May 07th , 2024

Shinhan Securities



Binh Duong Water Environment JSC

[Vietnam / Utilities]

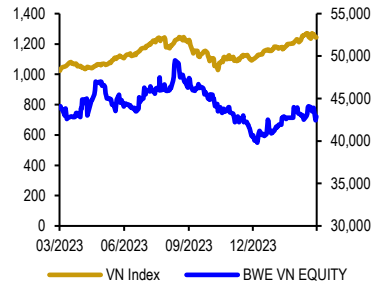
Bloomberg Code (BWE VN) | Reuters Code (BWE.HM)

BUY

Initiation Coverage

Target price (12 months)	**VND 55,750**
Current price (07/05/24)	VND 45,900
Return	21.5%

VNINDEX			1,249
P/E market (24F, x)			11.4
Market Cap (bn VND)			8,855
Outstanding shares (mn)			193
Free-Floating (mn)			7
52-Wk High/Low (VND)			49,600/39,700
90-day avg. trading volume (mn)			0.20
90-day avg. turnover (bn VND)			10
Foreign ownership (%)			10.3
Major shareholders (%)	TDM		37.4
	Becamex IDC		19.4
Performance	**3M**	**6M**	**12M**
Absolute (%)	7.4	5.8	2.3
Relative to VN-Index (%)	3.2	-9.8	-17.7



Source: Bloomberg

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Please click or scan

The Pearl of Vietnam's Water Supply Sector

Initiate coverage with BUY call, target price VND 55,750

Binh Duong Water - Environment JSC (HSX: BWE) is one of the leading enterprises in the water and environment industry in Vietnam. BWE has a sustainable business model with steady growth and a promising development strategy. We initiate coverage of BIWASE with a BUY rating, at target price of VND 55,750 – corresponding to a potential upside of 21.5%. Our target price is based on the FCFF and P/E valuation methods, weighting at 40%-60%, respectively. We expect the net profit of BWE to grow at CAGR of 8.2% over the period 2024-2028 thanks to the stable growth in both demand and unit price.

Vietnam water consumption will maintain its growth of 5%/year to 2030

In 2016-2023, Vietnam water consumption grew at CAGR of 6.4%/year, along with the GDP growth rate of 6%/year in the same period. We forecast that Vietnam water consumption will maintain its growth rate at about 5-6%/year to 2030 thanks to: (1) The GDP growth target to from 2023-2030 is 7%/year (according to the National Master Plan); (2) Rising population with higher urbanization rate (In 2023: 42.6%, target rate in 2030F: >50%), according to the Resolution 06-NQ/TW); (3) Increasing FDI flows into the manufacturing sector.

Binh Duong is the young city with the highest potential for water consumption growth in Vietnam

In 2016 – 2023, Binh Duong's water consumption grew at CAGR of 9.3%/year, 1.4x times more than the national growth rate. We forecast that Binh Duong's water consumption will grow at about of 6-7%/year to 2030 thanks to the increasing demand of clean water for residential and industrial customers. Specifically, Binh Duong has a target to increase population to 3 million people with higher urbanization rate of 85% in 2030, and average GRDP growth about of 10%/year from 2023-2030. In addition, this "capital of industrial production" ranks second in attracting FDI capital nationwide.

BWE's strong competitive advantages with high growth potential

With TDM, BWE are responsible for supplying clean water to the entire Binh Duong province with the ability to operate the water supply value chain very effectively, as evidenced by the lowest non-revenue water rate (5%) in the industry. Regarding growth potential in the water supply segment, BWE still has room to expand its connected customers (around 5%/year) through investment in water pipes; for the waste treatment segment, BWE is expected to have a large workload thanks to the projected waste growth of 10-16%/year by 2030. For long-term prospects, BWE is continuously carrying out M&A activities to expand its market share to other provinces and cities in Vietnam.

Risk: (1) Policy risks; (2) Risks from environment, upstream water; (3) Risks from M&A activities; (4) Risk of non-revenue water.

Year to Dec.	2022	2023	2024F	2025F	2026F
Net revenue (bn VND)	**3,484**	**3,526**	**3,932**	**4,106**	**4,268**
OP (bn VND)	816	755	893	937	1,024
NP (bn VND)	**747**	**682**	**797**	**841**	**915**
EPS (VND)	3,196	2,902	4,096	4,322	4,708
BPS (VND)	23,289	24,887	24,229	25,950	27,858
OPM (%)	23.4	21.4	22.7	22.8	24.0
NPM (%)	21.4	19.3	20.3	20.5	21.4
ROA (%)	**7.8**	**6.2**	**6.3**	**6.4**	**6.8**
ROE (%)	**17.9**	**14.4**	**15.2**	**14.8**	**15.0**
PER (x)	14.6	15.5	11.3	9.9	8.3
PBR (x)	2.0	1.8	1.9	1.6	1.4

Source: Company data, Shinhan Securities Company

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Industry and business overview

Water industry in Vietnam: High growth potential

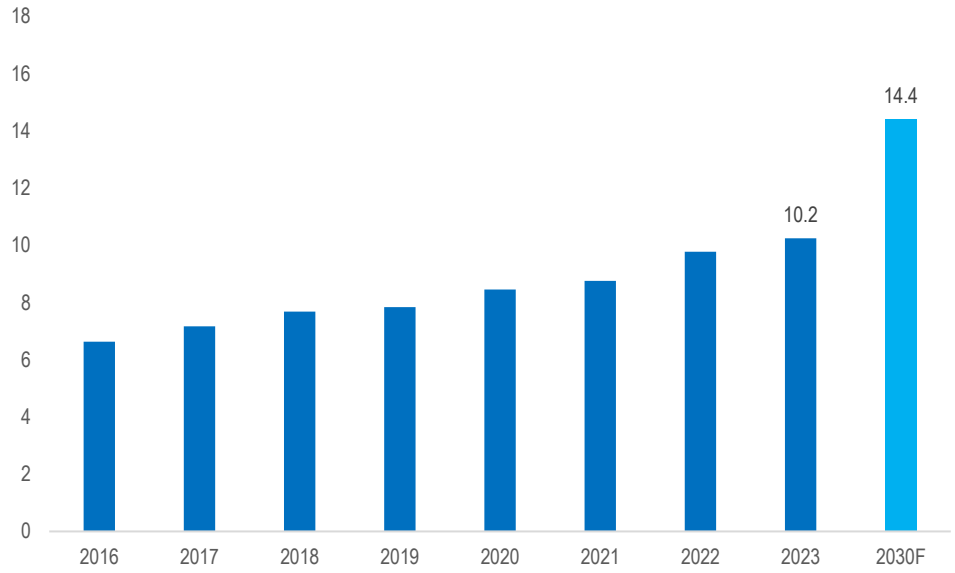
Vietnam clean water consumption, especially from residential and industrial, has experienced a CAGR growth of 6.4%/year between 2016 and 2023. We have observed that the growth rate of water consumption has increased along with the trend of economic development. Specifically, the average GDP growth rate of this period is about 6%/year.

We expect water consumption will maintain its growth at 5-6% to 2030 thanks to:

(1) The GDP growth target of 7%/year from 2023 - 2030 (according to the National Master Plan); (2) Rising population with higher urbanization rate (In 2023: 42.6%, target rate 2030F: >50%, according to the Resolution 06-NQ/TW); (3) Increasing FDI flows into the manufacturing sector.

Vietnam water consumption in 2023 is at 3.7 bn m3 or 10.2 mn m3/day. With CAGR growth of 5%/year to 2030, Vietnam water consumption in 2030F is 14.4 mn m3/day.

Vietnam water consumption between 2010-30 (mn m3/day)



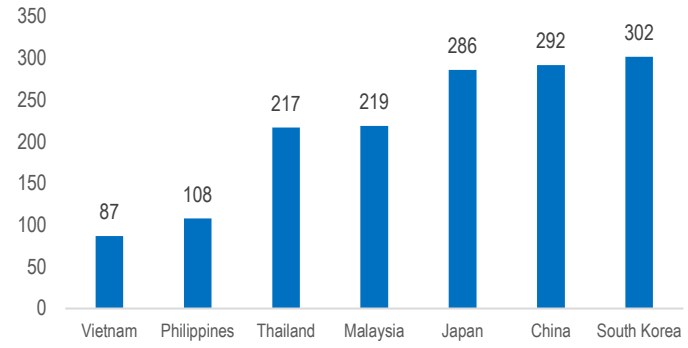
Source: Company data, Shinhan Securities Vietnam; 1m3 = 1,000 litres

Huge room for water consumption growth per capita compared to Asia countries

According to the Master Plan for the Water Sector to 2030, the average water consumption per capita will increase from 87 litres/day in 2022 to 120 litres/day in 2030. The proportion of the rural population that is supplied with water through the water supply system is estimated to increase from 43.5% currently to 47% in 2030. We believe such a growth rate estimation is reasonable when comparing Vietnam per capita consumption to other Asia countries, such as Thailand's 217 litres/day and Malaysia's 219 litres/day.

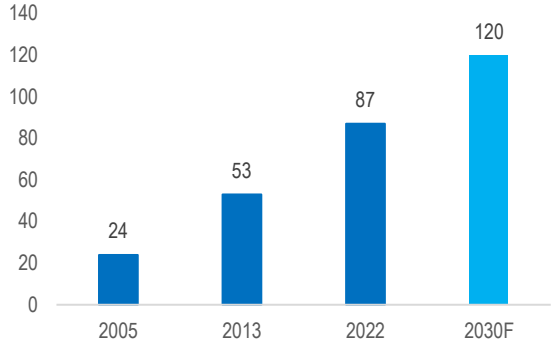
The disparity between Vietnam and these other countries can be explained by the lower urbanization rate of Vietnam (only at 42%), where significant proportion of rural citizens can only access to well-water or river-water instead of processed clean water. Therefore, the urbanization rate, supported by the boost in FDI, will narrow the gap in clean water consumption to Asia peers.

Vietnam water consumption per capita is ranked the lowest vs peers in 2022 (litres*/day)



Source: Shinhan Securities Vietnam, 1 m3 = 1,000 litres

Vietnam water consumption per capita from 2005-2030F (litres/day)



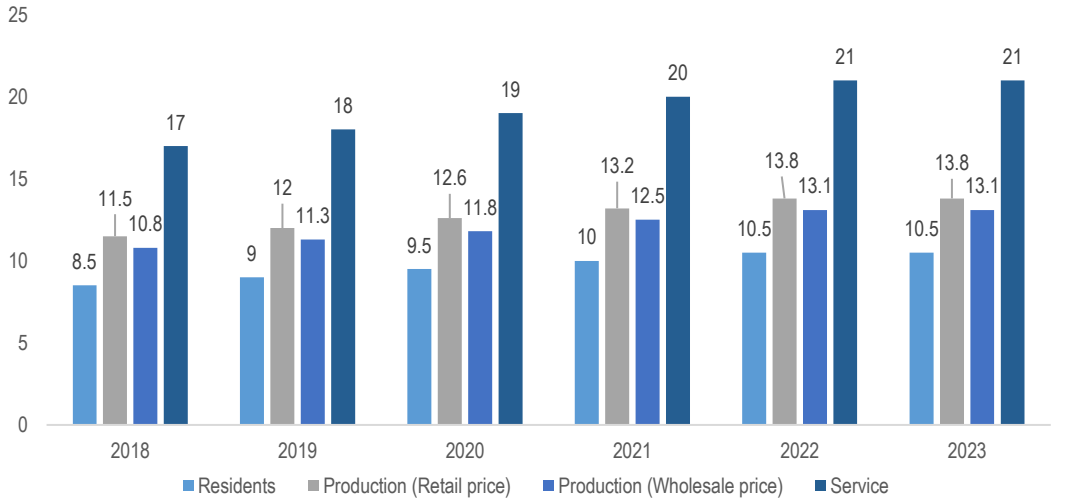
Source: Shinhan Securities Vietnam

Price policy

According to Decree 117/2007 / ND-CP released in 2007, the local government had the right to decide on the suitable pricing for tap water within the range of prices set by the Ministry of Finance. In addition, the wholesale water tariff must be agreed upon by the wholesale water supply enterprises.

According to Decision 04/2018/QD-UBND issued by the People's Committee of Binh Duong, the water pricing for residential and industrial is shown in the chart below with a steady average growth of 5%/year in 2018-2023. In addition, in Binh Duong, the price of water for domestic use is lower than the price of water for production purposes in order to support people. The residential water tariff in Binh Duong Province is more competitive compared to other provinces/municipalities thanks to its fixed price policy versus other provinces' ladder bases. On a ladder scale basis means that end-users would have to pay a higher tariff based on the amount of water they use to encourage economical use (Residential tariff HCM: VND 6,700-14,000; Hanoi: VND 7,500 – 24,000).

Water prices in Binh Duong for the period of 2018-2023 (thousands VND)



Source: Company data, Shinhan Securities Vietnam

Company overview

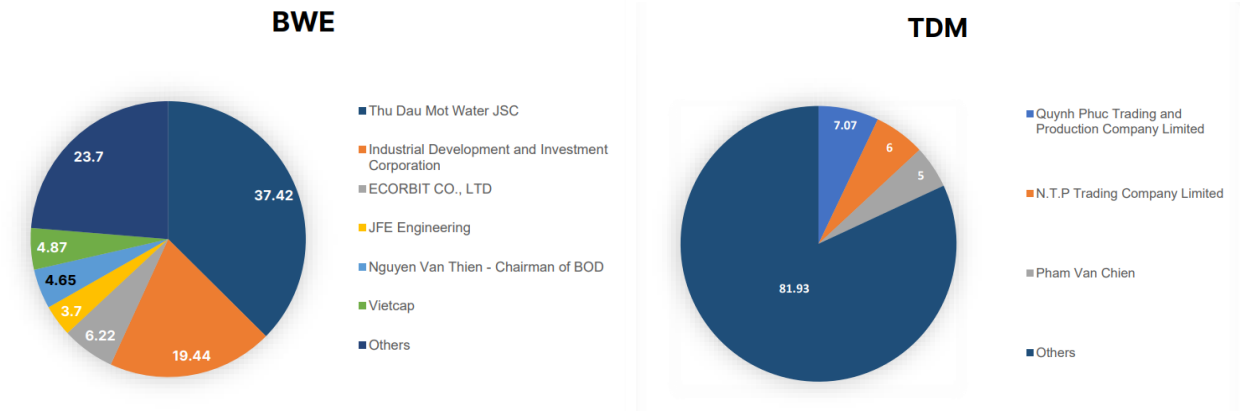
BWE's history

BWE was established before 1975, formerly known as "Binh Duong Water Supply Center" with 5 underground water pumping stations. In 1995, the company put the first surface water plant - Thu Dau Mot surface water plant into operation with a capacity of 7,500m3 / day and night.

Since September 30, 2016, the company has officially transformed from a limited liability company with 100% state-owned capital to a joint stock company with the name of Binh Duong Water - Environment Joint Stock Company with charter capital VND 1,500 billion.

On 20/7/2017, Binh Duong Water - Environment Joint Stock Company officially listed shares on the Ho Chi Minh City Stock Exchange with the stock ticker BWE. In March 2019, Binh Duong Provincial People's Committee withdrew capital from 41% to 25%.

Shareholder structure (31/12/2023)



Source: Company data, Shinhan Securities Vietnam

List of subsidiaries, associated companies, and other long-term investments of BWE as of December 31, 2023

Subsidiaries level 1	Segment	Address	Ownership of BWE
Can Giuoc Urban JSC	Supply clean water	Long An	97.27%
ChauThanh Urban ProjectJSC	Supply clean water	Ca Mau	96.06%
Biwase – Long An Water JSC* (BWE LA)	Supply clean water	Long An	94.54%
Bang Tam Water and Environment JSC	Supply clean water	Long An	76.96%
Biwase Electric – Construction JSC	Power generation, electrical construction	Binh Duong	52.00%
BIWASE Consulting LLC	Consulting	Binh Duong	100%
Subsidiaries level 2			
Can Duoc Water and Environment JSC*	Supply clean water	Long An	94.35%
Associates			
Chanh Phu Hoa Construction And Investment JSC	Real Estate	Binh Duong	43.48%
Can Tho 2 Water Supply JSC (CT2)	Supply clean water	Can Tho	48.86%
Quang Binh Water Supply JSC (NQB)	Supply clean water	Quang Binh	41.00%
Long An Water Supply JSC (LAW)	Supply clean water	Long An	38.00%
Gia Tan Water Supply JSC (GIWACO)	Supply clean water	Dong Nai	32.52%
Can Tho Water Supply JSC (CTW)	Supply clean water	Can Tho	24.64%
Thu Thua Project JSC	Supply clean water	Long An	48.25%

Associates level 2			
Biwase Quang Binh JSC **	Supply clean water	Quang Binh	21.79%
Vinh Long Water Supply JSC (VLW) **	Supply clean water	Vĩnh Long	18.00%
Other longterm investments			
Dong Nai Water JSC (DNW)	Supply clean water	Dong Nai	18.80%
Bình Dương Production and Trading Goods Corporation (PRT)	Commercial, industrial real estate	Dong Nai	4.00%
Thanh Le production and Trading Goods Corportation (TLP)	Oil and gas business, Real estate	Binh Duong	0.51%
Sonzadezi Corporatioin (SNZ)	Industrial real estate	Dong Nai	0.04%

Source: Company data at 31/12/2023, *Can Duoc Water and Environment JSC is a subsidiary of Biwase Long An Water JSC; ** Biwelco owns VLW and Biwase Quang Binh with ownership rate of 33.65% and 41.9%, respectively.

Business model

BWE operates in 3 main segments, including tap water supply, waste treatment, and wastewater treatment. The core business of BWE is water supply, which contributes 58% of revenue and 80.0% of net profit for the whole enterprise. In 2023, BWE has actively expanded its water supply business through M&A deals, especially with: Biwase Long An, Thu Thua Project, Quang Binh Water Supply,….



In the tap water supply sector, BWE has a completed value chain from the water pump to distribution. Specifically, BWE absorbs water from the Dong Nai River and Phuoc Hoa Lake. After that, BWE processes raw water and then delivers it through the pipeline to residential and industrial customers.

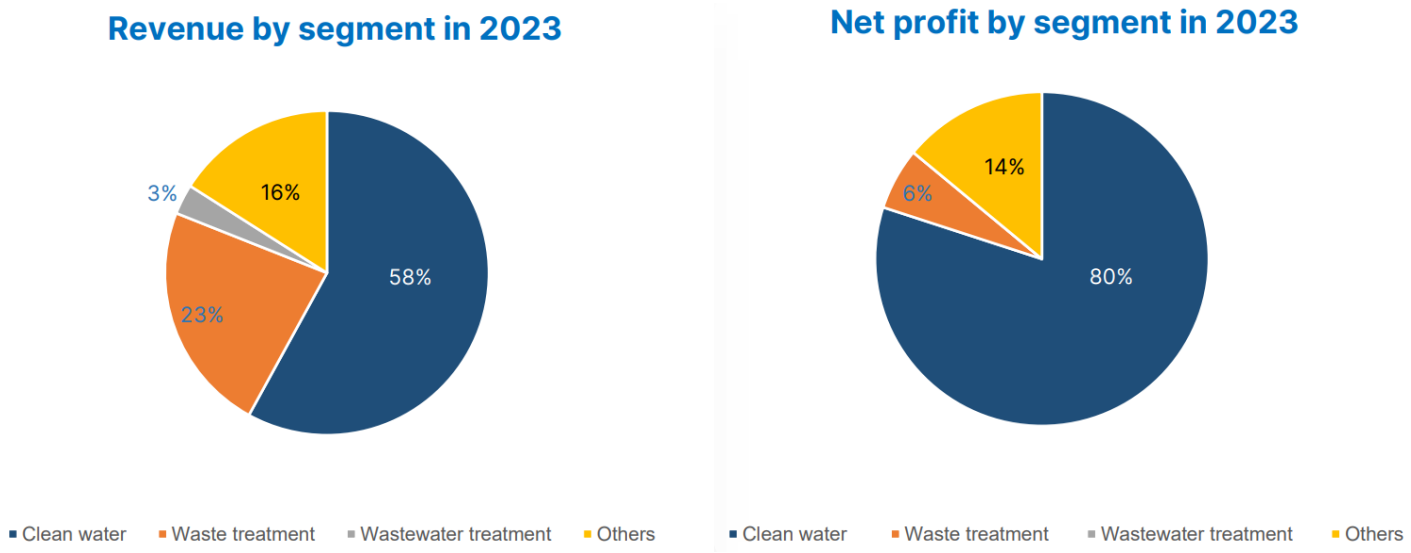
BWE owns 9 water supply branches with a maximum supply capacity of nearly 1 million cbm/day. In addition, BWE also has 1 waste treatment branch, 4 wastewater treatment branches, 1 water supply, and drainage consulting branch, 1 urban service branch, 1BWE M&E technology branch, and 1 Con Voi trade branch.

No	Water plant	Maximum Capacity (m3)
1	Di An water plant	350,000
2	Tan Uyen water plant	90,000
3	Thu Dau Mot water plant	65,000
4	Chon Thanh water plant	30,000
5	Bau Bang water plant	30,000
6	Dau Tieng water plant	10,000
7	Phuoc Vinh water plant	5,000
8	Khu Lien Hop water plant	250,000
9	Thuan An water plant	60,000
No	**Wastewater treatment plant**	**Maximum Capacity (m3)**
1	Thu Dau Mot	17,650
2	Thuan An	17,000
3	Tan Uyen	15,000
4	Di An	20,000

Source: Company data at 31/12/2023

Revenue and Income Structure

The main source of revenue for BWE comes from the clean water supply segment, accounting for nearly 60% of total revenue, followed by the waste treatment segment with about 20% of revenue, other services (bottled water sales, pipelines, etc.) accounting for 16%, and the remaining 3% is wastewater treatment.



Source: Company data, Shinhan Securities Vietnam

Investment thesis

BWE and TDM are the only two companies responsible for supplying clean water to the entire Binh Duong province

Water supply and distribution companies are subject to high management by local authorities because of the specific nature and importance of the industry. Each province or city only has one or a few companies operating in the field of water supply and distribution.

We note that BWE and TDM have a unique and interdependent relationship; BWE is a 37.42% owned associate investment of TDM, and it is also TDM's sole buyer/customer. Together, the two companies are expanding their operations in Vietnam through active M&A activities. In short, the competition of existing competitors and the threat of new entrants for BWE are assessed at a low level.

Company	Province	Capacity (thousand m3/day)	BWE's ownership	TDM's ownership	TDM's effective ownership	BWE's effective capacity (thousand m3/day)	TDM's effective capacity (thousand m3/day)
TDM *	Binh Duong	260	0%	100%	100%	0	260
BWE *	Binh Duong	760	100%	37.42%	37.4%	760	284
BWE LA	Long An	60	94.5%	0.00%	35.4%	57	21
LAW	Long An	50	38.1%	0.00%	14.2%	19	7
Thu Thua	Long An	30	48.3%	0.00%	18.0%	14	5
GIWACO	Dong Nai	50	33.52%	22.73%	35.3%	17	18
DNW	Dong Nai	455	18.8%	12.06%	19.1%	86	87
CTW	Can Tho	147.5	24.7%	0.00%	9.2%	36	14
CT2	Can Tho	52.5	48.9%	0.00%	18.3%	26	10
CMW	Ca Mau	55	0.0%	24.90%	24.9%	0	14
VLW	Vinh Long	48	18.3%	0.00%	6.8%	9	3
NQB	Quang Binh	50	41.0%	0.00%	15.3%	21	8
Total		**2,018**				**1,044**	**730**

Source: Company data at 31/12/2023, Shinhan Securities Vietnam;
Note*: TDM owns 37.42% of BWE, while both firms also own stakes in other water companies.

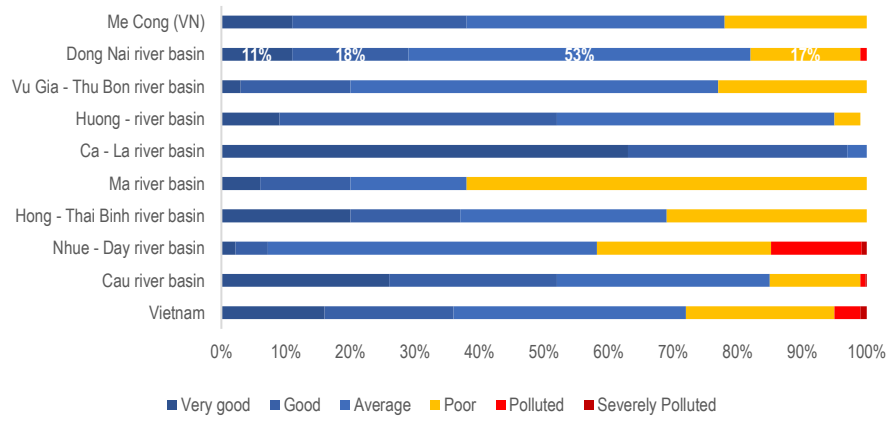
Outstanding input material

In the business model of BWE, river water is raw material so BWE does not face much pressure from supplier bargaining. Besides, BWE buys all of treated output water from TDM and is also an associate of TDM, so the effect of bargaining from the supplier is assessed to be low. Additionally, **we assess the quality of BWE's raw water input to be better than the average of the industry, positively impacting the company's gross profit margin.**

According to Decision 879/QĐ-TCMT of the Ministry of Natural Resources and Environment, the WQI index (based on various monitoring parameters) is used to assess the quality of the water environment. The quality of water sources in large river basins in Vietnam is differentiated and is tending to decrease gradually.

Raw water sources suitable for water supply companies usually have a WQI value of 76-90. This is a good quality water source, only requiring simple treatment to ensure clean water standards. **BWE takes water from the Dong Nai River and Phuoc Hoa Lake, so the quality of the company's raw water is better than that of other rivers.**

WQI index at monitoring points of river basins in 2016-2020

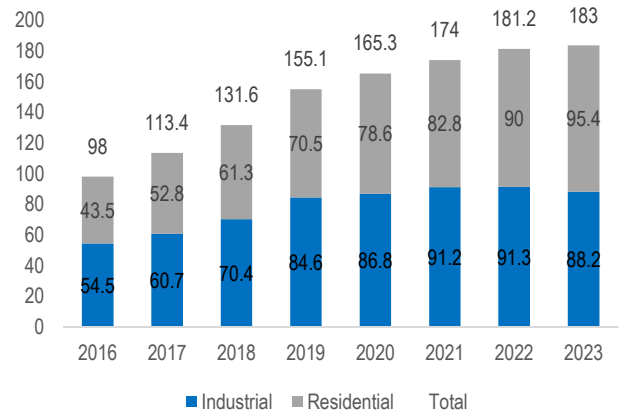


Source: : Ministry of Natural Resources and Environment, Shinhan Securities Vietnam

Binh Duong is the young city with the highest potential for water consumption growth in Vietnam

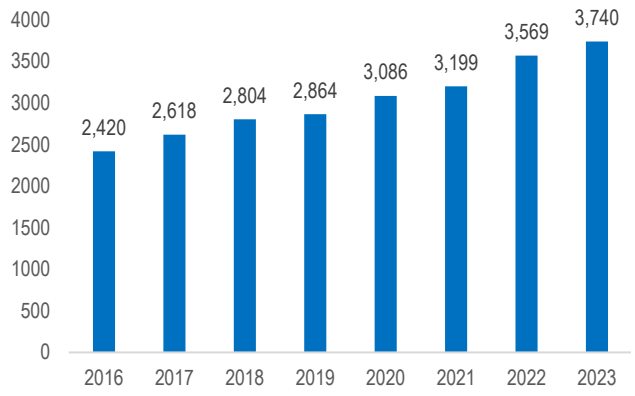
BWE or Binh Duong clean water consumption grew by 9.3%/year from 2016-2023 (more than 1.4x times the national growth rate of 6.4%/year). In 2023, Binh Duong's water consumption is 183 mn m3 (+1% YoY) due to the weak economic growth in 2023, with 52% and 48% respectively usage from residential and industrials clients.

Binh Duong's water consumption 2016-2023 (mn m3)



Source: Company data, Shinhan Securities Vietnam

Vietnam water consumption (mn m3)



Source: GSO, Shinhan Securities Vietnam

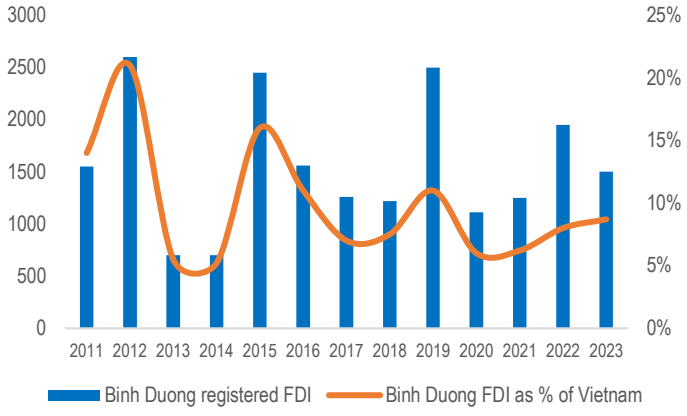
The master plan of Binh Duong Province targets an average GRDP growth of 10.0% between 2023-30 and 5.5-6.0% during 2031-50.

Provincial authorities aim to develop Binh Duong into a municipal city acting as the heart of Vietnam's Southern industrial activities. In particular, Binh Duong targets a population of 3mn people (2022: 2.7mn) with an urbanization rate of 85% people in 2030 (2022: 82%).

Currently, Binh Duong has been one of the top provinces in Vietnam in attracting FDI inflows over the past few years. In 2023, the province ranked second in the country with a total FDI value of USD 1.5 billion; to date, there have been 4,219 projects in operation with a total registered investment capital of over USD 40.31 billion.

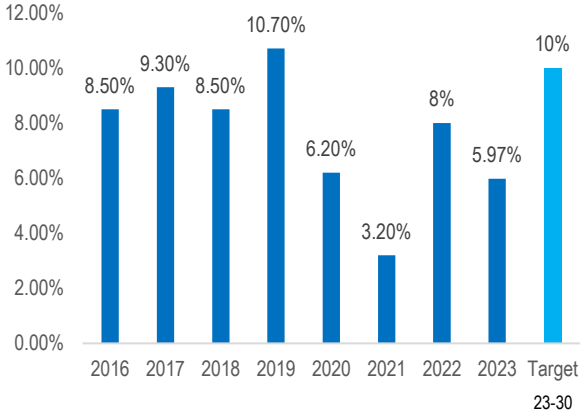
Specificially, Binh Duong has attracted many large-scale projects with significant spillover effects, such as the Polytex Far Eastern (Vietnam) Co., Ltd. factory project with an additional registered investment capital of 1.37 billion USD and the Lego (Denmark) toy production project with a capital of USD 1.3 billion. For 2024, the Binh Duong Provincial Industrial Parks Management Board sets a target to attract about 130-140 investment projects into industrial parks, with a total foreign investment capital of about USD 1.2-1.3 billion.

Registered FDI, Binh Duong Province (mn USD)



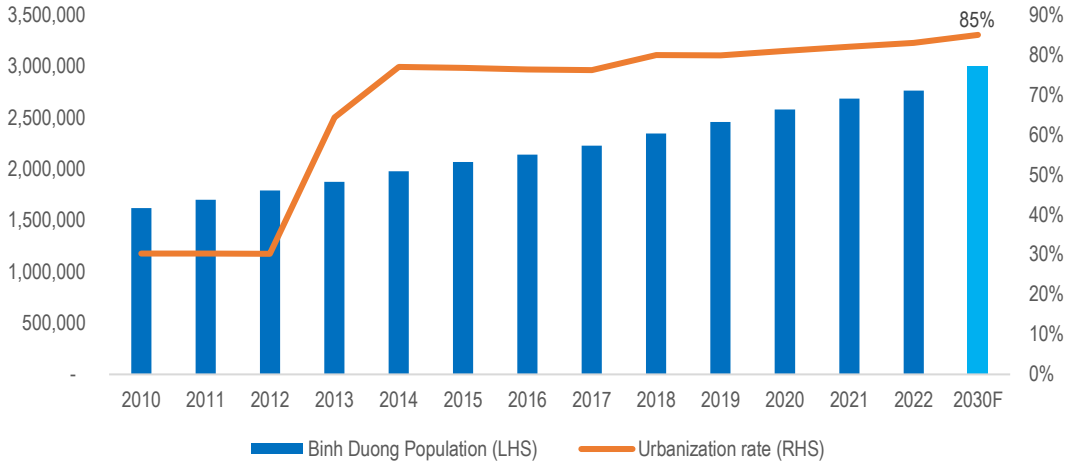
Source: Binh Duong Authority, Shinhan Securities Vietnam

GRDP's growth, Binh Duong Province



Source: Binh Duong Authority, Shinhan Securities Vietnam

Binh Duong targets population of 3 million people and urbanization rate of 85% in 2030



Source: Binh Duong Authority, Shinhan Securities Vietnam

We forecast that Binh Duong's water consumption will maintain its growth at CAGR of 6%/year to 2030. The water demand in Binh Duong is expected to accelerate in coming years given its target to increase population to 3 million people with higher urbanization rate of 85% in 2030, average GRDP growth of 10% from 2021-2030, and more FDI inflows.

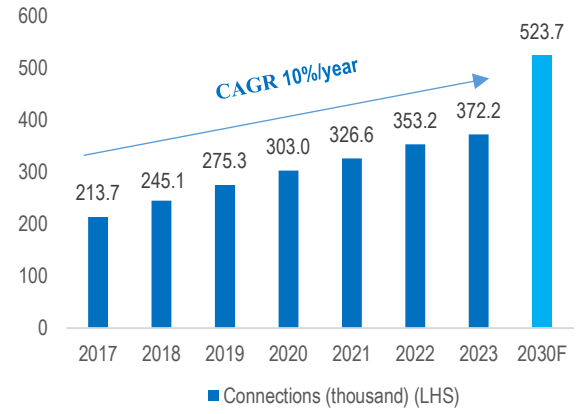
Expanding pipelines and increasing the capacity of waste treatment plants

BWE will increase the number of new connected customers by expanding the pipeline to the northern area of Binh Duong.

By 2023, BWE manages a 6,652 km pipeline system and has a cumulative number of 372,000 connected customers. From 2017 to 2023, BWE has continuously invested in the pipeline system with a CAGR of 10%/year. During the same period, BWE's number of connected customers also grew at a CAGR of 10%/year.

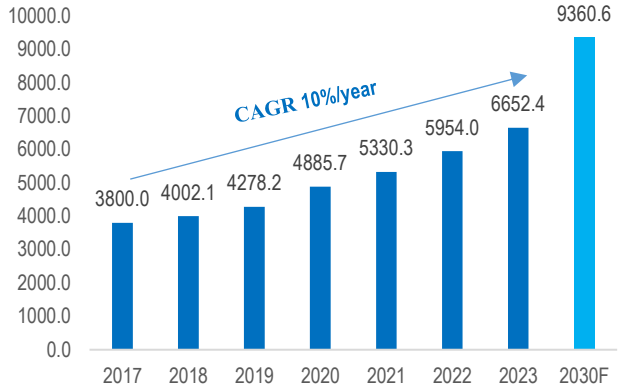
With the expectation of CAGR of 5%/year to 2030, we forecast that BWE can increase its total water distribution pipeline length to 9,360 km and reach 523,700 customers thanks to the strong demand for clean water in Binh Duong - the province with the highest GRDP in Vietnam.

The cumulative number of connected customers of BWE 2017-2023



Source: Company data, Shinhan Securities Vietnam

BWE's total pipeline length 2017 - 2023 (km)

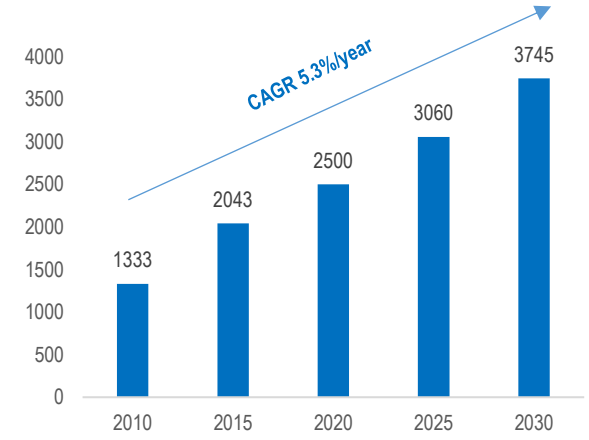


Source: Company data, Shinhan Securities Vietnam

The waste treatment sector has significant growth potential.

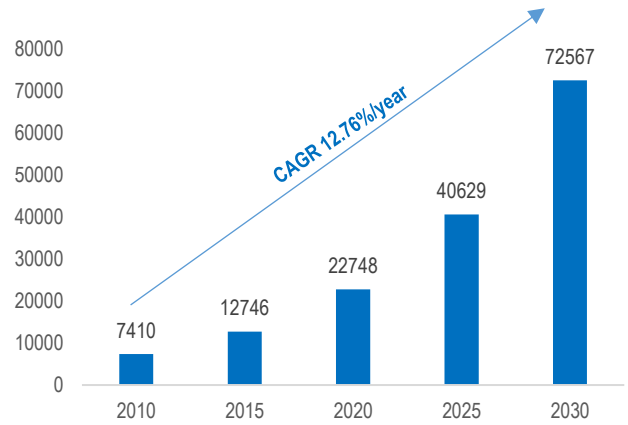
According to the Ministry of Natural Resources and Environment, the total amount of domestic solid waste is 25 million tons, but only 30% is burned or recycled; the remaining is buried directly. Specifically, 80% is the current landfill that is unhygienic, and harmful to the environment, and only 13% of the garbage is burned for energy.

Total volume of domestic solid waste in Binh Duong (tons/day)



Source: People's Committee of Binh Duong Province

Total volume of industrial solid waste in Binh Duong (tons/day)

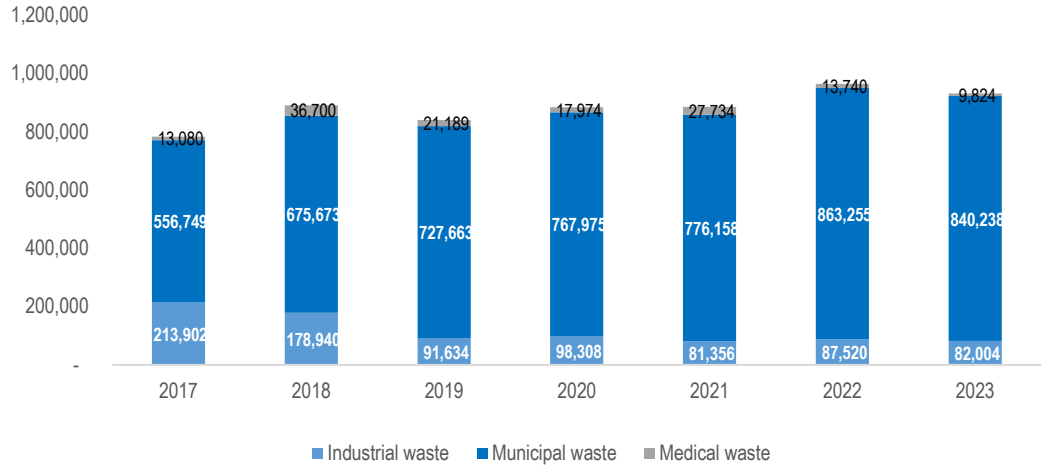


Source: People's Committee of Binh Duong Province

According to the report on the current state of the environment in the period 2016-2020 by the Ministry of Natural Resources and Environment. The total volume of domestic solid waste generated in urban areas nationwide is

35,624 tons/day (13 million tons/year), accounting for 55% of the total volume of domestic solid waste in the country. Meanwhile, the volume of industrial solid waste nationwide is about 25 million tons/year.

The quantity wast collected and treated by BWE has grown by an average of 3.2% per year over the past 6 years (tons)



Source: Company data, Shinhan Securities Vietnam

We expect BWE's waste treatment business to receive more workload thanks to 1) the policy of limiting landfill in Binh Duong province 2) the amount of domestic solid waste generated in urban areas across the country increases by an average of 10-16% per year to 2030 (according to the Ministry of Natural Resources and Environment) 3) BWE also plans to expand the capacity of its waste-to-energy plant from 200 tons/day generating 5 MW of electricity to 500 tons/day and generating 17 MW of electricity in Q3/2024.

Corporate development strategies via horizontal M&A promise a bright future

2023 marked a year of aggressive M&A activity for BWE. The company is estimated to have invested over VND 1,100 billion in new acquisitions during the year to expand its water supply business across various provinces and cities. Including additional investments in GIWACO (Gia Tan Water Supply JSC), DNW, Chanh Phu Hoa, and Biwelco worth over VND 200 billion, BWE's total investment in financial activities exceeded VND 1,300 billion.

Table: BWE's new share purchase in 2023

Company	Period	Provinces	Ownership rate	Investment amount (bn VND)
Bang Tam Water and Environment JSC	01/07/2023	Long An	76.96%	29.6
Can Giuoc Urban JSC	01/07/2023	Long An	97.27%	34.9
ChauThanh Urban Project JSC	01/07/2023	Ca Mau	96.06%	30.7
Biwase – Long An Water JSC (BWA LA)	30/05/2023	Long An	94.54%	794.6
Thu Thua Project JSC	04/2023	Long An	48.25%	25
Long An Water Supply JSC (LAW)	03/2023	Long An	38.06%	92.9
Quang Binh Water Supply JSC (NQB)	03/2023	Quang Binh	41.00%	94.7
Total				**1,102.4**

Source: Company data, Shinhan Securities Vietnam

Table: BWE's effective capacity by provinces

Company	Province	Capacity (thousand m3/day)	BWE's ownership	BWE's effective capacity (thousand m3/day)
BWE	Binh Duong	760	100%	760
BWE LA	Long An	60	94.5%	57
LAW	Long An	50	38.1%	19
TTC	Long An	30	48.3%	14
GIWACO	Dong Nai	50	33.52%	17
DNW	Dong Nai	455	18.8%	86
CTW	Can Tho	147.5	24.7%	36
CT2	Can Tho	52.5	48.9%	26
VLW	Vinh Long	48	18.3%	9
NQB	Quang Binh	50	41.0%	21
Total		**1,703**		**1,044**

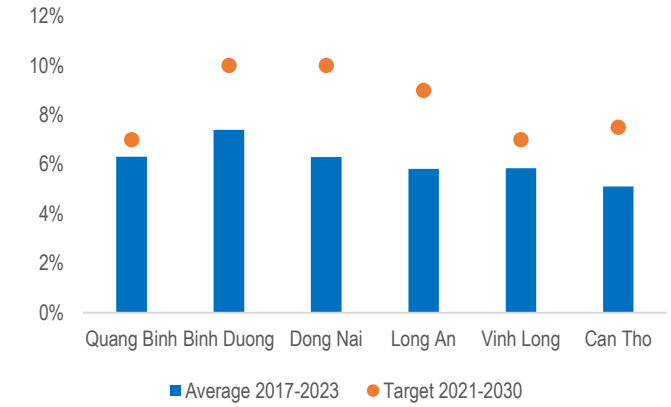
Source: Company data, Shinhan Securities Vietnam

Beside the main market in Binh Duong, BWE owns factories with large effective capacity in Dong Nai, and Long An. We assess the growth potential of the clean water sector in these three areas as very large, based on the following supporting factors: **(1) High GRDP growth rate for many years to come, (2) Hotspot for FDI attraction in the Southeast and Mekong Delta regions, (3)Strong potential for urbanization rate increase**

In Long An, BWE owns Biwase Long An and holds over 50% of the market share there. It is also the owner of the Nhi Thanh Water Plant with a capacity of 60,000 m3/day and plans to double its capacity to 120,000 m3/day (~15% of BWE's current capacity). The demand for clean water in Long An is expected to be high, given the target of increasing GRDP to nearly 10% by 2030 and the strong potential for urbanization to increase from 20% in 2022 to nearly 60% by 2030. In addition, Long An is also in the top 10 provinces attracting FDI capital, specifically in 2023, the province's newly registered capital reached over USD 700 million.

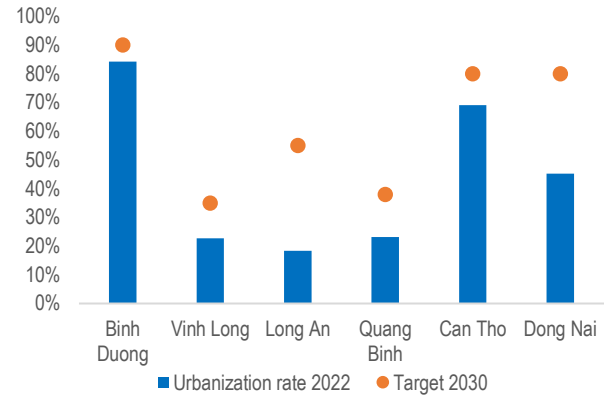
In Dong Nai, BWE owns 2 companies, DOWACO (DNW) and GIWACO, which hold over 30% of the market share. BWE plans to increase GIWACO's capacity from 50,000 m3/day to 100,000 m3/day in 2025. Anticipating the increasing demand for clean water in the industrial zones surrounding Long Thanh airport and Dong Nai, BWE aims for GIWACO to start recording positive profits next year. We share the same view with the company, considering the growth potential in Dong Nai.

Average GRDP growth and target (%)



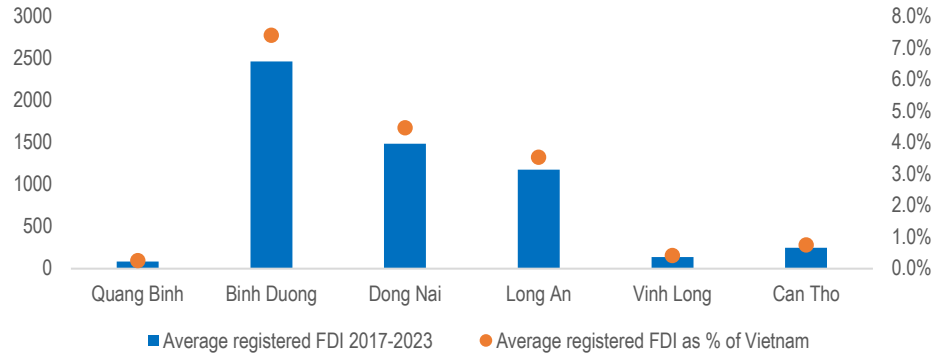
Source: GSO, Shinhan Securities Vietnam

Urbanization rate 2022 of provinces (%)



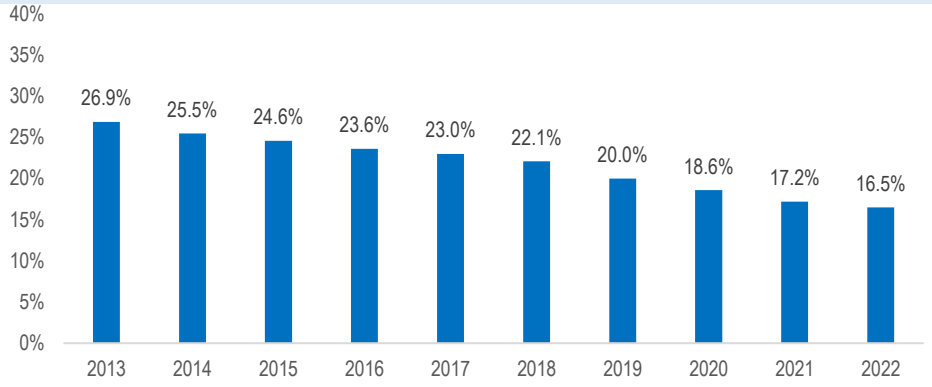
Source: GSO, Shinhan Securities Vietnam

Average registered FDI 2017-2023 by provinces (mn USD)



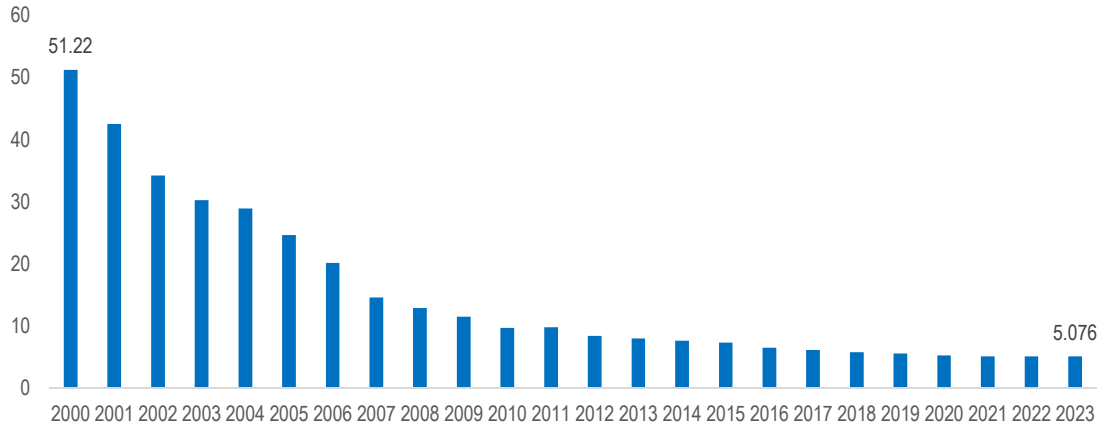
Source: GSO, Shinhan Securities Vietnam

Vietnam non-revenue water rate (%)



Source: Company data, Shinhan Securities Vietnam

BWE has the lowest non-revenue water rate in the industry (%)



Source: : Compoany data, Shinhan Securities Vietnam

Subsidiary and affiliate's performance. According to the company, BWE is focusing on restructuring the newly acquired companies and needs more time to operate them effectively. However, the company has also made some certain successes when Bang Tam and Nhi Thanh have initially made a profit. Gia Tan's water loss rate has been greatly improved (reduced from 14.1% to 4.67%). We also expect that with its experience and ability to effectively operate the water supply segment (BWE has the lowest water loss rate in the industry), the M&A strategy to expand market share across provinces and cities will be a solid long-term growth driver for BWE.

Earnings estimates

In FY2023, BWE's revenue reached VND 3,526 billion (+1.2% YoY), NPAT reached VND 682 billion (-8.7% YoY), respectively completing 100.2% and 83% of the year plan. The level of water consumption was recorded at 183.56 million m3 (+1% YoY), completing 99% target plan. There were nearly 19,000 new consumers connected to BIWASE's clean water system in 2023. Moreover, the non-revenue water (NRW) rate was still maintained at 5%.

We expect the mean growth rate of clean water consumption volume will be 4% per year thanks to BIWASE's stable number of new customers (both number of citizens and factories). Around 19,000 new customers per annum are expected to connect and use BIWASE's clean water system over the period 2024-2028.

Clean water production will still mainly contribute to BWE's revenue (~68% total revenue). In period 2024-2028, we assume a conservative growth of clean water selling price at +3% YoY in 2025, 2028. That in other years will remain unchanged. The new price policy of Binh Duong Province will be updated later.

The waste treatment volume is projected to be stable over the period 2024-2028, with conservative increase in selling price of 3.5% on average every year; contributing 18-20% to total BWE's revenue.

The NRW is targeted to be kept at 5%. In 2024, we forecast BIWASE's net revenue and NPAT of VND 3,802 billion (+7.8% YoY) and VND 702 billion (+3% YoY), respectively, which are in line with the company's business plan.

Prospects of BWE's consolidated revenue and profit (2021-2025F)

(Unit: VND billion)	2021A	2022A	2023A	2024F	2025F
Net revenue	**3,119**	**3,484**	**3,526**	**3,932**	**4,106**
Clean water production	1,970	2,159	2,321	2,683	2,760
Waste treatment	675	707	711	784	828
Waste water treatment	51	151	72	107	176
Others	423	467	422	359	342
Gross profit	**1,315**	**1,421**	**1,597**	**1,760**	**1,807**
Clean water production	1,072	1,136	1,298	1,516	1,531
Waste treatment	132	113	111	124	138
Waste water treatment	6	39	11	16	33
Others	105	133	145	105	105
Operating profit	**884**	**816**	**755**	**830**	**917**
NPAT	**755**	**747**	**682**	**797**	**841**
Clean water production	531	582	516	622	646
Waste treatment	52	13	4	8	7
Waste water treatment	-6	19	-5	8	1.0
Others	178	133	167	159	187
Profit margin (%)					
GPM	42.2	40.8	44.3	44.8	44.0
Operating profit margin	28.3	23.4	21.4	22.7	22.8
NPAT margin	24.2	21.4	19.3	20.3	20.5
Growth (%YoY)					
Net revenue	3.1	11.7	1.2		4.4
Operating profit	49.5	-7.7	-7.5	18.3	4.9
NPAT	41.0	-1.1	-8.7	16.9	5.5

Source: Company data, Shinhan Securities Vietnam

Recommendation and Valuation

Initiate coverage with BUY call and Target Price of VND 55,750

We initiate coverage Binh Duong Water - Environment JSC with a BUY recommendation and target price of VND 55,750, corresponding to a 21.5% upside from the current price as of May 07th, 2024. For a long-term view, BWE is an investment that can be considered based on the following advantages:

1) Effective business model, strong financial health;

2) The demand for water and the selling price of water have grown steadily;

3) The waste treatment segment still has a lot of room for development;

4) Development strategy and M&A have many prospects, promising a bright future.

Valuation

We apply FCFF and P/E multiples valuation methods, equally weighted of 40%-60%, respectively, to value BWE ticker.

FCFF method: We assume a revenue CAGR of 6% over the period 2024-2028. In our model, we expect BIWASE will have terminal growth rate of 0% as we assume that BIWASE will have no M&A expansion activities anymore.

Weighted average cost of capital (WACC)	
WACC (%)	**8.5**
Risk-free rate (%)	2.9
Equity risk premium (%)	9.0
Beta	0.7
Cost of debt (%)	7.0
Cost of equity (%)	9.0
Debt-to-equity ratio	0.54
Total debt (VND billion)	5,224

FCFF valuation model					
Unit: VND billion	**9M2024F**	**2025F**	**2026F**	**2027F**	**2028F**
Net profit	**617**	**841**	**915**	**957**	**1,091**
Plus: After-tax interest expense	344	382	378	349	294
Plus: Depreciation & Amortization	585	790	787	570	807
Minus: Change in working capital	-22	63	5	46	83
Minus: Capital expenditure	744	779	675	714	685
Free cash flows to the firm (FCFF)	**824**	**1,170**	**1,400**	**1,116**	**1,424**
Discount rate	0.94	0.86	0.78	0.72	0.66
Present value of FCFF	**775**	**1,014**	**1,118**	**821**	**965**
Terminal growth rate	0%				
Present value of terminal value	11,290				
Enterprise value	**15,982**				
Minus: Total debt	5,224				
Plus: Cash balance	752				
Minus: Minority interest	152				
Number of shares outstanding (bn shares)	0.22				
Target price (VND)	**51,650**				

Source: Company data, Shinhan Securities Vietnam

P/E multiples method: We collected data from companies in the same industry and similar in size of BWE. The implied P/E forward is at 14.27x, estimated by averaging between: Mean P/E of chosen peers and 5-year ex-post mean P/E of BWE. The EPS forward is VND 4,096, corresponding 12-month target price of VND 58,450.

Summary of P/E valuation model

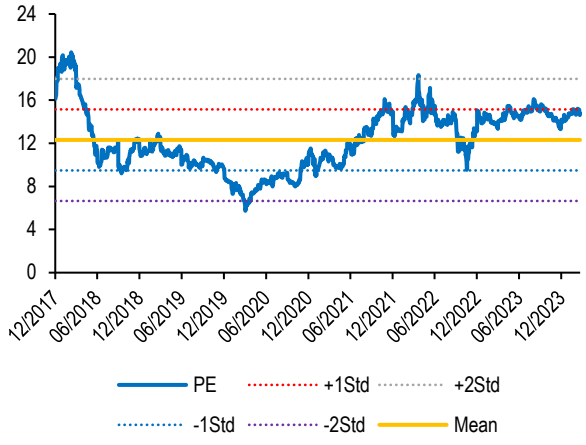
Current multiples of BWE	Average 5-year multiples of BWE	Peer industry multiples	Implied ex-ante multiples	Implied target price (VND)
14.02x	11.88x	16.66x	14.27x	58,450

Comparison of peer enterprises

Ticker	Company name	Country	P/E	Market cap (USD mn)	EPS growth YoY(%)	NPAT margin (%)	ROA (%)	ROE (%)
BWE VN Equity	BINH DUONG WATER ENVIRONMENT	Vietnam	14.02	326.8	-9.2	19.1	6.5	13.0
300692 CH Equity	ANHUI ZHONGHUAN ENVIROMENT	China	23.29	307.8	-48.4	13.3	1.4	4.2
600168 CH Equity	WUHAN SANZHEN INDUSTRY	China	20.09	607.6	n.a	4.7	0.7	2.8
EASTW TB Equity	EASTERN WATER RESOURCES	Thailand	18.42	158.0	-54.8	7.3	1.2	2.7
TTW TB Equity	TTW PCL	Thailand	12.32	979.6	-1.4	51.9	14.0	19.6
WHAUP TB Equity	WHA UTILITIES AND POWER PCL	Thailand	9.16	404.7	258.3	58.6	5.7	12.5
Mean			**16.66x**					

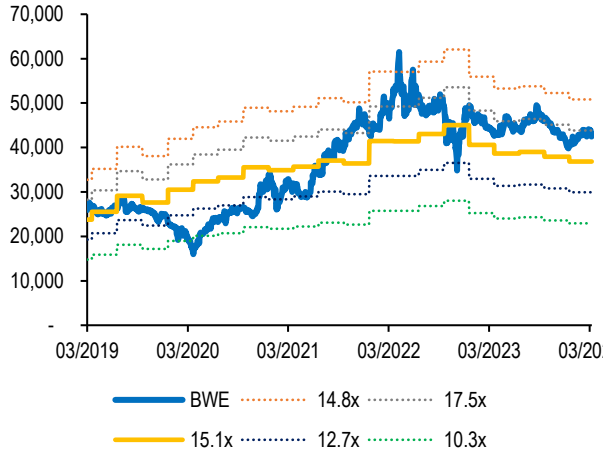
Source: Bloomberg, Shinhan Securities Vietnam

PER of BWE from 2017



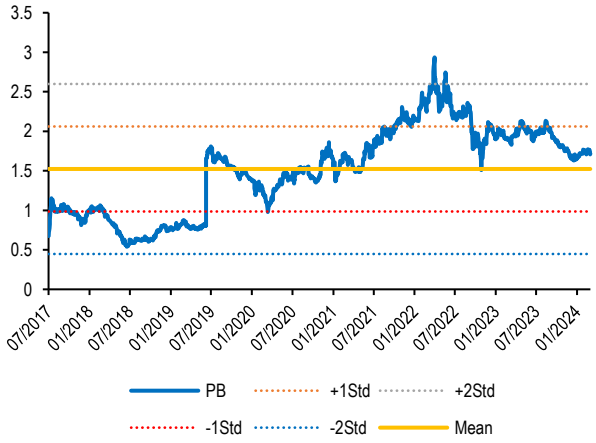
Source: Bloomberg, company data, Shinhan Securities Vietnam

BWE's PER band



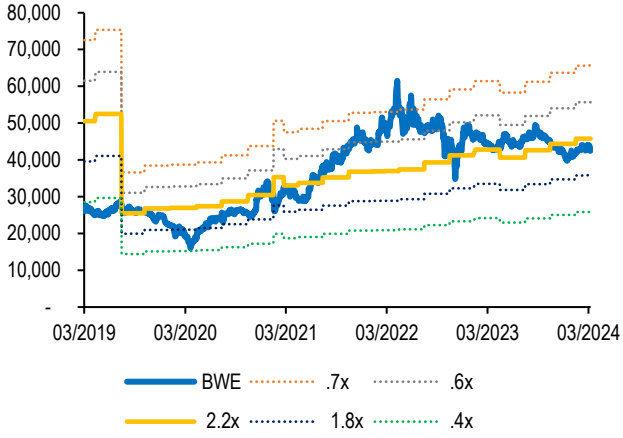
Source: Bloomberg, company data, Shinhan Securities Vietnam

PBR of BWE from 2017



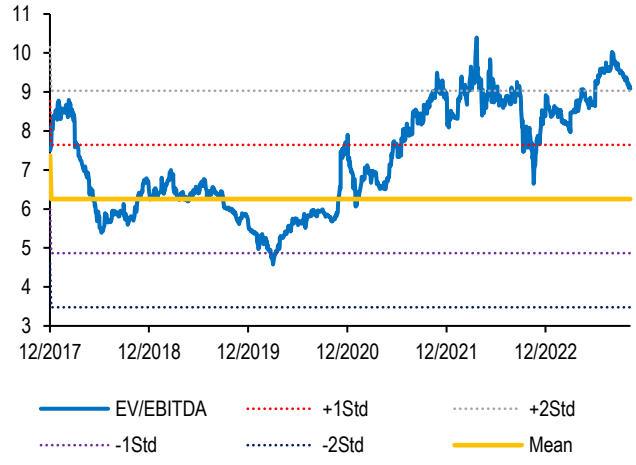
Source: Bloomberg, company data, Shinhan Securities Vietnam

PBR band of BWE



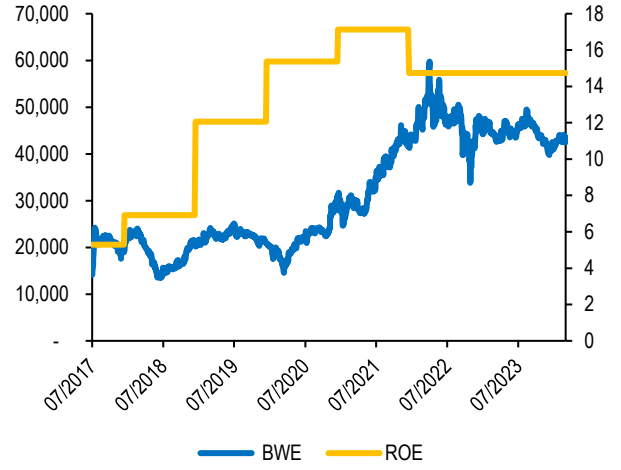
Source: Bloomberg, company data, Shinhan Securities Vietnam

EV/EBITDA of BWE from 2017



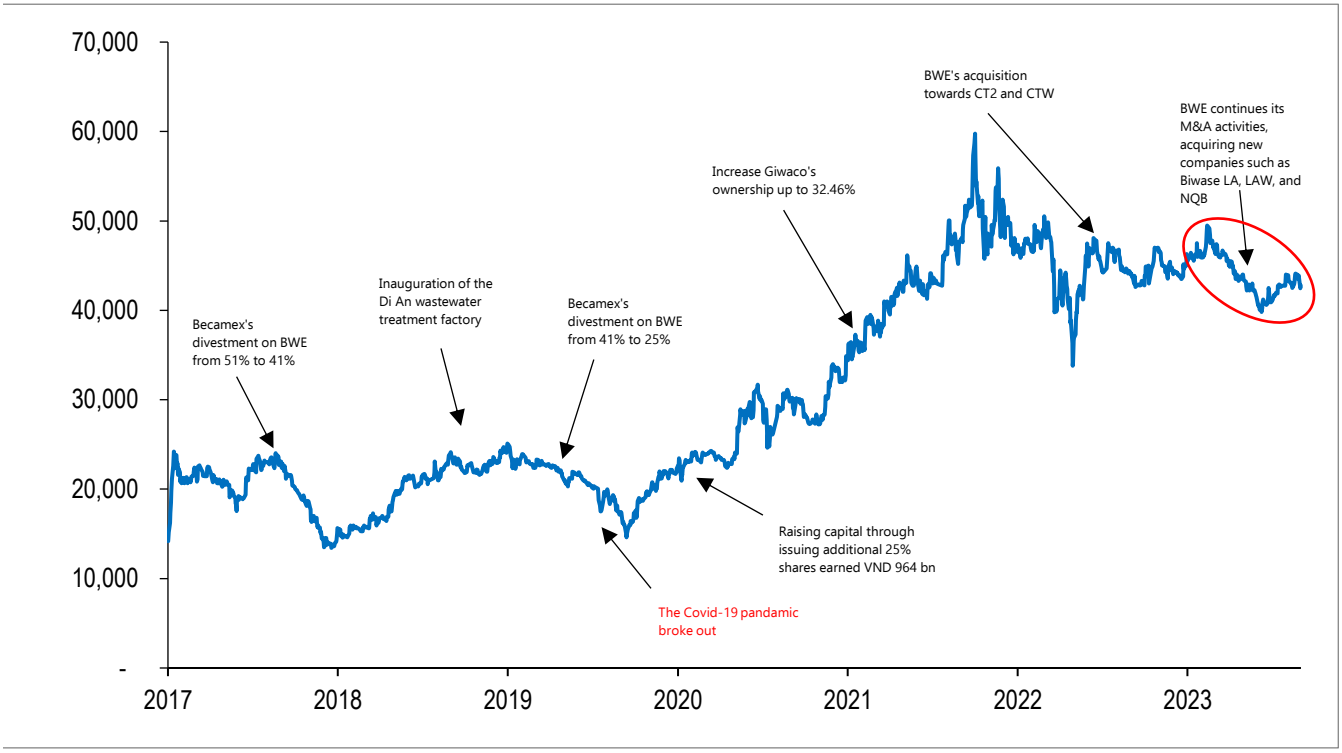
Source: Bloomberg, company data, Shinhan Securities Vietnam

Price and forcasted ROE of BWE



Source: Bloomberg, company data, Shinhan Securities Vietnam

Key events chart of BWE



Source: Bloomberg, company data, Shinhan Securities Vietnam

Risks

Policy risk

Water price is one of the factors that impact the operating results of BWE. However, due to the government's pricing policy, BWE could not decide on this factor.

Risks from environment, upstream water

Raw water is one of the main factors determining the quality of tap water. Raw water for BWE comes from the Dong Nai River, Saigon River, and Phuoc Hoa Lake. Currently, the water source in these areas is still of good quality with large reserves. However, in the Saigon River area has appeared saline intrusion during drought seasons. At the moment, this risk remains under BWE's control.

Meanwhile, the industrialization process, as well as the impact of domestic waste, increasingly make the quality of upstream waters go down. In some areas that are industrialized too fast, groundwater sources have shown signs of pollution. For these sources of water, the company has to spend more money to ensure quality, which in turn reduces profit margins.

Risks from M&A activities

In recent years, BWE has actively M&A horizontally with many names, such as NQB, LAW, VLW, DNW, GIWACO, CT2, and CTW. These businesses still have their problems, BWE may fail in horizontal development is a major risk to consider.

Risk of non-revenue water

One of the biggest risks in the value chain of the tap water supply is the loss of water during distribution. The NRW of BWE (~5%) is very low when compared to the industry average, but the fact that the pipes are worn out or damaged is unavoidable. This makes BWE more fragile when very low water loss is already in place.

Appendix: Financial Statements

Statement of financial position

Year to Dec. (bn VND)	2022	2023	2024F	2025F	2026F
Total assets	**9,987**	**12,122**	**13,052**	**13,382**	**13,395**
Current assets	2,786	2,706	3,216	3,235	3,049
Cash & equivalents	275	655	1,119	1,015	776
Short-term financial asset	872	265	309	314	328
Accounts receivable	912	781	845	879	911
Inventories	714	923	848	929	933
Others	13	82	96	97	101
Non-current assets	7,201	9,416	9,836	10,147	10,347
Net fixed assets	3,617	4,538	4,642	4,873	4,998
Long-term incomplete assets	1,447	2,089	2,403	2,707	3,010
Others	2,138	2,789	2,791	2,566	2,338
Total liabilities	**5,449**	**7,158**	**7,554**	**7,499**	**7,087**
Current liabilities	1,989	2,385	2,179	2,324	2,311
Accounts payable	184	453	270	328	314
Short-term borrowings	1,326	1,433	1,291	1,399	1,366
Others	479	499	618	597	631
Non-current liabilities	3,460	4,773	5,375	5,175	4,775
Long-term borrowings	2,692	3,997	4,604	4,403	4,002
Others	769	776	772	772	773
Total equity	**4,537**	**4,963**	**5,497**	**5,883**	**6,309**
Capital stock	1,929	1,929	2,199	2,199	2,199
Capital surplus	621	621	621	621	621
Other capital	986	1,232	1,464	1,711	1,953
Retained earnings	957	1,019	1,044	1,175	1,353
Non-controlling interest equity	44	162	169	176	182
* Total debt	4,018	5,431	5,895	5,802	5,368
* Net debt (cash)	2,871	4,511	4,467	4,472	4,265

Statement of comprehensive income

Year to Dec. (bn VND)	2022	2023	2024F	2025F	2026F
Net revenue	**3,484**	**3,526**	**3,932**	**4,106**	**4,268**
Growth (%)	11.7	1.2	11.5	4.4	3.9
COGS	**(2,063)**	**(1,962)**	**(2,172)**	**(2,299)**	**(2,345)**
Gross profit	**1,421**	**1,564**	**1,760**	**1,807**	**1,922**
GPM (%)	40.8	44.3	44.8	44.0	45.0
SG&A	**(502)**	**(584)**	**(653)**	**(668)**	**(702)**
Operating profit	**919**	**980**	**1,108**	**1,139**	**1,220**
Growth (%)	(7.7)	6.6	4.9	9.3	4.2
OPM (%)	26.4	27.8	28.2	27.7	28.6
Non-operating profit	**(81)**	**(218)**	**(209)**	**(192)**	**(187)**
Financial income (FI)	104	126	133	143	132
Financial expense (FE)	(226)	(395)	(378)	(372)	(361)
In which: interest expenses	(170)	(344)	(341)	(318)	(315)
Net other non-operating profit	41	50	36	37	42
Pre-tax profit	**838**	**762**	**898**	**946**	**1,032**
Income tax	(92)	(80)	(101)	(106)	(118)
Net profit	**747**	**682**	**797**	**841**	**915**
Growth (%)	(1.1)	(8.7)	16.9	5.5	8.8
NPM (%)	21.4	19.3	20.3	20.5	21.4
Controlling interest	743	674	790	834	908
Non-controlling interest	4	8	7	7	6
EBIT	**968**	**1,056**	**1,204**	**1,228**	**1,306**
Growth (%)	(6.1)	9.1	14.0	2.0	6.4
EBIT Margin (%)	27.8	29.9	30.6	29.9	30.6
EBITDA	**1,447**	**1,601**	**1,943**	**2,000**	**2,086**
Growth (%)	(4.4)	10.7	21.3	2.9	4.3
EBITDA margin (%)	41.5	45.4	49.4	48.7	48.9

Statement of cash flow

Year to Dec. (bn VND)	2022	2023	2024F	2025F	2026F
Cash flow from operations	**1,303**	**1,070**	**1,682**	**1,520**	**1,554**
Net profit	838	762	898	946	1,032
D&A expenses	479	546	739	772	780
(Gain)/loss from investing activities	(120)	(160)	(197)	(191)	(207)
Change in working capital	233	52	(54)	(63)	(5)
Others	(127)	(129)	295	56	(48)
Cash flow from investments	**(1,650)**	**(1,212)**	**(1,145)**	**(1,066)**	**(981)**
Change in fixed assets	(823)	(955)	(841)	(779)	(675)
Change in investment assets	(926)	(386)	(431)	(428)	(432)
Others	99	130	128	141	127
Cash flow from financing	**146**	**523**	**(73)**	**(556)**	**(811)**
Change in equity	(0)	75	270	-	-
Net borrowings	383	704	(343)	(292)	(547)
Dividends	(236)	(256)	-	(264)	(264)
Change in total cash	**(201)**	**382**	**464**	**(102)**	**(238)**
Beginning cash	476	275	655	1,119	1,015
Change in FX rates	0	(1)	(1)	(1)	(1)
Ending cash	275	655	1,119	1,015	776

Source: Company data, Shinhan Securities Company

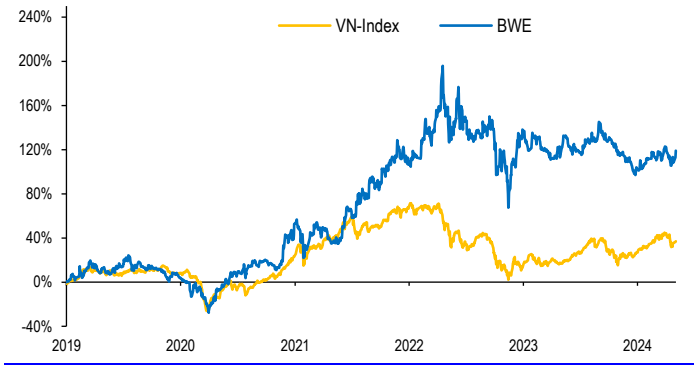
Key ratios

Year to Dec.	2022	2023	2024F	2025F	2026F
EPS (VND)	3,196	2,902	4,096	4,322	4,708
BPS (VND)	23,289	24,887	24,229	25,950	27,858
PER (x)	14.6	15.5	11.3	9.9	8.3
PBR (x)	2.0	1.8	1.9	1.6	1.4
EV/EBITDA (x)	8.2	8.2	9.9	9.2	8.3
Dividend payout ratio (%)	33.8	0.0	36.2	31.7	29.1
Dividend yield (%)	2.6	3.0	1.8	1.7	1.9
Profitability					
EBITDA margin (%)	41.5	45.4	49.4	48.7	48.9
OPM (%)	26.4	27.8	28.2	27.7	28.6
NPM (%)	21.4	19.3	20.3	20.5	21.4
ROA (%)	7.8	6.2	6.3	6.4	6.8
ROE (%)	17.9	14.4	15.2	14.8	15.0
Stability					
Debt to equity ratio (x)	0.9	1.1	1.1	1.0	0.9
Net debt ratio (x)	2.0	2.8	2.3	2.2	2.0
Cash ratio	0.6	0.4	0.7	0.6	0.5
Interest coverage ratio (x)	5.7	3.1	3.5	3.9	4.1
Activity (%)					
Payable turnover (days)	11	7	8	7	8
Inventory turnover (days)	3	2	3	2	3
Receivable turnover (days)	7	7	7	7	7

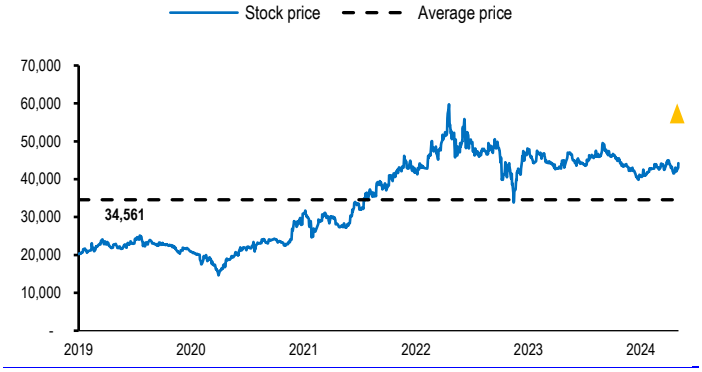
Source: Company data, Shinhan Securities Company

Binh Duong Water Environment JSC (BWE VN)

Stock price



Target price



Date	Rating	Target price (VND)	Target price gap (%)	
			Average	Max/ Min
May 07th, 2024 (Initial report)	BUY	55,750	26.1	12.6/40.1

Note: Calculation of target price gap based on past 12 months

Shinhan Securities Vietnam

Stock	Sector
◆ **BUY:** Expected 12-month gain of 15% or more ◆ **HOLD:** Expected 12-month loss of 15% to gain of 15% ◆ **SELL:** Expected 12-month loss of 15% or more	◆ **OVERWEIGHT:** Based on market cap, largest share of sector stocks under coverage is rated BUY ◆ **NEUTRAL:** Based on market cap, largest share of sector stocks under coverage is rated HOLD ◆ **UNDERWEIGHT:** Based on market cap, largest share of sector stocks under coverage is rated SELL

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