

**BUY** (Unchanged)**TP: Bt 20.00** (From: Bt 16.00)**20 SEPTEMBER 2021**

Change in Numbers

Upside : 62.6%

# Banpu Public Co Ltd (BANPU TB)

## Winter wonderland

We maintain BUY on BANPU and lift our TP to a Street-high Bt20 from Bt16 to reflect higher coal and gas prices. Valuation remains attractive in our view at 6-8x 2021-22F PE with hefty upside potential to our earnings forecasts. BANPU remains one of our top picks in the sector. Strong results in 3Q-4Q21F could be potential catalysts.

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### Most direct play on winter energy demand

Among the Thai energy names, we believe BANPU is the most direct play on strong winter energy demand. This year, in particular, we expect both coal and gas prices to remain at decade-high levels on the back of strong demand, limited supply, and — most crucially — critically low inventories. We estimate EPS growth of 22% in 2022F with significant potential upside risks as our coal and gas price assumptions remain well below prevailing market values. Valuation remains attractive in our view at 6-8x 2021-22F PE with 5-6% dividend yields.

### A looming global gas shortage

Gas prices are reaching new highs worldwide on strong demand and limited new supply. We believe the supply crunch is particularly acute in Europe as local production and Russian imports have fallen, pushing the TTF benchmark to record highs. In Asia, which relies heavily on LNG imports, prices are also just shy of the record reached in January. We believe the JKM spot price will reach a fresh record again this coming winter. While the benefit of high LNG price to BANPU is indirect, it could be substantial. A \$20/mmbtu JKM price could support a \$14/mmbtu Henry Hub price, based on our calculation. With strong growth in US LNG export capacity, we see the gap between the Henry Hub price and global LNG prices gradually closing in the coming years. We estimate each \$0.5/mmbtu could lift BANPU's earnings by about Bt3bn or 23-26% of our 2022-23F projections.

### Coal tightness set to persist

We lift our NEX coal price assumptions by \$5/tonne across the board. We now assume \$115/100/95 per tonne in 2021-23F and \$90/tonne longer term. As we have said many times before, we believe coal supply tightness will remain a structural issue going forward as major mining companies exit the business and independent names struggle to obtain financing from banks and the capital markets. We believe coal prices could reach \$200/tonne as inventories remain low while demand is set to pick up as winter approaches. We also believe high gas prices will boost coal-fired generation. We estimate a 19-21% EPS impact for every \$10/tonne NEX coal price movement for BANPU.

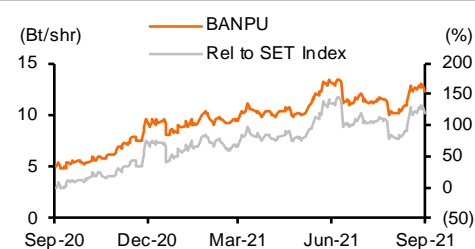
### Beijing air quality control not a game changer

We are not worried about China's recent expansion of its winter air quality control program to 64 regions from 28 regions ahead of the Winter Olympics. We do not believe that total energy consumption will be reduced significantly and that it will be a toss-up between coal and gas.

### COMPANY VALUATION

Y/E Dec (Bt m)	2020A	2021F	2022F	2023F
Sales	71,332	103,657	111,621	108,009
Net profit	(1,786)	10,111	13,044	11,744
Consensus NP	—	9,311	9,865	9,988
Diff frm cons (%)	—	8.6	32.2	17.6
Norm profit	(4,122)	10,111	13,044	11,744
Prev. Norm profit	—	9,171	11,115	10,094
Chg frm prev (%)	—	10.2	17.4	16.3
Norm EPS (Bt)	(0.7)	1.6	1.9	1.7
Norm EPS grw (%)	na	na	21.5	(10.0)
Norm PE (x)	na	7.8	6.4	7.1
EV/EBITDA (x)	21.5	5.5	5.0	4.9
P/BV (x)	1.2	1.1	1.0	0.9
Div yield (%)	2.0	4.9	6.3	5.6
ROE (%)	na	14.4	15.8	13.1
Net D/E (%)	163.4	117.1	112.3	92.0

### PRICE PERFORMANCE



### COMPANY INFORMATION

Price as of 20-Sep-21 (Bt)	12.30
Market Cap (US\$ m)	1,872.3
Listed Shares (m shares)	5,074.6
Free Float (%)	88.4
Avg Daily Turnover (US\$ m)	47.7
12M Price H/L (Bt)	13.48/4.59
Sector	Energy
Major Shareholder	Vongkusolkit family 9.06%

Sources: Bloomberg, Company data, Thanachart estimates

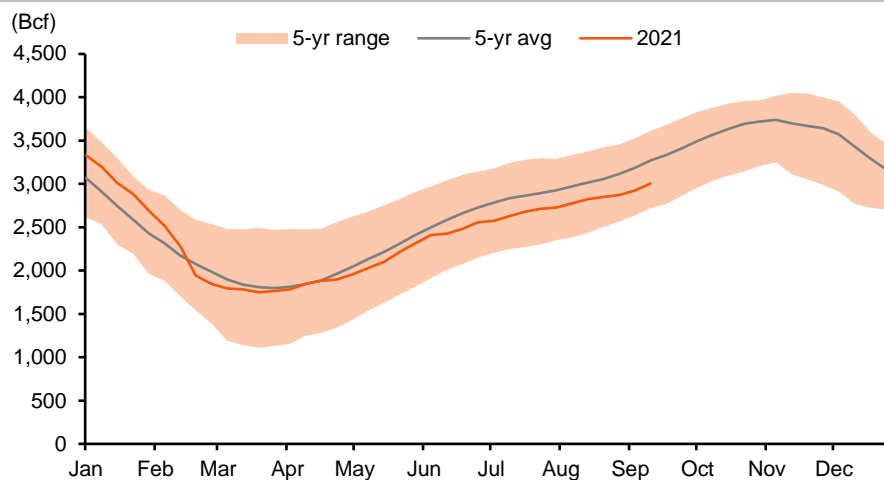
**A looming global gas shortage**

*Natural gas prices are reaching decade-high levels across the globe*

Gas prices are reaching decade-highs across the globe due to strong demand and limited new supply. We believe the supply crunch is particularly acute in Europe as local production and Russian imports have declined, pushing the TTF benchmark to a record high. In Asia, which relies heavily on LNG imports, prices are also just shy of the record reached in January. We believe the JKM spot price will reach a fresh record again this coming winter.

In the US where BANPU has a sizable natural gas E&P operation, natural gas in underground storage continues to track well below its five-year average. In fact, the storage level is likely to reach its five-year low level by the end of this withdrawal season (March 2022). This has led to a recent surge in the US natural gas price at Henry Hub (HH). We believe the price could touch \$6-7/mmbtu by the middle of this winter.

**Ex 1: US Natural Gas In Underground Storage**

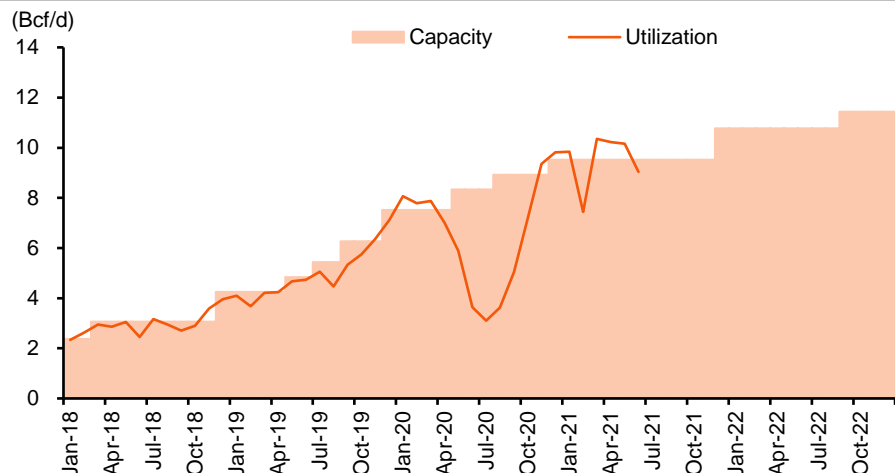


Sources: EIA, Thanachart

*We expect a 20% growth in US LNG liquefaction capacity by end-2022F from current level*

We believe the growth in LNG liquefaction capacity will further tighten the US gas market. Two major projects are set to begin operation by the end of this year with another project scheduled to start up in 3Q22F. These projects would cumulatively add about 20% to existing LNG export capacity in the US.

**Ex 2: US LNG Capacity Set To Grow By Another 20% By End-2022F From Current Level**

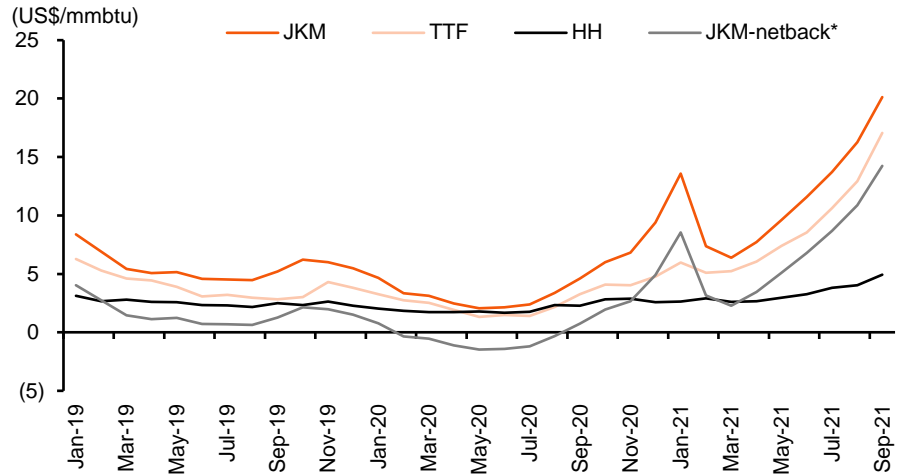


Sources: EIA, Thanachart estimates

*Wide gaps between Asian and US gas prices are likely to narrow with higher US gas price*

The current price gaps between the US natural gas price at Henry Hub and LNG landed prices in Asia and Europe are extraordinarily wide. The Asian spot LNG price is trading at \$20/mmbtu whereas the European gas price (TTF) is averaging close to \$20/mmbtu as well. By contrast, the price at Henry Hub is only about \$5/mmbtu. On our calculation, a JKM price at \$20/mmbtu could easily support a Henry Hub price at \$14/mmbtu on a netback basis. In other words, the wide price differentials will likely incentivize more and more LNG projects to be built in the US. We expect that the gap will become much narrower in five years' time with the US price much higher than where it is now.

**Ex 3: Global Gas Prices At Decade-High Levels**



Sources: Bloomberg, Thanachart

Note: JKM netback is our estimate of the breakeven Henry Hub gas price for LNG exports to Asia

*We upgraded our gas price assumption but still see significant upside risks*

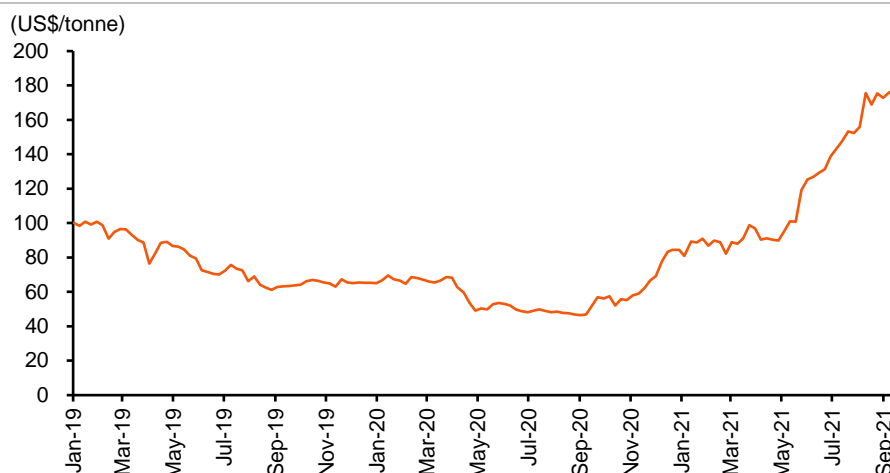
For BANPU, the higher US gas price is a big driver of its earnings growth next year. On our estimate, we only assume \$3.1/mmbtu this year, rising to \$3.4 in 2022F before pulling back to \$3.3 in 2023F. However, we foresee significant upside risks to these forecasts. We estimate that every \$0.5/mmbtu movement in the Henry Hub gas price could impact BANPU's earnings by about Bt3bn per annum. This is equivalent to 23% and 26% of our 2022-23F earnings projections.

**Coal tightness set to persist**

We lift our NEX coal price assumptions by \$5/tonne across the board. We now assume \$115/100/95 per tonne in 2021-23F and \$90/tonne longer term. As we have said many times before, we believe coal supply tightness will remain a structural issue going forward as major mining companies exit the business and independent names struggle to obtain financing from banks and the capital markets.

**Coal price to remain elevated on tight supply through the end of this winter**

#### Ex 4: NEX Coal Price



Sources: Company data, Thanachart

We believe the coal price could reach \$200/tonne as inventories remain low while demand is set to pick up as winter approaches. We estimate a Bt2.5bn impact on BANPU's bottom line for every \$10/tonne movement in the NEX coal price. This is equivalent to 19% and 21% of our 2022-23F earnings estimates.

**We upgraded our coal price assumption by \$5/ton across the board**

#### Ex 5: We Raise Our Coal And Gas Price Assumptions

Assumption	2021F	2022F	2023F	2024F
<b>NEX coal price (US\$/tonne)</b>				
New	115.00	100.00	95.00	90.00
Old	110.00	95.00	90.00	85.00
Change	5.00	5.00	5.00	5.00
<b>HH gas price (US\$/mmbtu)</b>				
New	3.10	3.40	3.30	3.33
Old	3.10	3.20	3.20	3.23
Change	0.00	0.20	0.10	0.10

Sources: Company data, Thanachart estimates

With higher coal and gas price assumptions, we raise our earnings estimates by 10-19% in 2021-24F and lift our DCF-based 12-month TP, using a 2022F base year, to a Street-high Bt20/share from Bt16 previously.

#### Ex 6: Earnings And TP Upgrades

(Bt/shr)	Norm EPS				TP
	2021F	2022F	2023F	2024F	
New	1.59	1.93	1.74	1.58	20.00
Old	1.44	1.64	1.49	1.33	16.00
Change(%)	10.2	17.4	16.3	18.8	25.0

Sources: Company data, Thanachart estimates

## Ex 7: 12-month DCF-derived TP Calculation Using A Base Year Of 2022F

(Bt m)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	Terminal Value
Coal EBITDA and equity income	45,441	43,421	41,505	41,446	42,627	43,799	44,963	46,119	47,266	48,405	49,535	-
Free cash flow	(992)	15,448	14,924	15,766	17,055	18,381	19,700	21,015	22,323	23,626	24,923	360,298
PV of free cash flow	(955)	13,788	12,348	12,095	12,006	11,970	11,891	11,756	11,575	11,332	10,793	144,003
Risk-free rate (%)	2.5											
Market risk premium (%)	8.0											
Beta	1.3											
WACC (%)	7.9											
Terminal growth (%)	2.0											

## BANPU's sum-of-the-parts valuation

	(Bt m)
PV of cash flow	262,603
Less: net debt	132,348
Less: minority interest	39,212
Equity value - coal & gas	91,042
Battery	16,074
Power	48,539
<b>Total value exc. Warrant</b>	<b>155,656</b>
Less warrant values:	
W4	(11,841)
W5	(8,035)
<b>Net equity value</b>	<b>135,780</b>
# of Shares	6,766
<b>Total value per share (Bt/sh)</b>	<b>20.0</b>

Sources: Company data, Thanachart estimates

## Valuation Comparison

## Ex 8: Valuation Comparison With Regional Peers

Company	Code	Country	EPS Growth		PE		P/BV		EV/EBITDA		Div. yield	
			21F (%)	22F (%)	21F (x)	22F (x)	21F (x)	22F (x)	21F (x)	22F (x)	21F (%)	22F (%)
New Hope Corp	NHC AU	Australia	15.6	154.6	11.1	4.4	1.0	0.9	5.7	2.6	6.7	13.0
Whitehaven Coal Ltd	WHC AU	Australia	na	na	na	6.0	0.9	0.9	18.0	4.1	0.0	2.9
China Shenhua Energy	601088 CH	China	27.8	(0.4)	8.6	8.6	1.1	1.1	3.9	4.0	8.1	7.5
Datong Coal Industry	601001 CH	China	na	1.9	8.9	8.8	2.2	1.8	4.1	4.2	na	na
Guizhou Panjiang Ref. Coal	600395 CH	China	29.1	21.0	13.8	11.4	2.3	2.2	7.4	7.1	3.9	3.9
Kailuan Energy	600997 CH	China	na	na	na	na	1.3	1.2	4.9	5.7	6.6	7.0
Pingdingshan Tianan Coal	601666 CH	China	67.6	10.2	11.1	10.0	1.6	1.4	7.7	7.3	5.5	6.0
Yang Quan Coal Industry	600348 CH	China	69.3	4.5	14.1	13.5	1.6	1.5	8.4	8.2	2.6	2.7
Yanzhou Coal Mining	600188 CH	China	80.0	1.8	12.5	12.3	2.4	2.2	7.8	8.0	4.7	4.7
China Coal Energy	1898 HK	Hong Kong	na	(12.6)	5.5	6.3	0.7	0.6	4.6	4.8	5.0	4.4
Indo Tambangraya Megah	ITMG IJ	Indonesia	na	(22.9)	5.7	7.4	1.4	1.4	2.6	3.3	7.3	12.6
Bukit Asam Tbk PT	PTBA IJ	Indonesia	54.1	(1.5)	7.0	7.1	1.3	1.2	4.5	4.6	6.1	8.4
Semirara Mining Corp.	SCC PM	Philippines	na	(8.4)	6.6	7.2	1.6	1.4	4.5	4.5	6.8	7.2
Banpu Pcl *	BANPU TB	Thailand	na	21.5	7.8	6.4	1.1	1.0	5.5	5.0	4.9	6.3
<b>Average</b>			<b>49.1</b>	<b>14.1</b>	<b>9.4</b>	<b>8.4</b>	<b>1.5</b>	<b>1.3</b>	<b>6.4</b>	<b>5.2</b>	<b>5.2</b>	<b>6.6</b>

Sources: Bloomberg, \* Thanachart estimates

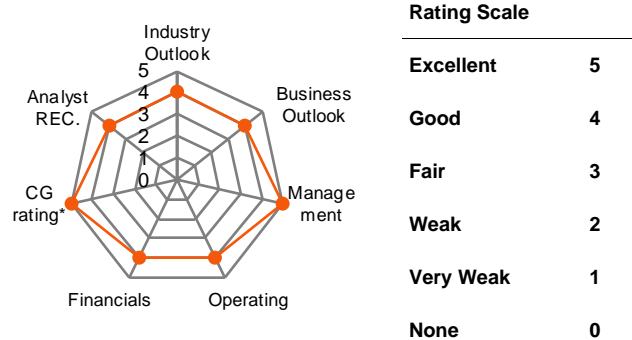
Based on 20 September 2021 closing prices

## COMPANY DESCRIPTION

Banpu Pcl (BANPU) is a leading regional energy company. It operates coal mines in Indonesia, Australia and China. It also has investments in the power businesses in Thailand, Laos, China and Japan. In recent years, the company has significantly expanded its footprint in US shale gas as well as invested in new energy businesses including battery (Durapower) and EV (Fomm).

Source: Thanachart

## COMPANY RATING



Source: Thanachart; \*CG Rating

## THANACHART'S SWOT ANALYSIS

### S — Strength

- Reduced operating risk due to greater geographical diversification. It also has a footprint across the energy value chain.
- Operations more reliable than peers', which don't own port facilities and/or power plants.

### O — Opportunity

- BANPU could look to grow its US shale gas business after having established a firm footing.
- New energy businesses such as lithium-ion battery and electric vehicles (EV) offer strong growth potential.

### W — Weakness

- Coal price volatility still impacts earnings though diversification in recent years has greatly reduced BANPU's dependence on coal.
- Relatively high financial leverage.

### T — Threat

- Regulatory risk and environmental concerns.

## CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	13.26	20.00	51%
Net profit 21F (Bt m)	9,311	10,111	9%
Net profit 22F (Bt m)	9,865	13,044	32%
Consensus REC	BUY: 6	HOLD: 3	SELL: 5

## HOW ARE WE DIFFERENT FROM THE STREET?

- Our earnings forecasts are significantly higher than Bloomberg consensus estimates. We attribute this to our higher coal and gas price assumptions.
- Our TP is consequently much higher than Street's forecast as well.

Sources: Bloomberg consensus, Thanachart estimates

## RISKS TO OUR INVESTMENT CASE

- A weaker-than-expected coal or gas price environment would present the key downside risk to our earnings and TP.
- Lower-than-expected growth in the power business would present a secondary downside risk to our TP.

Source: Thanachart

## INCOME STATEMENT

FY ending Dec (Bt m)	2019A	2020A	2021F	2022F	2023F
Sales	85,718	71,332	103,657	111,621	108,009
Cost of sales	63,737	57,768	61,558	63,456	64,027
<b>Gross profit</b>	<b>21,981</b>	<b>13,564</b>	<b>42,099</b>	<b>48,165</b>	<b>43,982</b>
% gross margin	25.6%	19.0%	40.6%	43.2%	40.7%
Selling & administration expenses	21,059	17,128	21,304	22,608	22,316
<b>Operating profit</b>	<b>922</b>	<b>(3,564)</b>	<b>20,794</b>	<b>25,557</b>	<b>21,666</b>
% operating margin	1.1%	-5.0%	20.1%	22.9%	20.1%
Depreciation & amortization	10,535	13,543	15,623	17,764	19,312
<b>EBITDA</b>	<b>11,457</b>	<b>9,979</b>	<b>36,417</b>	<b>43,322</b>	<b>40,978</b>
% EBITDA margin	13.4%	14.0%	35.1%	38.8%	37.9%
Non-operating income	5,367	2,309	1,268	1,175	1,146
Non-operating expenses	(168)	(199)	(320)	(320)	(300)
Interest expense	(5,657)	(5,420)	(7,356)	(6,357)	(6,826)
<b>Pre-tax profit</b>	<b>463</b>	<b>(6,874)</b>	<b>14,386</b>	<b>20,055</b>	<b>15,686</b>
Income tax	2,436	269	5,755	8,022	6,275
<b>After-tax profit</b>	<b>(1,973)</b>	<b>(7,143)</b>	<b>8,632</b>	<b>12,033</b>	<b>9,412</b>
% net margin	-2.3%	-10.0%	8.3%	10.8%	8.7%
Shares in affiliates' Earnings	6,444	4,239	5,409	6,227	6,797
Minority interests	(1,905)	(1,217)	(3,930)	(5,216)	(4,465)
Extraordinary items	(2,962)	2,336	0	0	0
<b>NET PROFIT</b>	<b>(395)</b>	<b>(1,786)</b>	<b>10,111</b>	<b>13,044</b>	<b>11,744</b>
<b>Normalized profit</b>	<b>2,567</b>	<b>(4,122)</b>	<b>10,111</b>	<b>13,044</b>	<b>11,744</b>
EPS (Bt)	(0.1)	(0.3)	1.6	1.9	1.7
Normalized EPS (Bt)	0.4	(0.7)	1.6	1.9	1.7

*We see a 29% EPS growth in 2022F*

## BALANCE SHEET

FY ending Dec (Bt m)	2019A	2020A	2021F	2022F	2023F
<b>ASSETS:</b>					
Current assets:	41,095	47,301	49,429	51,700	50,788
Cash & cash equivalent	16,388	23,777	16,836	16,836	16,836
Account receivables	7,415	7,482	9,940	10,703	10,357
Inventories	4,782	3,935	5,060	5,216	5,262
Others	12,510	12,107	17,593	18,945	18,332
Investments & loans	49,711	51,389	54,501	58,225	58,841
Net fixed assets	58,796	77,523	82,015	95,981	95,814
Other assets	93,710	105,435	105,620	113,727	110,282
<b>Total assets</b>	<b>243,312</b>	<b>281,648</b>	<b>291,565</b>	<b>319,633</b>	<b>315,725</b>
<b>LIABILITIES:</b>					
Current liabilities:	47,026	66,405	44,386	48,208	44,952
Account payables	1,798	2,025	1,096	1,130	1,140
Bank overdraft & ST loans	13,716	24,856	13,894	14,918	13,570
Current LT debt	16,417	24,520	10,003	10,741	9,771
Others current liabilities	15,095	15,003	19,393	21,418	20,471
<b>Total LT debt</b>	<b>103,749</b>	<b>112,559</b>	<b>115,040</b>	<b>123,525</b>	<b>112,361</b>
Others LT liabilities	13,084	18,129	27,868	30,001	29,261
<b>Total liabilities</b>	<b>163,859</b>	<b>197,092</b>	<b>187,294</b>	<b>201,733</b>	<b>186,574</b>
Minority interest	18,286	22,211	26,142	31,358	35,823
Preferreds shares	0	0	0	0	0
Paid-up capital	5,162	5,075	6,766	6,766	6,766
Share premium	15,372	15,372	22,139	22,139	22,139
Warrants	0	0	0	0	0
Surplus	(25,675)	(19,348)	(19,348)	(19,348)	(19,348)
<b>Retained earnings</b>	<b>66,308</b>	<b>61,245</b>	<b>68,573</b>	<b>76,985</b>	<b>83,772</b>
Shareholders' equity	61,167	62,344	78,129	86,542	93,328
<b>Liabilities &amp; equity</b>	<b>243,312</b>	<b>281,648</b>	<b>291,565</b>	<b>319,633</b>	<b>315,725</b>

*Leverage likely to come down following recent rights issues*

Sources: Company data, Thanachart estimates

## CASH FLOW STATEMENT

FY ending Dec (Bt m)	2019A	2020A	2021F	2022F	2023F
Earnings before tax	463	(6,874)	14,386	20,055	15,686
Tax paid	(2,587)	(543)	(5,548)	(8,077)	(6,244)
Depreciation & amortization	10,535	13,543	15,623	17,764	19,312
Chg In working capital	3,509	1,006	(4,511)	(886)	310
Chg In other CA & CL / minorities	(7,019)	7,560	4,106	6,956	6,433
<b>Cash flow from operations</b>	<b>4,901</b>	<b>14,692</b>	<b>24,057</b>	<b>35,811</b>	<b>35,496</b>
Capex	(8,995)	(32,269)	(20,000)	(31,600)	(19,000)
Right of use	0	(2,149)	(300)	(300)	(300)
ST loans & investments	0	0	0	0	0
LT loans & investments	251	(1,678)	(3,113)	(3,724)	(616)
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	21,336	(4,767)	9,740	(5,804)	2,860
<b>Cash flow from investments</b>	<b>12,592</b>	<b>(40,863)</b>	<b>(13,673)</b>	<b>(41,428)</b>	<b>(17,056)</b>
Debt financing	428	30,596	(22,999)	10,248	(13,483)
Capital increase	0	(87)	8,458	0	0
Dividends paid	(3,613)	(2,030)	(2,783)	(4,631)	(4,957)
Warrants & other surplus	(17,885)	5,080	0	0	0
<b>Cash flow from financing</b>	<b>(21,070)</b>	<b>33,559</b>	<b>(17,324)</b>	<b>5,617</b>	<b>(18,440)</b>
<b>Free cash flow</b>	<b>(4,093)</b>	<b>(17,578)</b>	<b>4,057</b>	<b>4,211</b>	<b>16,496</b>

*We expect capex to remain high due to expansion into greener energy businesses*

## VALUATION

FY ending Dec	2019A	2020A	2021F	2022F	2023F
Normalized PE (x)	29.9	na	7.8	6.4	7.1
Normalized PE - at target price (x)	48.7	na	12.6	10.4	11.5
PE (x)	na	na	7.8	6.4	7.1
PE - at target price (x)	na	na	12.6	10.4	11.5
EV/EBITDA (x)	17.0	21.5	5.5	5.0	4.9
EV/EBITDA - at target price (x)	21.2	26.3	6.9	6.2	6.2
P/BV (x)	1.3	1.2	1.1	1.0	0.9
P/BV - at target price (x)	2.0	2.0	1.7	1.6	1.4
P/CFO (x)	15.7	5.2	3.3	2.3	2.3
Price/sales (x)	0.7	0.9	0.6	0.6	0.6
Dividend yield (%)	4.0	2.0	4.9	6.3	5.6
FCF Yield (%)	(5.3)	(23.1)	5.2	5.1	19.8
<b>(Bt)</b>					
Normalized EPS	0.4	(0.7)	1.6	1.9	1.7
EPS	(0.1)	(0.3)	1.6	1.9	1.7
DPS	0.5	0.2	0.6	0.8	0.7
BV/share	9.8	10.2	11.5	12.8	13.8
CFO/share	0.8	2.4	3.8	5.3	5.2
FCF/share	(0.7)	(2.8)	0.6	0.6	2.4

Sources: Company data, Thanachart estimates

## FINANCIAL RATIOS

FY ending Dec	2019A	2020A	2021F	2022F	2023F
<b>Growth Rate</b>					
Sales (%)	(24.0)	(16.8)	45.3	7.7	(3.2)
Net profit (%)	na	na	na	29.0	(10.0)
EPS (%)	na	na	na	21.5	(10.0)
Normalized profit (%)	(74.4)	na	na	29.0	(10.0)
Normalized EPS (%)	(74.4)	na	na	21.5	(10.0)
Dividend payout ratio (%)	(783.6)	(85.2)	40.0	40.0	40.0
<b>Operating performance</b>					
Gross margin (%)	25.6	19.0	40.6	43.2	40.7
Operating margin (%)	1.1	(5.0)	20.1	22.9	20.1
EBITDA margin (%)	13.4	14.0	35.1	38.8	37.9
Net margin (%)	(2.3)	(10.0)	8.3	10.8	8.7
D/E (incl. minor) (x)	1.7	1.9	1.3	1.3	1.1
Net D/E (incl. minor) (x)	1.5	1.6	1.2	1.1	0.9
Interest coverage - EBIT (x)	0.2	na	2.8	4.0	3.2
Interest coverage - EBITDA (x)	2.0	1.8	5.0	6.8	6.0
ROA - using norm profit (%)	1.0	na	3.5	4.3	3.7
ROE - using norm profit (%)	3.6	na	14.4	15.8	13.1
<b>DuPont</b>					
ROE - using after tax profit (%)	na	na	12.3	14.6	10.5
- asset turnover (x)	0.3	0.3	0.4	0.4	0.3
- operating margin (%)	7.1	na	21.0	23.7	20.8
- leverage (x)	3.6	4.3	4.1	3.7	3.5
- interest burden (%)	7.6	472.7	66.2	75.9	69.7
- tax burden (%)	na	na	60.0	60.0	60.0
WACC (%)	7.9	7.9	7.9	7.9	7.9
ROIC (%)	(2.0)	(2.0)	6.2	7.7	5.9
NOPAT (Bt m)	(3,927)	(3,564)	12,477	15,334	13,000
invested capital (Bt m)	178,661	200,502	200,229	218,890	212,193

Sources: Company data, Thanachart estimates

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