon expiration of the contract, investors transfer the right of ownership or operation back to the government

Source: Company data

► **Project portfolio.** BEUR’s environmental hygiene service has been expanding rapidly. There were 1, 71 and 106 revenue-generating projects for 2016, 2017 and 2018, respectively. As of 31 December 2018, environmental hygiene service projects operated by BEUR covered 22 provinces, municipalities and autonomous regions and 42 of the 106 projects had total contract value exceeding Rmb100mn.

No. of Environmental Hygiene Service Projects by Geographic Location (as of 31 December 2018)



Source: Company data

Environmental Hygiene Services - Total Contracted Area and Average Revenue per m²			
(HK\$ mn)	2016	2017	2018
Revenue from environmental hygiene services			
Projects in services in 2016	18.5	19.3	21.0
Projects in services since 2017	-	642.9	1,393.8
Projects in services since 2018	-	-	198.6
Total revenue from environmental hygiene services	18.5	662.2	1,613.4
Less:			
Construction revenue	-	47.5	3.4
Revenue not based on area	18.5	48.7	127.6
Total revenue from environmental hygiene services based on area	-	566.0	1,482.5
Contracted area (mn m²)			
Beginning	-	-	102.9
Addition	-	102.9	42.8
Expired	-	-	(2.9)
Ending	-	102.9	142.8
Average¹	-	51.4	122.9
Revenue from environmental hygiene services per m²	-	11.0	12.1

Source: Company data

Notes:

(1) Calculated as the average of the contracted area at the beginning and the end of the period.

(2) Calculated as the total revenue from environmental hygiene services based on area divided by the average contracted area for the relevant period.

No. of Environmental Hygiene Service Projects that BEUR operated by Outstanding Term of the Service Agreement (as of 31st December 2018)

Outstanding term of the service agreement	No. of projects
1 to 3 years	51
4 to 8 years	23
9 to 12 years	10
13 to 15 years	4
>15 years	18
Total	106

Source: Company data

Hazardous Waste Treatment Business

Hazardous waste treatment business accounted for 24.9%, 15.8% and 19.1% of BEUR's 2016, 2017 and 2018 total revenue, respectively. BEUR processes and disposes hazardous waste for industrial companies and medical institutions and charges them waste treatment fees. The business mainly covers collection, transportation, storage and disposal of wastes such as medical waste and industrial solid waste. In 2018, BEUR extended its business to the recycling and reuse of materials from industrial waste. Among the 46 major categories of hazardous waste under the National Catalog of Hazardous Waste, BEUR is able to treat 38.

- **Project Portfolio.** Hazardous waste treatment projects are typically located in industrial parks and are divided into 4 categories. As of 31 December 2018, there were:
 - 7 projects in operation.
 - 2 projects in trial operation.
 - 2 projects under construction.
 - 8 projects planned for future construction.
- **Hazardous Waste Treatment Methods.** Mainly consist of waste disposal through detoxification treatment and recycling and reuse.
 - Waste disposal through detoxification treatment. Includes 1) landfill disposal, 2) incineration and 3) wastewater and liquid waste flocculation and purification.
 - Recycling and reuse. In 2018, BEUR extended its business to the recycling and reuse of materials from industrial waste. The recycling and reuse methods vary significantly depending on the materials that BEUR is to recycle and use.

Hazardous Waste Treatment Business - Average Unit Price & Disposal Quantity			
	2016	2017	2018
Average unit price (HK\$ '000/ton)			
Guangxi Guigang BEWG Medical Waste Disposal Center Project	3.4	2.8	4.2
Shandong Industrial Solid Waste Disposal Center Project		3.1	3.2
Ganhe Industrial Park Tailings Storage and Recycling Project			1.1
Ningxia Ruiyuan Waste Methanol and Mixed Alcohol Recycling and Reuse Project			3.7
Ge'ermu Industrial Waste Centralized Disposal Project			2.5
Shouguang Industrial Solid Waste Disposal Center Project			6.8
Overall	3.4	3.1	3.3
Treatment volume (tons)			
Guangxi Guigang BEWG Medical Waste Disposal Center Project	1,802	1,979	1,979
Shandong Industrial Solid Waste Disposal Center Project		44,394	60,771
Ganhe Industrial Park Tailings Storage and Recycling Project			10,998
Ningxia Ruiyuan Waste Methanol and Mixed Alcohol Recycling and Reuse Project			47,548
Ge'ermu Industrial Waste Centralized Disposal Project			4,400
Shouguang Industrial Solid Waste Disposal Center Project			2,338
Total	1,802	46,373	128,034
Revenue (HK\$ mn)			
Guangxi Guigang BEWG Medical Waste Disposal Center Project	6.1	5.5	8.3
Shandong Industrial Solid Waste Disposal Center Project		136.9	197.1
Ganhe Industrial Park Tailings Storage and Recycling Project		1.7	12.4
Ningxia Ruiyuan Waste Methanol and Mixed Alcohol Recycling and Reuse Project			177.6
Ge'ermu Industrial Waste Centralized Disposal Project			10.8
Shouguang Industrial Solid Waste Disposal Center Project			16.0
Total	6.1	144.0	422.2

Source: Company data

Others

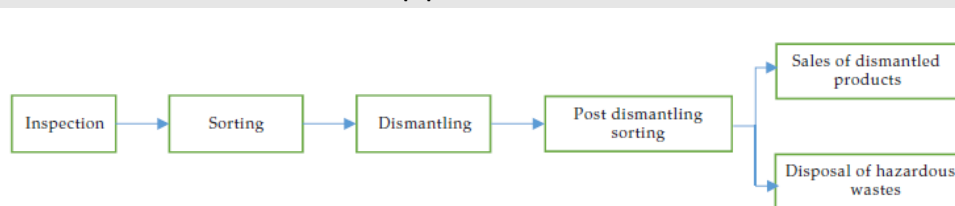
Other business accounted for 11.6% and 8% of BEUR's 2017 and 2018 total revenue, respectively, and represented waste electrical and electronic equipment treatment business. As of 31 December 2018, BEUR had 3 waste electrical and electronic equipment treatment projects in 3 provinces, including 1 project under construction.

Waste Electrical and Electronic Equipment Treatment Project Portfolio (as of 31 December 2018)

Project name	Commencement date of our operation	Licensing validity period	Designed treatment capacity (pieces)	Actual treatment volume (pieces)	Utilization rate
1 Shaanxi Waste Electronic Appliance and Digital Product Recycling and Reuse Showcase Project	Jan 2017	To Jun 2021	1,000,000 per annum	2018: 644,592 per annum	2018: 64.5%
2 Jiangxi Waste Electrical and Electronic Equipment Treatment and Recycling Project	Sep 2017	To Oct 2023	1,150,000 per annum	2018: 612,441 per annum	2018: 53.3%
3 Guangxi Wuzhou Waste Household Electronic Appliance and Digital Product Dismantling Project	NA	To Dec 2021	600,000 per annum	NA	NA

Source: Company data

Process of Waste Electrical and Electronic Equipment Treatment



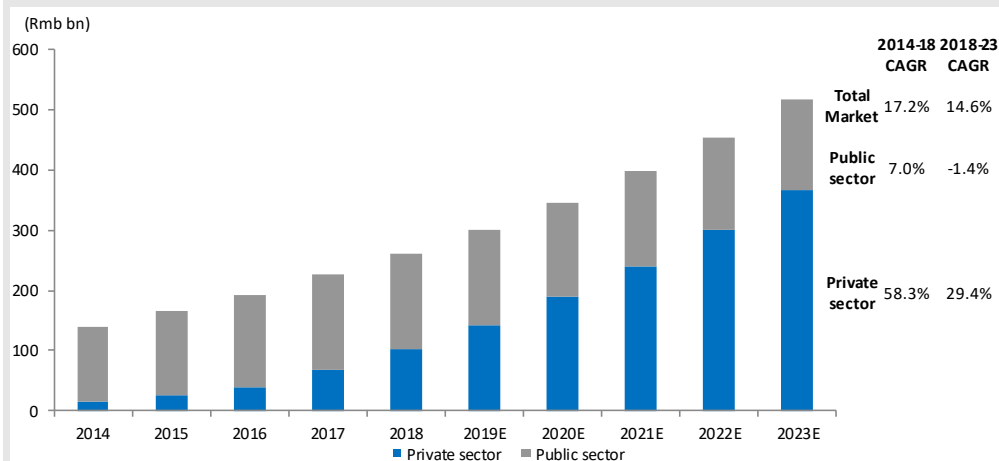
Source: Company data

Industry Overview

According to F&S, in terms of revenue, the total market size of China’s waste management market increased from approximately Rmb1,365.7bn in 2014 to Rmb2,042bn in 2018, representing a CAGR of 10.6%. In recent years, the PRC government has prioritized the development and implementation of environmental protection laws and regulations in its agenda. As a result, F&S expects the market to further grow at a CAGR of 10.6% from 2018 and reach Rmb3,384.9bn in 2023.

- **China’s environmental hygiene service market.** Market size of China’s environmental hygiene service market in terms of revenue, has increased from Rmb138.9bn in 2014 to Rmb261.8bn in 2018, representing a CAGR of 17.2%. The market is expected to further grow at a CAGR of 14.6% from 2018 and reach Rmb516.6bn in 2023. Historically, such services were primarily provided by the government. Since 2003 to 2013, local government agencies have been gradually outsourcing such service to private service providers through tender process, but the role of private enterprises was limited to providing services. From 2013, in line with the national policies to encourage public-private partnerships, or PPP models, for public services, the governments have begun to outsource the environmental hygiene service projects through various PPP models. As a result, market share of private sector, in terms of revenue contribution, has increased from 11.6% in 2014 to 38.6% in 2018, and is expected to further increase to 71% in 2023.

Revenue of China's Environmental Hygiene Service Market (2014-2023E)



Source: Frost & Sullivan

- Major drivers and future trends. The primary market drivers and future trends for China's environmental hygiene service market include 1) increasing urbanization, 2) increasing outsourcing of governmental tenders to private enterprises, 3) favorable governmental policies, 4) growing focus of life quality and 5) technology improvement.
- Competitive landscape. According to F&S, the private sector of environmental hygiene service market in China has around 4,000 participants in 2018. BEUR (ranked 4th) and the top 5 enterprises together accounted for approximately 1.6% and 11.4% of the private sector of the market, respectively, in terms of revenue in 2018.

Leading Players in the Private Sector of China's Environmental Hygiene Service Market in terms of revenue in 2018

Ranking	Company	Revenue (Rmb bn)	Market Share	Number of Provinces Covered/Primary Operating Provinces	Primary Services
1	Company A	3.9	3.8%	22/Nationwide	1) Environmental hygiene services 2) Sanitation equipment manufacture
2	Company B	2.7	2.7%	22/Nationwide	1) Environmental hygiene services 2) Hazardous waste treatment 3) Solid waste treatment
3	Company C	2.0	2.0%	13/Guangdong	1) Environmental hygiene services 2) Municipal landscaping
4	BEUR	1.6	1.6%	22/Nationwide	1) Environmental hygiene services 2) Hazardous waste treatment
5	Company D	1.3	1.3%	8/Guangdong	1) Environmental hygiene services 2) Hazardous waste treatment
Top 5		11.3	11.4%		
Others		89.8	88.8%		
Total		101.1	100.0%		

Source: Frost & Sullivan

- Barriers to entry include 1) qualification requirements, 2) adequacy of equipment, 3) stringent governmental requirements and 4) proven track record.

- **China's hazardous waste treatment market.** According to the National Catalog of Hazardous Waste promulgated by Ministry of Environmental Protection and NPDC in 2016, there are 46 categories of hazardous wastes. Hazardous waste can also be classified into medical waste and industrial waste. There are two major final treatment methods of hazardous waste in China, namely resource utilization and disposal. Resource utilization aims to recycle valuable resources such as metal from waste through recycling and reuse while disposal is mainly used for waste on which no other proper treatment methods are available.
- Major drivers and future trends. The primary market drivers and future trends for China's hazardous waste treatment market include 1) huge output of hazardous waste, 2) unbalanced distribution of designed treatment capacity, 3) increasing penetration, 4) favorable governmental policies and 5) demand for technological upgrade.
 - Competitive landscape. According to F&S, the hazardous waste treatment market in China has around 1,000 participants in 2018. BEUR (ranked 6th) and the top 10 participants together accounted for approximately 0.7% and 9.8% of the market, respectively, in terms of total designed treatment capacity for waste disposal in operation in China in 2018. For individual provinces, in terms of total designed treatment capacity for waste disposal in operation in 2018, BEUR ranked 4th and 1st in Shandong and Qinghai, respectively.

Leading Players of China's Hazardous Waste Treatment Market in terms of Total Designed Treatment Capacity for Waste Disposal in Operation in China in 2018

Ranking	Company	Total Designed Treatment Capacity ('000 tons/year)	Market Share
1	Company E	1,101.5	3.0%
2	Company F	399.7	1.1%
3	Company G	396.5	1.1%
4	Company H	313.1	0.9%
5	Company I	269.6	0.7%
6	BEUR	253.1	0.7%
7	Company J	235.0	0.6%
8	Company K	204.8	0.6%
9	Company L	191.0	0.5%
10	Company M	182.5	0.5%
Top 10		3,546.7	9.8%
Others		32,825.6	90.2%
Total		36,372.3	100.0%

Source: Frost & Sullivan

- Barriers to entry include 1) qualification requirements, 2) capital intensity, 3) technology and 4) government relationship.

Major Customers and Suppliers

- BEUR's customers for environmental hygiene services and hazardous waste treatment business are primarily local government agencies in China and industrial companies, respectively. BEUR also serves medical institutions in Guangxi through Guangxi Guigang BEWG Medical Waste Disposal Center Project. BEUR's customers for the waste electrical and electronic equipment treatment business include downstream waste recycling enterprises and metal and plastic product manufacturers. For 2016, 2017 and 2018, BEUR's 5 largest customers accounted for approximately 84.7%, 21.6% and 13.9% of BEUR's total revenue, respectively.

Top 5 Customers for the year ended 31 December 2018

Customer	Primary service provided	Revenue (HK\$ mn)	% of total revenue	Approximate length of relationship (years)	Background
Customer J	Environmental hygiene services	80.6	3.6%	3	Local government agency in Guizhou
Customer K	Environmental hygiene services	63.8	2.9%	2	Local government agency in Hebei
Customer L	Environmental hygiene services	57.1	2.6%	2	Local government agency in Henan
Customer H	Environmental hygiene services	55.6	2.5%	3	Local government agency in Hebei
Customer F	Waste electrical and electronic equipment treatment business	50.8 ⁽¹⁾	2.3%	3	Local government agency in Shaanxi

Source: Company data

Represents subsidies granted by local government agency for waste electrical and electronic equipment treatment

- BEUR procures different types of goods and services from suppliers for different business segments. For 2016, 2017 and 2018, the 5 largest suppliers accounted for approximately 11.1%, 11.0% and 9.5% of BEUR's total cost of sales, respectively.
 - For environmental hygiene services, those include fuel used for mechanized cleaning vehicles and other consumables. Sometimes, BEUR procure construction services for facilities for environmental hygiene services.
 - For hazardous waste treatment business, hazardous wastes and materials and consumables are procured from chemical companies. In addition, BEUR purchase ancillary service in relation to hazardous waste treatment.
 - Waste electrical and electronic appliances are procured from individuals who collect waste electrical and electronic appliances and waste electrical and electronic appliance recycling stations.

Top 5 Suppliers for the year ended 31 December 2018

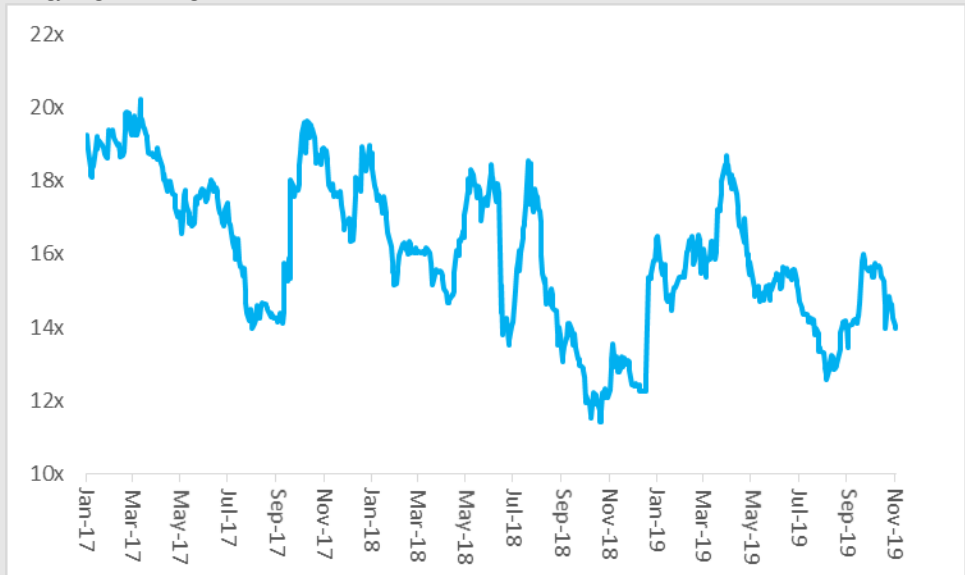
Supplier	Goods/services procured	Purchase amount (HK\$ mn)	% of total cost of sales	Approximate length of relationship (years)	Background
Supplier K	Chemicals	93.1	5.8%	2	Coal company
Supplier L	Waste electronic appliance	20.6	1.3%	3	Individual who collects waste electrical and electronic appliances
Supplier G	Waste electronic appliance	16.1	1.0%	3	Individual who collects waste electrical and electronic appliances
Supplier M	Chemicals	11.8	0.7%	2	Chemical company
Supplier N	Fuel	10.5	0.7%	2	Oil and gas enterprise

Source: Company data

Valuation

The closest listed peer in Hong Kong is Dongjiang Environmental (895 HK), which is currently trading at 11x FY19 PE and 9x FY20 PE on Bloomberg. This is below 3-year average PER of 16x in a range of 11x-20x. We excluded the period prior to 2017 when shares were trading at 20x-50x PER. Its FY19 PBR of 1.2x is also below its 3-year average of 2x and at the bottom of the range of 1.2x-3.4x. However, we expect BEUR to have a significantly higher ROE of 14.6% in FY20 compared to Dongjiang’s 8.9% as of Q3 FY19. We value BEUR based on 11x FY20 PER at a premium to Dongjiang given its higher ROE and cash flow generative Environment Hygiene Services business. This implies a target price of HK\$1.20 with 24% potential upside.

Dongjiang’s Trailing PER Trend



Source: Bloomberg

Dongjiang’s Trailing PBR Trend



Source: Bloomberg

Appendix

Company History

BEUR’s history can be traced back to 2013 when Guangxi Guigang Beijing Enterprises Water Environmental Sanitation Services Ltd (“Guigang Sanitation”) was established and commenced to invest, build and operate garbage transportation stations in Guigang, Guangxi and engaged in the transportation of household waste. In July 2014, Guangxi Guigang Beijing Enterprises Water Medical Waste Treatment Ltd (“Guigang Medical Waste”) was established and commenced the operation of Guangxi Guigang (BEWG) Medical Waste Disposal Center. As of 22 April 2019, BEUR had a total of 87 subsidiaries engaged in the provision of environmental hygiene services, 35 subsidiaries engaged in the provision of hazardous waste treatment services, and three subsidiaries engaged in the provision of waste electrical and electronic equipment treatment services.

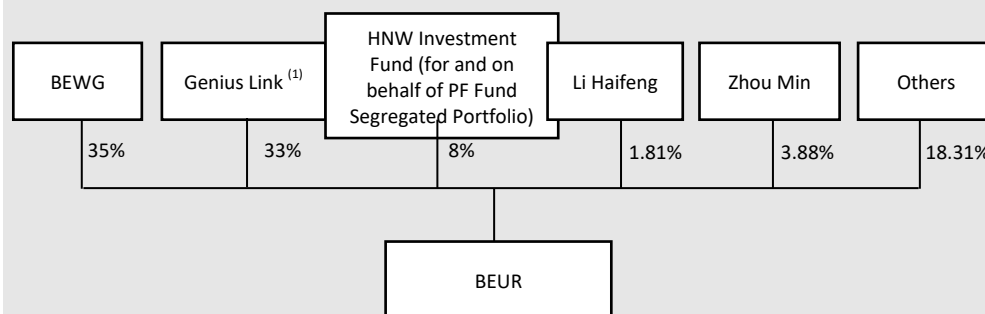
Key Milestones

Year	Event
2013	Guigang Sanitation was established and commenced to invest, build and operate certain garbage transportation stations in Guigang, Guangxi and engaged in the transportation of household waste
2014	Guigang Medical Waste was established and commenced its operation of Guangxi Guigang (BEWG) Medical Waste Disposal Center
2015	Started the nationwide expansion of environmental hygiene business
2016	Acquired Qingdao BE together with certain project companies engaged in the provision of hazardous waste treatment services
2017	Acquired Chongqing Binnan to further expand the environmental hygiene service business

Source: Company data

Shareholder Structure

Shareholding Structure (as of 22th April 2019)



Source: Company data

Note: BEWG = Beijing Enterprises Water Group Limited (371 HK)

(1) Genius Link is managed by Genius Link Utilities GP Limited which is ultimately wholly-owned by Mr. Chang Tat Joel

Financials

Profit & Loss (HK\$mn)	Dec-17A	Dec-18A	Dec-19E	Dec-20E	Dec-21E
Total turnover	912	2,212	3,020	3,211	3,464
Cost of sales	(670)	(1,589)	(2,224)	(2,320)	(2,483)
Gross profit	243	623	795	891	981
Total operating costs	(169)	(365)	(355)	(281)	(302)
Operating profit	74	258	440	611	679
Operating EBITDA	138	397	634	825	937
Depreciation and amortisation	65	139	194	214	259
Interest income	1	8	8	19	18
Interest expense	(11)	(50)	(59)	(59)	(59)
Exchange gains					
Other non-recurring income	17	44	35	37	40
Pre-tax profit	80	259	424	608	678
Taxation	(15)	(45)	(79)	(109)	(122)
Profit for the year from continuing operati	65	214	345	499	556
Profit/(loss) for the year from a discount	(113)	258	-	-	-
Net income	(48)	472	345	499	556
Minority interest	20	(42)	(71)	(99)	(110)
Net income to ord equity	(29)	430	273	400	446
EPS	(0.01)	0.16	0.08	0.11	0.12

Balance Sheet (HK\$mn)	Dec-17A	Dec-18A	Dec-19E	Dec-20E	Dec-21E
Total cash and equivalents	631	677	1,576	1,460	1,602
Inventories	54	87	111	116	124
Account receivable	380	657	755	803	866
Other current assets	405	934	482	493	508
Total current assets	1,471	2,356	2,924	2,871	3,100
Tangible fixed assets	1,014	1,539	1,710	2,083	2,249
Intangible assets	198	391	390	390	390
Total investments	4	34	34	34	34
Total other assets	354	487	506	508	514
Total non-current assets	1,570	2,451	2,640	3,015	3,187
Total assets	3,041	4,807	5,564	5,886	6,287
Short-term debt	330	306	306	306	306
Accounts payable	578	1,026	1,257	1,311	1,403
Other current liabilities	511	89	89	89	89
Total current liabilities	1,418	1,422	1,652	1,706	1,799
Long-term debt	367	1,049	1,049	1,049	1,049
Other liabilities	151	187	187	188	188
Total non-current liabilities	518	1,236	1,236	1,237	1,237
Total liabilities	1,936	2,658	2,889	2,943	3,036
Common stocks	-	-	541	541	541
Retained earnings reserve	766	1,559	1,661	1,830	2,027
Other reserves					
Shareholders' equity					
Minority interests	339	591	474	573	683
Total equity	1,105	2,149	2,676	2,943	3,251
Total liabilities & shareholders' equity	3,041	4,807	5,564	5,886	6,287

Cash Flow (HK\$mn)	Dec-17A	Dec-18A	Dec-19E	Dec-20E	Dec-21E
EBIT	(74)	384	214	350	392
Depreciation and amortisation	65	140	195	215	259
Changes in working capital	179	(786)	581	2	22
Other operating cash flow	(173)	273	42	45	48
Operating cash flow	(4)	11	1,032	611	721
Interest received	1	8	8	19	18
Interest paid	(11)	(50)	(59)	(59)	(59)
Tax paid	(15)	(45)	(79)	(109)	(122)
Cash flow from operations	(29)	(77)	902	461	558
Capex	(195)	(457)	(544)	(578)	(416)
Other new investments	(200)	(101)	188	-	-
Other investing cash flow	361	(201)	(188)	-	-
Cash flow from investing activities	(34)	(759)	(544)	(578)	(416)
Dividends paid to ordinary shareholde	-	-	-	-	-
Proceeds from issue of shares	-	-	541	-	-
Increase in debt	257	888	-	-	-
Other financing cash flow	-	-	-	-	-
Cash flow from financing activities	257	888	541	-	-
Cash at beginning of period	405	631	677	1,576	1,460
Total cash generated	195	52	899	(117)	142
Forex effects	31	(6)	-	-	-
Implied cash at end of period	631	677	1,576	1,460	1,602
Free cash flow	(63)	(837)	358	(117)	142

Source: Company data, HTI estimates

Senior Management

Name	Age	Date of joining	Date of appointment	Existing position	Roles and responsibilities	University/School	Subject	Past Experience	Industry	Last Title	Year	
Chen Zhen (陳震)	49	Aug 2017	Sep 2017	Vice president	Overall management of hazardous waste treatment service segment	Xiangtan University	Bachelor's degree of welding technology and equipment	CITIC Group Corp	Conglomerate	Senior project manager	2001-2008	
								BOMCO-Beijing Offshore Petroleum Engineering Technology Co Ltd		Energy	General manager	2013-2015
								Guangdong Zuanda Petrochemical Group		Energy	President	2015-2017
Fung Che Wai, Anthony (馮志偉)	50	May 2017	May 2017	CFO and company secretary	Overall financial supervision and management and company secretarial matters	The Hong Kong Polytechnic University	BA Accounting	Deloitte Touche Tohmatsu	Accounting	Manager	1992-1999	
								Winsmart Consultants Limited	Consulting	Director	1999-2007	
								NagaCorp Ltd	Casino	Vice president	2008-2010	
								Zall Development (Cayman) Holding Co Ltd	Property	CFO and company secretary	2011-2014	
								Kong Sun Holdings Limited	Energy	CFO and company secretary	2014-2017	

Source: Company data

Board of Director (part 1)

Name	Age	Date of joining	Date of appointment	Existing position	Roles and responsibilities	University/School	Subject	Past Experience	Industry	Last Title	Year
Zhao Kexi (趙克喜)	43	Nov 2016	Mar 2019	Executive Director, CEO and president	Overall management	Southwestern University of Finance and Economics	Bachelor's degree of accounting	Miayang Yiduoyuan Real Estate Development Co Ltd	Property	NA	1999-2003
								BE Zhongkecheng Environmental	Environmental	Head of auditing department	2003-2008
								BEWG	Environmental	Vice president	2008-2016
Zhang Hailin (張海林)	48	Jul 2015	Mar 2019	Executive Director and vice president	Administrative management and the overall management of environmental hygiene service segment	North China University of Technology	Bachelor's degree of industrial management engineering	CITIC Group Corp	Conglomerate	NA	1997-2000
								Aiqigao Technology (Beijing) Co Ltd	Technology & Media	Administration manager	2000-2002
								Beijing Aimas District Cooling Technology Development Co Ltd	Technology	NA	2003-2008
								BEWG	Environmental	Executive manager	2009-2015
Huang Zhiwan (黃志萬)	60	Sep 2013	Mar 2019	Executive Director	Providing consultation advice on project production and operations and managing the regional business in Guigang, Guangxi	Bureau of Labor of Guigang	Certificate of advanced furnace technics	Guigang Sanitation	Environmental	General manager	Since 2013
								Guigang Medical Waste	Environmental	General manager	2014-2016
								BE Urban Resources	Environmental	Director	Since 2017
Zhou Min (周敏)	55	Mar 2019	Mar 2019	Chairman and Non-executive Director	Leading the Board, ensuring the effective operation of the Board and providing management advice to the Board	National University of Defense Technology	Bachelor's degree in law	BE Zhongkecheng Environmental	Environmental	Chairman	Since 2001
								BEWG	Environmental	CEO	Since 2008
Li Li (李力)	53	Mar 2019	Mar 2019	Non-executive Director	Providing management advice to the Board	Xi'an Jiaotong University	Bachelor's degree in mechanical engineering majoring in welding	Zhong Ji First Design & Research Institute Company Limited	Construction	Vice director	1988-2001
								Beijing Sound Environmental Construction Company Limited	Environmental	General manager	2001-2007
								Sound International Co Ltd	Environmental	Executive director	2007-2011
								BEWG	Environmental	Executive president	Since 2010

Source: Company data

Board of Director (part 2)											
Name	Age	Date of joining	Date of appointment	Existing position	Roles and responsibilities	University/School	Subject	Past Experience	Industry	Last Title	Year
Li Haifeng (李海楓)	49	Mar 2019	Mar 2019	Non-executive Director	Providing management advice to the Board	Peking University	Bachelor's degree in Law	Peking University Founder Group Co Ltd	IT	Assistant president	1992-2000
								Founder Xintiandi Software Technology Co Ltd	IT	Executive vice president	2001-2005
								BE Zhongkecheng Environmental	Environmental	Supervisor	2006-2008
								BEWG	Environmental	Executive director and vice president	Since 2008
Orr Ka Yeung, Kevin (柯家洋)	40	NA	NA	Independent (Proposed)	Supervising and providing independent advice to the Board	University of Victoria	BA	Winner Medical Group	Medical	Vice president	Since 2002
Wu Tak Kong (胡德光)	53	NA	NA	Independent (Proposed)	Supervising and providing independent advice to the Board	The Hong Kong Polytechnic University	MBA	Choice Cher Limited	Trading	Accountant and director	1992-1994
								Fordley & Lee Co	Trading	Accountant	1994-1997
								Kao Chemical (Hong Kong) Limited	Manufacturing	Accounting manager	1998-2009
								Mobicool International Limited	Manufacturing	Finance manager	2009-2010
								Keith Lam & Co	Accounting	Audit manager	2011-2016
								Yuzhou Financial Holdings Limited	Finance	Compliance officer	2016-2017
Du Huanzheng (杜歡政)	57	NA	NA	Independent (Proposed)	Supervising and providing independent advice to the Board	Renmin University of China	Bachelor's degree in economy	Jiaxing College	Education	Professor	1984-2013
						Renmin University of China	Master's degree in economy	Tongji University	Education	Professor	Since 2014
						University of Tsukuba	PhD	United Nations Environment Program – Tongji Institute of Environment for Sustainable Development	Education	Doctoral supervisor and professor	Since 2018

Source: Company data

Note: BEUR's independent non-executive directors will be appointed before the listing.

APPENDIX

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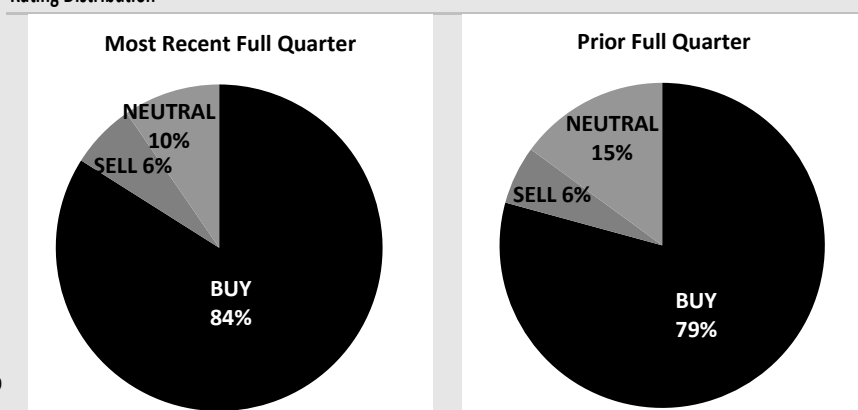
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