

BUY (Unchanged)

Change in Numbers

TP: Bt 11.00 (From: Bt 10.50)

Upside : 18.9%

4 NOVEMBER 2022

Bangkok Exp. & Metro (BEM TB)

Swift recovery

The fast turnaround of BEM's ridership back to pre-COVID 2019 level leads us to lift our earnings forecasts and raise our TP to Bt11. We reaffirm our BUY call given share price catalysts from its strong earnings growth of 130/40/13% y-y in 2022-24F and Bt0.8-1.0 of potential value on top of our TP from the Orange Line project.



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Raising our TP to Bt11; still a BUY

The swift recovery in BEM's ridership leads us to lift our earnings by 12/6/5% in 2022-24F and our SOTP-derived DCF-based 12-month TP (2023F base year) to Bt11/share from Bt10.5. We reaffirm our BUY call on BEM given share price catalysts from **1)** the resumption of schools' on-site classes, exhibition center events, and more travel by both Thai and foreign tourists continuing to boost its traffic volume and ridership, **2)** record-high earnings in 2023F driven by its mass-transit business returning to make a profit, and operating leverage benefits, and **3)** potential upside from the Orange Line project.

Record-high earnings in 2023F

Some 60% of BEM's revenue comes from its highly profitable expressways and 35% from its loss-making mass-transit business. Despite the traffic volume plunging to 0.9m cars/day in 2021 (vs. 1.2m in pre-COVID 2019 and 0.5m break-even level) and ridership to 0.15m trips/day (vs. 0.34m in 2019 and the 0.32m break-even level), BEM still reported a Bt1bn profit in 2021. The continued easing of COVID-related measures since late last year has led its traffic volume to recover to 1.1m cars/day in September 2022 and ridership to 0.34m trips/day. We now project its traffic volume to increase to 82/98/100% of the 2019 pre-COVID level in 2022-24F and ridership to 80/116/134%, driving its earnings growth by 130/40/13% y-y in 2022-24F.

Bt0.8-1.0 potential upside from Orange Line

BEM plans to organize a shareholders' meeting on 28 November 2022 to obtain approval for the Bt139bn investment in the West Orange Line project, including the construction of the West Orange Line likely in 2023-29, and the operation of the East and West Orange Line likely from 2027-2056. BEM expects to sign the public-private partnership contract with the government by the end of this year or early next year. It also expects an 8-10% IRR for the project, which could roughly imply an additional value of Bt0.8-1.0/share on top of our TP.

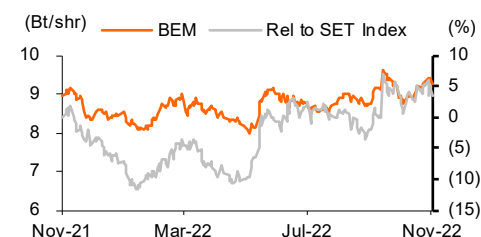
High D/E not a concern to us

Despite the Bt139bn investment and its net D/E ratio of 1.8x at end-2Q22, we are not too worried about BEM facing any financial constraints as, **firstly**, the government would help to subsidize the Bt96bn construction cost of the West Orange Line. **Secondly**, as this is an infrastructure project, BEM should be able to easily find funding sources for the remaining Bt43bn via its cash flow from operations, loans, and debentures. **Finally**, a recovery in its EBITDA from Bt4bn in 2021 to Bt6/7/8bn a year in 2022-24F should also help BEM to fund this project.

COMPANY VALUATION

Y/E Dec (Bt m)	2021A	2022F	2023F	2024F
Sales	10,727	13,797	16,416	17,367
Net profit	1,010	2,326	3,264	3,692
Norm profit	1,010	2,326	3,264	3,692
Consensus NP	—	2,450	3,620	4,182
Diff frm cons (%)	—	(5.1)	(9.8)	(11.7)
Prev. Norm profit	—	2,080	3,091	3,520
Chg frm prev (%)	—	11.8	5.6	4.9
Norm EPS (Bt)	0.1	0.2	0.2	0.2
Norm EPS grw (%)	(50.7)	130.2	40.3	13.1
Norm PE (x)	140.0	60.8	43.3	38.3
EV/EBITDA (x)	56.9	35.5	27.9	25.6
P/BV (x)	3.8	3.6	3.4	3.2
Div yield (%)	0.9	0.4	0.6	0.7
ROE (%)	2.7	6.1	8.1	8.6
Net D/E (%)	184.1	174.3	151.0	143.5

PRICE PERFORMANCE



COMPANY INFORMATION

Price as of 4-Nov-22 (Bt)	9.25
Market Cap (US\$ m)	3,763.8
Listed Shares (m shares)	15,285.0
Free Float (%)	53.7
Avg Daily Turnover (US\$ m)	10.7
12M Price H/L (Bt)	9.60/7.95
Sector	Transportation
Major Shareholder	CK Pcl 32.4%

Sources: Bloomberg, Company data, Thanachart estimates

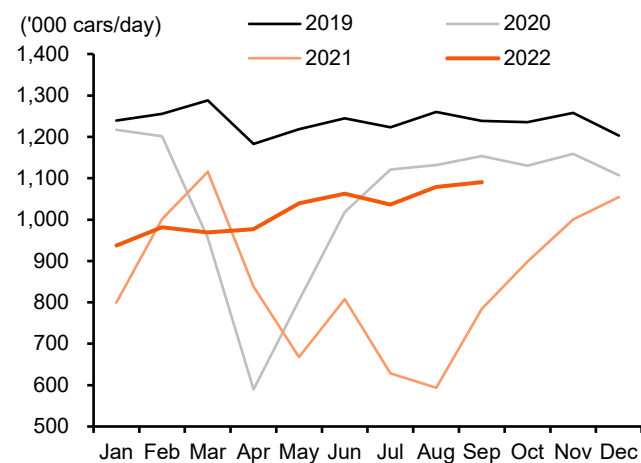
ESG Summary Report P7

Fast recovery in ridership

BEM's ridership has now recovered to 98% of the pre-COVID 2019 level

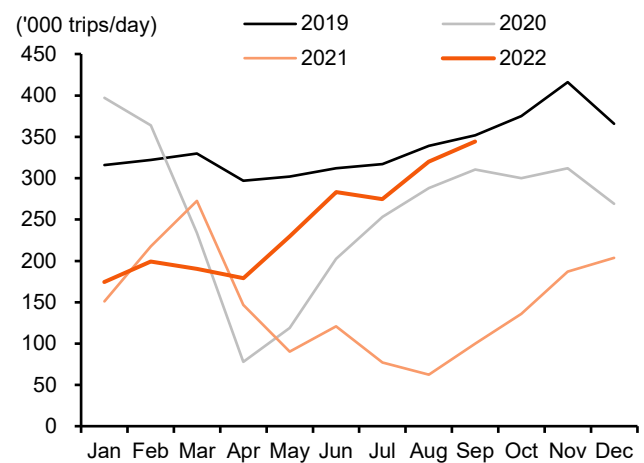
Bangkok Expressway and Metro Pcl's (BEM) ridership recovered to 0.34m trips/day in September this year or to 98% of the pre-COVID 2019 level (vs. 0.15m trips in 2021 and 0.26m trips in 2020). This has allowed its mass-transit business to start making a profit after incurring losses for the past two years as its ridership break-even level is at around 0.32m trips/day. In contrast, BEM's expressway business is highly profitable and it made profits even during the COVID-19 crisis in 2020-21 as its traffic volume's break-even level is low at only 0.5m cars/day. BEM's traffic volume recovered to 1.1m cars in September 2022 or 88% of the pre-COVID 2019 level (vs. 0.9m cars in 2021 and 1.1m cars in 2020).

Ex 1: BEM's Ridership



Sources: Company data

Ex 2: BEM's Traffic Volume



Sources: Company data

Raising our TP to Bt11; reaffirming BUY

We lift our earnings estimates by 5-12% in 2022-24F and our TP to Bt11

The stronger-than-expected ridership recovery leads us to raise our earnings estimates for BEM by 12/6/5% in 2022-24F. Our SOTP-derived DCF-based 12-month TP (2023F base year) is therefore lifted to Bt11/share (from Bt10.5) and we reaffirm our BUY call on BEM.

Ex 3: Key Assumption Changes

	2020	2021	2022F	2023F	2024F
Ridership (m trips/day)					
New	0.26	0.15	0.27	0.39	0.45
Old			0.24	0.33	0.36
Change (%)			15.0	19.1	24.5
Traffic volume (m cars/day)					
New	1.1	0.9	1.0	1.2	1.2
Old			1.0	1.2	1.2
Change (%)			(2.0)	1.0	1.0
Gross margin (%)					
New	37.5	34.8	41.1	42.9	43.8
Old			41.0	43.5	44.7
Change (pp)			0.1	(0.6)	(0.9)
Normalized profit (Bt bn)					
New	2.1	1.0	2.3	3.3	3.7
Old			2.1	3.1	3.5
Change (%)			11.8	5.6	4.9

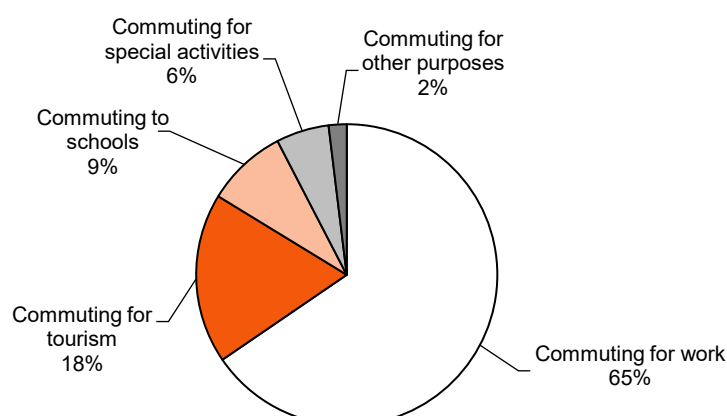
Sources: Company data, Thanachart estimates

Share price catalysts

*We see share price catalysts from...
...continued ridership and traffic volume growth...*

We see share price catalysts for BEM from;

Firstly, its continued ridership and traffic volume recovery. According to BEM's passenger satisfaction survey in 2021, 66% of its ridership used the Blue Line mass-transit network for work, 18% for tourism, and 9% for travel to and from school. Therefore, with people now getting back to working in offices, schools resuming on-site classes, exhibition centers restarting events, and more foreign tourists arriving after the easing of the COVID-19 rules, we estimate its traffic volume to continue to increase to 82/98/100% of the 2019 pre-COVID level in 2022-24F and ridership to 80/116/134%.

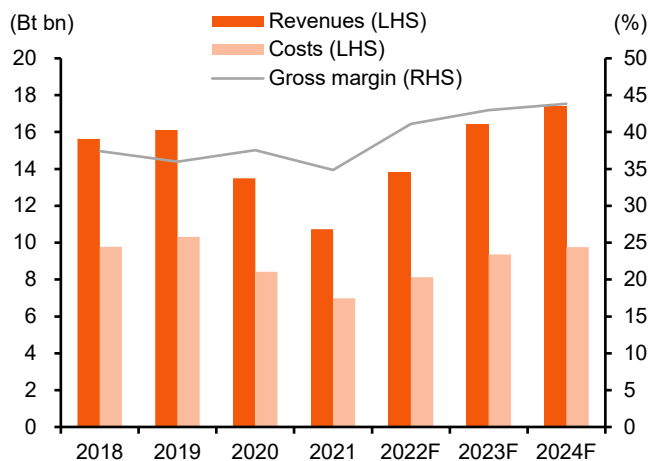
Ex 4: Blue Line's Ridership Breakdown In 2021

Source: Company data

...record-high earnings next year...

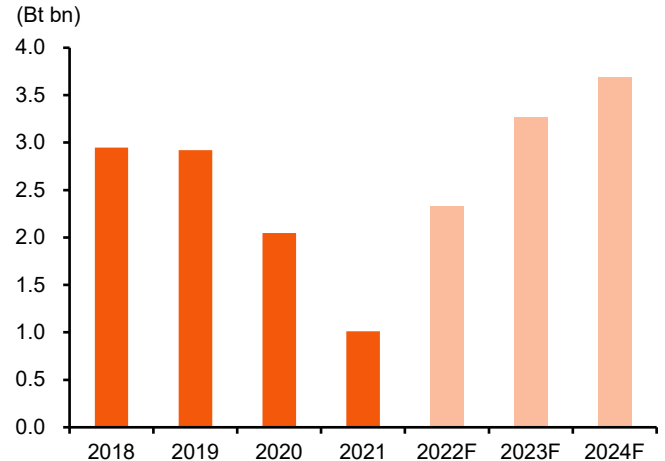
Secondly, we expect a robust earnings recovery this year with a record high profit from 2023F onward, driven by strong ridership and traffic volume growth, 1.5% average fare hike in 2023F, and operating leverage benefits.

Ex 5: BEM's Revenues, Costs, And Gross Margin



Sources: Company data, Thanachart estimates

Ex 6: BEM's Normalized Earnings



Sources: Company data, Thanachart estimates

...potential upside from the Orange Line project

Third, we see potential upside from the Orange Line project. BEM is the lowest bidder for this Bt139bn project. It plans to organize a shareholders' meeting on 28 November 2022 to get approval before signing the public-private partnership contract with the government late this year or early next year. BEM would then **1)** install the mechanical and electrical (M&E) systems for the east section of the Orange Line network, likely in 2023-27, **2)** construct and install the M&E systems for the west part of the Orange Line network, likely from 2023-29, and **3)** operate the whole network, likely between 2027-56. BEM expects an IRR of 8-10% for this project. This could roughly imply an additional value of Bt0.8-1/share on top of our current TP.

Ex 7: Orange Line Project



Source: Company data

Ex 8: Orange Line Project's Details

		Orange Line (West)	Orange Line (East)
Distance		17.5km	21km
Station		11 underground stations	10 underground and 7 elevated stations
Concession		PPP net cost	
Expected timeline		2029	2027
Regulator		MRTA	
Project investment	Civil	Bt95bn (full subsidy)	Invested in by MRTA
	M & E	Bt44bn	
Construction progress		97.74% (Civil work)	

Sources: Company data, MRTA

Ex 9: Our SOTP-derived DCF-based Valuation Of BEM

Sum-of-the-parts	% holding	(Bt m)
Enterprise value		224,556
Investment equity value		13,819
TTW	18.47%	6,264
CKP	16.82%	7,555
Total enterprise value		238,375
(Less) Net debt (as at 2022F)		(68,182)
(Less) Minority interest		(3)
Total equity value		170,189
# of shares (fully diluted) (m shares)		15,285
Sum-of-the-parts		11

Source: Thanachart estimates

Valuation Comparison

Ex 10: Valuation Comparison With Regional Peers

Name	BBG Code	Country	EPS growth		— PE —		— P/BV —		EV/EBITDA		— Div Yield —	
			22F	23F	22F	23F	22F	23F	22F	23F	22F	23F
			(%)	(%)	(x)	(x)	(x)	(x)	(x)	(x)	(%)	(%)
Guangshen Railway	601333 CH	China	(28.0)	93.3	na	na	0.6	0.6	150.5	10.1	0.0	0.4
Central Japan Railway	9022 JP	Japan	na	49.6	17.7	11.8	0.9	0.8	10.5	8.4	0.8	0.8
Keisei Electric Railway	9009 JP	Japan	na	70.1	32.3	19.0	1.6	1.5	23.3	18.6	0.4	0.5
MTR Corp Ltd	66 HK	Hong Kong	17.6	13.8	19.3	16.9	1.2	1.2	18.7	14.2	3.7	3.9
Jungfraubahn Holding	JFN SW	Switzerland	na	100.1	31.3	15.6	1.1	1.1	11.5	8.1	1.4	2.2
Jiangsu Expressway	177 HK	China	(22.0)	37.5	8.2	6.0	0.9	0.8	11.1	8.5	8.7	8.8
Shenzhen Expressway	548 HK	China	6.8	(8.0)	4.7	5.1	0.6	0.5	9.4	7.9	12.7	10.9
Zhejiang Expressway	576 HK	China	5.1	27.4	5.9	4.7	0.7	0.7	4.3	3.7	7.8	8.2
Anhui Expressway	995 HK	China	1.9	15.1	5.4	4.7	0.7	0.6	4.1	3.6	10.9	13.1
Jasa Marga Persero	JSMR IJ	Indonesia	336.1	18.4	14.4	12.2	1.0	1.0	9.7	8.3	1.4	1.4
Bangkok Express & Metro	BEM TB*	Thailand	130.2	40.3	60.8	43.3	3.6	3.4	35.5	27.9	0.4	0.6
BTS Group Holdings	BTS TB*	Thailand	(26.1)	(6.0)	53.1	56.4	1.8	1.7	60.5	35.0	1.1	1.1
Average			46.8	37.6	23.0	17.8	1.2	1.2	29.1	12.9	4.1	4.3

Source: Bloomberg

Note: * Thanachart estimates, using Thanachart normalized EPS

** BTS's FY22 financial year ends in March 2022. Its first forecast year is FY23F.

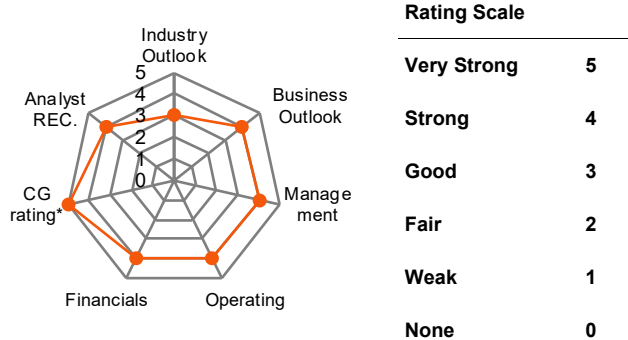
Based on 4-Nov-22 closing prices

COMPANY DESCRIPTION

Bangkok Expressway and Metro Pcl is the amalgamated company between Bangkok Expressway (BECL) and Bangkok Metro (BMCL). It operates expressway and mass-transit projects in Thailand under build-transfer-operate concession contracts from the Expressway Authority of Thailand and the State Railway of Thailand.

Source: Thanachart

COMPANY RATING



Source: Thanachart; *CG Rating

THANACHART'S SWOT ANALYSIS

S — Strength

- BEM's expressways and subway go through the center of Bangkok, with secure traffic volume and ridership growth.

Its businesses generate secure and stable cash flows.

O — Opportunity

- The extensions of BEM's networks would help to feed passengers and cars into its systems.
- The government's infrastructure investments will likely create opportunities for BEM to grow.
- There are only two private companies operating mass-transit projects in Thailand at present.

W — Weakness

- BEM's revenue-generating market is limited to Bangkok.

Its businesses are under concession contracts, thereby leading to continuity risk.

T — Threat

- The government has intervened in the past in BEM's toll and fare rate revisions even though there's a concession contract.
- Delays to the government's infrastructure investments.

CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	10.61	11.00	4%
Norm profit 22F (Bt m)	2,450	2,326	-5%
Norm profit 23F (Bt m)	3,620	3,264	-10%
Consensus REC	BUY: 16	HOLD: 2	SELL: 0

HOW ARE WE DIFFERENT FROM THE STREET?

- Our 2022-23F earnings are 5-10% below the Bloomberg consensus numbers, which we attribute to us being more conservative on BEM's traffic volume and ridership recovery.
- However, our TP is 4% higher than the consensus number, likely due to us having a more bullish view on BEM's long-term outlook and SOTP value.

Sources: Bloomberg consensus, Thanachart forecasts

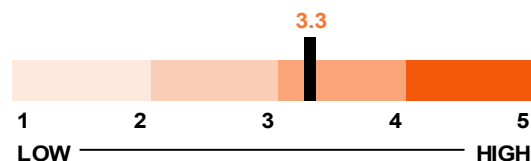
RISKS TO OUR INVESTMENT CASE

- A re-emergence of the COVID-19 outbreak could again put BEM's traffic volume and ridership under pressure, leading to downside risk to our earnings forecasts.
- Continued higher electricity costs present another risk to our earnings forecasts.
- Government intervention in its toll and fare rate hikes could also pose another downside risk to our earnings estimates.

Source: Thanachart

Bangkok Expressway and Metro (BEM) holds concessions granted by the government to operate the Sirat and Udon Rattaya expressways and the Blue and Purple line mass-transit networks. Our ESG score for BEM is relatively high at 3.3 given its eco-friendly public transport systems. It also assigns importance to ESG issues with measurements in many areas.

Thanachart ESG Rating



	SETTHSI Index	THSI Index	DJSI Index	MSCI (CCC-AAA)	Arabesque S-Ray (0-100)	Refinitiv (0-100)	S&P Global (0-100)	Moody's (0-100)	CG Rating (0-5)
BEM	YES	YES	-	B	50.68	26.94	14.01	-	5.0

Sources: SETTRADE, SETTHSI Index, Thailand Sustainability Investment (THSI), The Dow Jones Industrial Average (DJSI), MSCI ESG Research LLC, Arabesque S-Ray®, Refinitiv ESG Information, S&P Global Market Intelligence, Moody's ESG Solutions, Thai IOD (CG rating)

Note: Please see third party on "term of use" in the following back page.

Factors

Our Comments

ENVIRONMENT

- Environmental Policies & Guidelines
- Energy Management
- Carbon Management
- Water Management
- Waste Management

- While BEM's expressways do not create high levels of greenhouse gases (GHG) by themselves, its two mass transit projects are electric lines. BEM also gives importance to other ESG issues with targets to achieve.
- BEM has installed solar cells and replaced fluorescent bulbs with LED bulbs at its control centers, depots, and stations, resulting in around 15% lower electricity consumption in 2021.
- It has used automatic toll collection lanes which result in expressway users saving travel time and fuel, thereby reducing traffic congestion and air pollution. It has monitored ambient air quality and noise levels around its expressway and mass-transit areas to make sure that they do not exceed the standard under the National Environment Board's notifications.
- BEM has obtained certifications of the ISO 14001 Environmental Management System and the National Green Office Award at the "Good Level".

SOCIAL

- Human Rights
- Staff Management
- Health & Safety
- Product Safety & Quality
- Social Responsibility

- BEM believes it strictly complies with laws and human rights principles to treat all employees with fairness and ensure a safe working environment.
- In 2021, it provided training courses for its staff with an average of 37 hours per person per year, compared to its target of 30 hours. Given its prevention and safety control measures, it had just seven work-related accidents on its expressways without leading to the loss of life of any staff and only two work-related accidents for its metro service.
- It has obtained certifications of the ISO 9001 Quality Management System and ISO 45001 Occupational Health and Safety Management System.
- BEM's CSR has been conducted through many activities such as the MRT Children's Day, Computer for Children, and the Healthy Journey with BEM projects.

GOVERNANCE &
SUSTAINABILITY

- Board
- Ethics & Transparency
- Business Sustainability
- Risk Management
- Innovation

- The board of directors (BOD) comprises 16 individuals which we consider an appropriate level for the size and scope of its business. Of the 16 members, six are independent directors and four are women. However, the chairman is not an independent director.
- BEM has nominated EY Company Limited as the auditor of the group.
- It was rated with the "Excellent CG Scoring" by the Thai Institute of Directors Association and it was selected as one of 146 listed companies on the Thailand Sustainability Investment 2021 by the SET.
- BEM has developed the Geographic Information System, Advanced Traffic Management System, and EMV Toll Payment System to keep expressway service standards at an appropriate level.

Sources: Company data, Thanachart

INCOME STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Sales	13,489	10,727	13,797	16,416	17,367
Cost of sales	8,427	6,990	8,129	9,366	9,753
Gross profit	5,063	3,737	5,668	7,050	7,614
% gross margin	37.5%	34.8%	41.1%	42.9%	43.8%
Selling & administration expenses	1,347	1,160	1,173	1,313	1,372
Operating profit	3,716	2,577	4,495	5,737	6,242
% operating margin	27.5%	24.0%	32.6%	34.9%	35.9%
Depreciation & amortization	1,858	1,129	1,412	1,585	1,781
EBITDA	5,574	3,706	5,907	7,322	8,023
% EBITDA margin	41.3%	34.5%	42.8%	44.6%	46.2%
Non-operating income	830	755	767	764	738
Non-operating expenses	0	0	0	0	0
Interest expense	(2,113)	(2,187)	(2,371)	(2,419)	(2,364)
Pre-tax profit	2,433	1,145	2,891	4,082	4,617
Income tax	382	134	564	816	923
After-tax profit	2,051	1,011	2,327	3,265	3,693
% net margin	15.2%	9.4%	16.9%	19.9%	21.3%
Shares in affiliates' Earnings	0	0	0	0	0
Minority interests	(4)	(1)	(1)	(1)	(2)
Extraordinary items	4	0	0	0	0
NET PROFIT	2,051	1,010	2,326	3,264	3,692
Normalized profit	2,048	1,010	2,326	3,264	3,692
EPS (Bt)	0.1	0.1	0.2	0.2	0.2
Normalized EPS (Bt)	0.1	0.1	0.2	0.2	0.2

We expect a strong earnings recovery from 2022F onward

BALANCE SHEET

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
ASSETS:					
Current assets:	5,044	4,541	4,474	4,989	5,175
Cash & cash equivalent	2,375	1,897	1,766	1,766	1,766
Account receivables	549	473	609	724	766
Inventories	0	0	0	0	0
Others	2,120	2,170	2,100	2,499	2,643
Investments & loans	15,961	16,030	16,030	16,030	16,030
Net fixed assets	76,385	77,289	80,377	80,092	85,611
Other assets	16,226	17,228	15,778	14,328	12,878
Total assets	113,616	115,088	116,660	115,439	119,694
LIABILITIES:					
Current liabilities:	13,734	10,645	14,613	14,150	14,436
Account payables	1,745	1,492	1,736	2,000	2,082
Bank overdraft & ST loans	3,000	2,000	1,962	1,816	1,842
Current LT debt	8,360	6,544	10,198	9,438	9,573
Others current liabilities	629	609	718	897	939
Total LT debt	57,902	62,763	57,788	53,479	54,245
Others LT liabilities	3,947	3,982	5,135	6,119	6,499
Total liabilities	75,582	77,390	77,536	73,749	75,180
Minority interest	42	2	3	4	6
Preferreds shares	0	0	0	0	0
Paid-up capital	15,285	15,285	15,285	15,285	15,285
Share premium	5,817	5,817	5,817	5,817	5,817
Warrants	0	0	0	0	0
Surplus	(147)	(101)	(101)	(101)	(101)
Retained earnings	17,037	16,697	18,120	20,685	23,508
Shareholders' equity	37,991	37,697	39,121	41,686	44,508
Liabilities & equity	113,616	115,088	116,660	115,439	119,694

We are not too worried about BEM facing any financial difficulties

Sources: Company data, Thanachart estimates

CASH FLOW STATEMENT

*Depreciation expenses
fell sharply in 2020...*

*...because of its
concession value being
fully depreciated*

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Earnings before tax	2,433	1,145	2,891	4,082	4,617
Tax paid	(366)	(148)	(552)	(811)	(920)
Depreciation & amortization	1,858	1,129	1,412	1,585	1,781
Chg In working capital	(261)	(177)	108	149	41
Chg In other CA & CL / minorities	19	(98)	168	(225)	(106)
Cash flow from operations	3,683	1,851	4,026	4,780	5,413
Capex	(3,651)	(2,033)	(4,500)	(1,300)	(7,300)
Right of use	(87)	(53)	(50)	(50)	(50)
ST loans & investments	0	0	0	0	0
LT loans & investments	1,256	(69)	0	0	0
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	(665)	(915)	2,653	2,485	1,879
Cash flow from investments	(3,146)	(3,069)	(1,897)	1,135	(5,471)
Debt financing	2,817	2,045	(1,359)	(5,215)	927
Capital increase	0	0	0	0	0
Dividends paid	(1,376)	(1,529)	(902)	(699)	(869)
Warrants & other surplus	(1,465)	224	0	0	0
Cash flow from financing	(24)	741	(2,261)	(5,914)	58
Free cash flow	32	(181)	(474)	3,480	(1,887)

VALUATION

*We believe BEM deserves a
premium valuation given its
strong earnings recovery
and many potential projects*

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Normalized PE (x)	69.1	140.0	60.8	43.3	38.3
Normalized PE - at target price (x)	82.1	166.5	72.3	51.5	45.5
PE (x)	68.9	140.0	60.8	43.3	38.3
PE - at target price (x)	82.0	166.5	72.3	51.5	45.5
EV/EBITDA (x)	37.4	56.9	35.5	27.9	25.6
EV/EBITDA - at target price (x)	42.2	64.1	40.0	31.6	28.9
P/BV (x)	3.7	3.8	3.6	3.4	3.2
P/BV - at target price (x)	4.4	4.5	4.3	4.0	3.8
P/CFO (x)	38.4	76.4	35.1	29.6	26.1
Price/sales (x)	10.5	13.2	10.2	8.6	8.1
Dividend yield (%)	1.1	0.9	0.4	0.6	0.7
FCF Yield (%)	0.0	(0.1)	(0.3)	2.5	(1.3)
(Bt)					
Normalized EPS	0.1	0.1	0.2	0.2	0.2
EPS	0.1	0.1	0.2	0.2	0.2
DPS	0.1	0.1	0.0	0.1	0.1
BV/share	2.5	2.5	2.6	2.7	2.9
CFO/share	0.2	0.1	0.3	0.3	0.4
FCF/share	0.0	(0.0)	(0.0)	0.2	(0.1)

Sources: Company data, Thanachart estimates

FINANCIAL RATIOS

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Growth Rate					
Sales (%)	(16.3)	(20.5)	28.6	19.0	5.8
Net profit (%)	(62.3)	(50.8)	130.2	40.3	13.1
EPS (%)	(62.3)	(50.8)	130.2	40.3	13.1
Normalized profit (%)	(29.9)	(50.7)	130.2	40.3	13.1
Normalized EPS (%)	(29.9)	(50.7)	130.2	40.3	13.1
Dividend payout ratio (%)	74.5	121.1	25.0	25.0	25.0
Operating performance					
Gross margin (%)	37.5	34.8	41.1	42.9	43.8
Operating margin (%)	27.5	24.0	32.6	34.9	35.9
EBITDA margin (%)	41.3	34.5	42.8	44.6	46.2
Net margin (%)	15.2	9.4	16.9	19.9	21.3
D/E (incl. minor) (x)	1.8	1.9	1.8	1.6	1.5
Net D/E (incl. minor) (x)	1.8	1.8	1.7	1.5	1.4
Interest coverage - EBIT (x)	1.8	1.2	1.9	2.4	2.6
Interest coverage - EBITDA (x)	2.6	1.7	2.5	3.0	3.4
ROA - using norm profit (%)	1.8	0.9	2.0	2.8	3.1
ROE - using norm profit (%)	5.3	2.7	6.1	8.1	8.6
DuPont					
ROE - using after tax profit (%)	5.3	2.7	6.1	8.1	8.6
- asset turnover (x)	0.1	0.1	0.1	0.1	0.1
- operating margin (%)	33.7	31.1	38.1	39.6	40.2
- leverage (x)	2.9	3.0	3.0	2.9	2.7
- interest burden (%)	53.5	34.4	54.9	62.8	66.1
- tax burden (%)	84.3	88.3	80.5	80.0	80.0
WACC (%)	5.7	5.7	5.7	5.7	5.7
ROIC (%)	3.0	2.2	3.4	4.3	4.8
NOPAT (Bt m)	3,133	2,276	3,619	4,589	4,994
invested capital (Bt m)	104,879	107,107	107,303	104,653	108,402

Sources: Company data, Thanachart estimates

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2. Arabesque S-Ray (0-100)
3. Refinitiv (0-100)
4. S&P Global (0-100)
5. Moody's ESG Solutions (0-100)

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SET has created a Thailand Sustainability Investment (THSI) list since 2015 for using as an alternative investment in the high performance ESG stocks for investors while, supporting the sustainable Thai companies. SET defines the sustainable companies as the companies that embrace risk management, supply chain management and innovations together with responsibility for environmental, social and governance aspects

As a result, SET has created the SETTHSI for the purpose of indicating the price of these sustainable companies that pass the market capital size and liquidity criteria.

Arabesque S-Ray®

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Score range	Description
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BB - BBB - A	AVERAGE : A company with a mixed or unexceptional track record of managing the most significant ESG risks and opportunities relative to industry peers
AA - AAA	LEADER: A company leading its industry in managing the most significant ESG risks and opportunities

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ESG risk combines the concepts of management and exposure to arrive at an absolute assessment of ESG risk. We identify five categories of ESG risk severity that could impact a company's enterprise value

Moody's ESG Solutions

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Recommendation Structure:

Recommendations are based on absolute upside or downside, which is the difference between the target price and the current market price. If the upside is 10% or more, the recommendation is BUY. If the downside is 10% or more, the recommendation is SELL. For stocks where the upside or downside is less than 10%, the recommendation is HOLD. Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on the market price and the formal recommendation.

For sectors, an "Overweight" sector weighting is used when we have BUYs on majority of the stocks under our coverage by market cap. "Underweight" is used when we have SELLs on majority of the stocks we cover by market cap. "Neutral" is used when there are relatively equal weightings of BUYs and SELLs.

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