

HOLD (Unchanged)

Change in Numbers

TP: Bt 36.00

(From: Bt 34.00)

1 DECEMBER 2022

Downside : 4.0%

B.Grimm Power Pcl (BGRIM TB)



NUTTAPOP PRASITSUKSANT

662 – 483 8296

nuttapol.pra@thanachartsec.co.th

Good news in the price

We maintain our HOLD rating on BGRIM as its 26% share price rally from the low this year likely already reflects its earnings turnaround outlook. The stock looks fairly priced to us, trading on 30x PE on its fully recovered earnings which are two years away now in 2024F.

Raising our earnings

We boost our earnings for BGRIM by 72/11/7% in 2022-24F and lift our DCF-derived SOTP-based 12-month TP (2023F base year) to Bt36 (from Bt34). The upgrade is from two reasons. *First*, we lower our gas pool price assumption to Bt475/420/340/mmbtu (from Bt485/470/420) in 2022-24F on the back of the falling spot LNG price and strengthening baht. *Second*, we revise our national electricity tariff estimates to Bt4.2/4.9/4.3/kWh (Bt4.2/5.1/5.0 earlier) in 2022-24F as we now expect the fuel price adjustment (Ft) factor to be raised by Bt0.6/kWh in 1Q23F before the rising Ft trend reverses in later quarters.

Full earnings recovery in 2024F in the cards

With our revised assumptions (Exhibit 3), we expect BGRIM's profitability from SPP power plants to recover back to normalized levels (five-year average during 2017-21) in 2H23F. Note that BGRIM, with 20% of its operating capacity exposed to non-fuel costs passed through contracts of electricity sales to industrial users (IUs) under the SPP scheme, has suffered greatly from the gas price surge while tariff hikes couldn't catch up over the past year. Its 9M22 earnings thus collapsed 91% y-y. We expect the turnaround to be very sharp from the very low base with 184% earnings growth in 2023F, and then 50/11% in 2024-25F.

Delayed Vietnam PDP

The release of Vietnam's new Power Development Plan (PDP-8) has been delayed from this year, likely to 1H23. This affects BGRIM's capacity expansion plan in Vietnam since BGRIM hopes to develop gas-fired power projects there under the "LNG-to-power" scheme that will come with the new PDP. Apart from the delay, we see a risk of the scheme having less favorable conditions for project developers given the current energy price crisis and gas supply shortage globally. We already factor a potential value of Bt6.0/share from this growth opportunity into our TP, assuming BGRIM could secure 3.0GW of capacity of the gas-fired power contracts scheduled to start up over 2025-27.

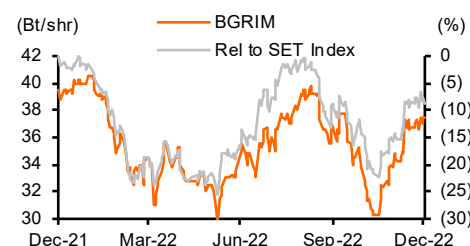
Not a bargain, in our view

BGRIM's share price has rebounded by 26% from this year's low which was likely a result of market optimism about the falling LNG price. We believe the bounce also has already reflected its earnings turnaround from falling gas costs and a rising tariff. The stock is now trading on a 30x PE multiple in 2024F, on our estimates, when we expect its SPP profitability to fully recover to the pre-energy crisis level in 2021. As for downside risk factors we see 1) possibility of a near-term swing back of the spot LNG price in winter, 2) uncertainty over Vietnam's PDP timeline, and 3) Ft may not be hiked early next year before the election.

COMPANY VALUATION

Y/E Dec (Bt m)	2021A	2022F	2023F	2024F
Sales	46,628	62,363	60,091	59,151
Net profit	2,276	762	2,166	3,248
Consensus NP	—	324	2,381	3,522
Diff frm cons (%)	—	135.4	(9.0)	(7.8)
Norm profit	2,429	762	2,166	3,248
Prev. Norm profit	—	443	1,949	3,046
Chg frm prev (%)	—	72.1	11.2	6.6
Norm EPS (Bt)	0.9	0.3	0.8	1.2
Norm EPS grw (%)	(9.0)	(68.6)	184.2	49.9
Norm PE (x)	40.2	128.2	45.1	30.1
EV/EBITDA (x)	13.6	18.9	15.0	12.4
P/BV (x)	3.3	3.3	3.2	3.0
Div yield (%)	1.1	0.4	1.1	1.7
ROE (%)	8.5	2.6	7.2	10.2
Net D/E (%)	171.6	195.9	196.7	174.1

PRICE PERFORMANCE



COMPANY INFORMATION

Price as of 01-Dec-22 (Bt)	37.50
Market Cap (US\$ m)	2,796.7
Listed Shares (m shares)	2,606.9
Free Float (%)	31.3
Avg Daily Turnover (US\$ m)	13.3
12M Price H/L (Bt)	40.50/29.75
Sector	Utilities
Major Shareholder	B.Grimm Group 35.8%

Sources: Bloomberg, Company data, Thanachart estimates

ESG Summary Report P9



Good news looks in the price

We maintain HOLD, despite lifting our TP to Bt36/share

We maintain our HOLD rating on shares of B.Grimm Power Plc (BGRIM) even after raising our earnings estimates and lifting our DCF-derived SOTP-based 12-month TP (2023F base year) to Bt36/share (from Bt34).

1) Looks fairly priced after a share price rebound on an earnings turnaround story

- *First*, its share price has rebounded by 26% from this year’s low, which we believe has already factored in the market’s expectation of BGRIM enjoying a strong earnings turnaround from 2023-25F. The stock is trading at a 30x PE multiple in 2024F, which is when we expect its earnings to have fully recovered, and it looks fairly priced to us.

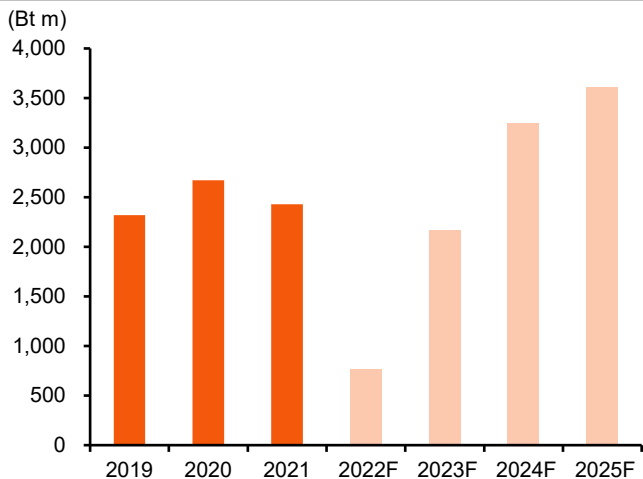
2) Risk of further delays for growth potential in Vietnam

- *Second*, the delay in the announcement of Vietnam’s new Power Development Plan (PDP-8) is negative for BGRIM’s capacity growth plan. This is because BGRIM has been targeting to secure up to 3.0GW of gas-fired power plant contracts from the “LNG-to-power” scheme that comes with the new PDP, which has been highly anticipated by the market, and we have factored Bt6.0/share of potential growth value into our TP.

3) Also risks of its turnaround story being slower than expected

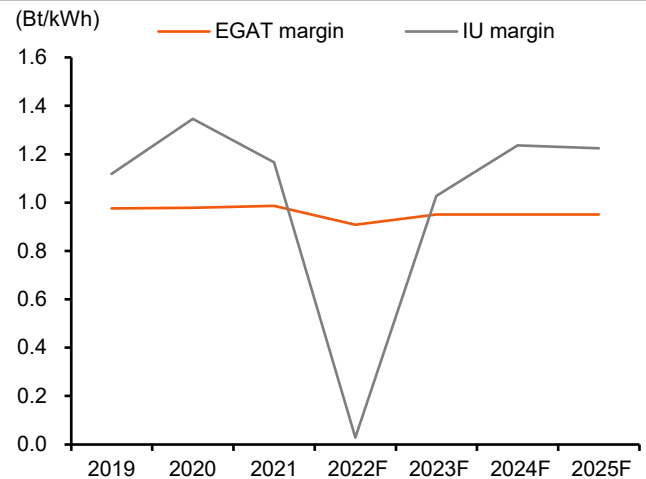
- *Third*, we still see some downside risks to BGRIM’s earnings growth turnaround story from 1) a potential spike in the LNG price again in the high-demand seasons (winter and summer), and 2) the government perhaps deciding not to raise the electricity tariff ahead of the upcoming election next year.

Ex 1: Near-Term Earnings Turnaround Outlook ...



Sources: Company data, Thanachart estimates

Ex 2: ... On Normalizing Profitability From SPP Plants



Sources: Company data, Thanachart estimates

Raising our earnings

We expect a recovery in SPP margins based on our new set of assumptions

We raise our earnings estimates for BGRIM by 72/11/7% in 2022-24F as we now expect a faster recovery in profitability of its SPP plants, based on our new set of assumptions.

Ex 3: Our Key Assumption Changes

	2020	2021	2022F	2023F	2024F	2025F
Gas pool price (Bt/mmbtu)						
New	245	266	475	420	340	335
Old			485	470	420	400
Change (%)			(2.1)	(10.6)	(19.0)	(16.3)
National electricity tariff (Bt/kWh)						
New	3.64	3.61	4.20	4.90	4.30	4.10
Old			4.20	5.10	5.00	4.70
Change (%)			-	(3.9)	(14.0)	(12.8)
IU throughput margin (Bt/kWh)						
New	1.35	1.17	0.03	1.03	1.24	1.23
Old			(0.00)	0.76	1.09	1.19

Sources: Company data, Energy Policy and Planning Office (EPPO), Thanachart estimates

Declining gas pool price after softening Asian LNG and global oil prices...

We lower our domestic gas pool price assumptions to Bt475/420/340/mmbtu in 2022-24F, down 2/11/19% from our previous forecasts. The Asian spot LNG price, which has been the major driver of the rising gas pool price, has corrected faster than we'd earlier expected while its seasonal surge ahead of the high demand in the winter also looks quite soft. The baht has appreciated by 7% against the US dollar over the past month, which has eased the impact of high oil and gas prices which are the dollar-based commodity prices governing the gas pool price in Thailand. Note that our gas pool price assumptions are based on oil prices of USD101/89/80/bbl, USD34/30/25/mmbtu Asian spot LNG prices, and Bt35.2/34.3/33.0/USD1 exchange rates in 2022-24F.

...while we expect Ft hikes to accelerate going forward

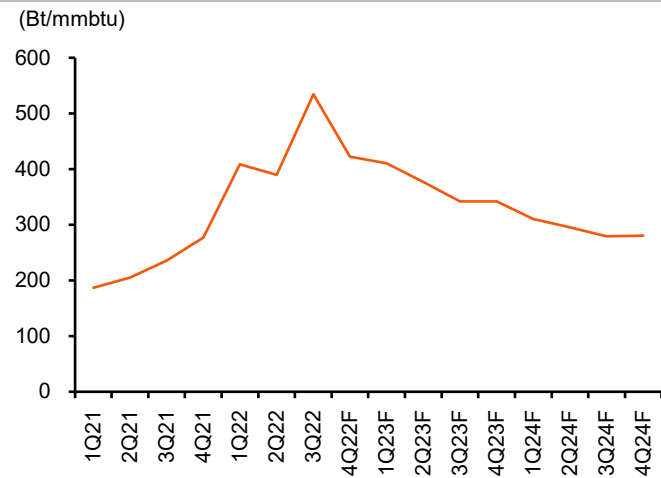
We revise our national electricity tariff assumptions to Bt4.2/4.9/4.3/kWh in 2022-24F (unchanged, down 4/14%), mainly as the Thai government looks set to accelerate the fuel price adjustment (Ft) hike in early 2023 to fully reflect the impact from the domestic gas pool price surge this year. We expect the Ft to be lifted by Bt0.6/kWh so that the national electricity tariff price becomes Bt5.3/kWh in the January-to-April 2023 round. However, since we project the gas pool price to gradually come down, we assume the Ft is adjusted down by Bt0.4/kWh in each round in May and September 2023 and trimmed by another Bt0.2/kWh in 2024F.

We foresee BGRIM's IU throughput margin normalizing in 2024F

These new assumptions imply BGRIM's throughput margin (selling price – average gas cost) for electricity sales to industrial users (IUs) gradually normalizes to Bt1.03/kWh in 2023F and Bt1.24/kWh in 2024F vs. Bt0.03 in 2022F and its Bt1.26 historical five-year average between 2016-20. This is the major driver for its earnings turnaround story after the profitability of its SPP plants was squeezed over the past two years (2021-22F) when the adjustment of the national electricity tariff heavily lagged behind the surge in gas costs. We recap here that IU-contracted electricity sales come to 20% of BGRIM's operating capacity but contribute nearly half of its annual EBITDA given the higher normalized margin per unit compared to the portion sold to the Electricity Generating Authority of Thailand (EGAT), which is 43% of operating capacity. We now expect the government to be more disciplined in reflecting the actual changes in fuel and other electricity generation costs going forward,

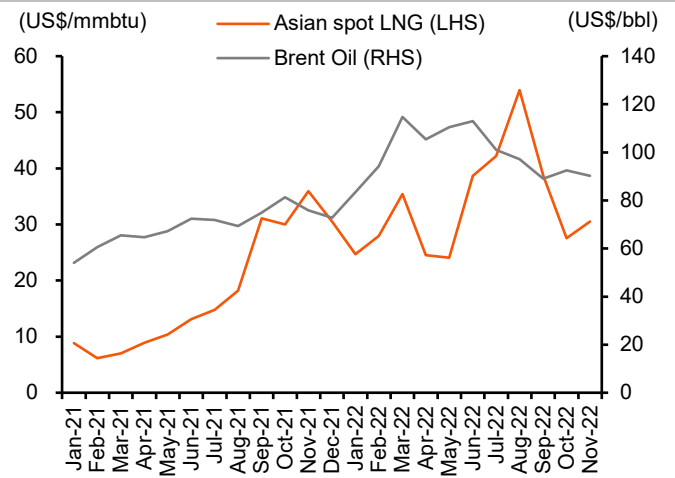
to prevent a sudden impact on the economy and to bring the national electricity fund back from its current deep deficit. We assume a long-term IU throughput margin of Bt1.25/kWh.

Ex 4: Domestic Gas Pool Price Likely To Begin Falling ...



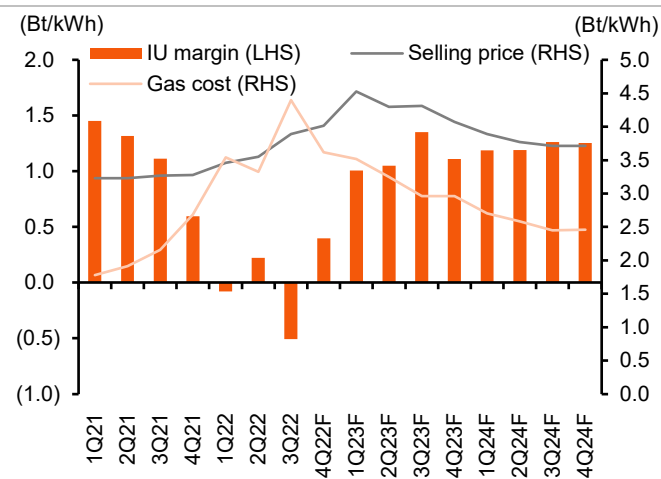
Sources: Energy Policy and Planning Office (EPPO), Thanachart estimates

Ex 5: ... Given Softening Related Commodity Prices



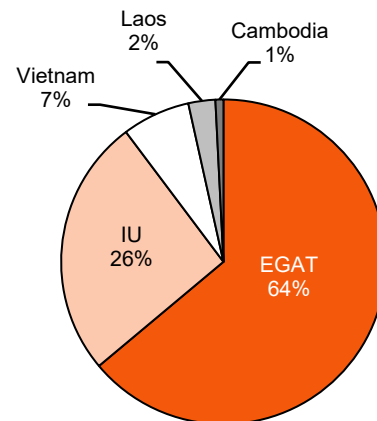
Sources: Bloomberg

Ex 6: Improving Margin Of BGRIM's IU Electricity Sales



Sources: Company data, Thanachart estimates

Ex 7: BGRIM's 2023F Electricity Sales Volume Breakdown



Sources: Thanachart estimates

Delayed Vietnam's PDP

BGRIM is chasing 3.0GW of gas-fired power plant contracts in Vietnam

One of BGRIM's major growth paths is via its plan to develop capacity of up to 3.0GW of gas-fired power projects in Vietnam. The opportunity has arisen from Vietnam's policy to raise electricity generation capacity in the country by allowing foreign developers (in partnership with local firms) to build gas power plants and LNG terminals there, in order to increase the portion of reliable power sources (after it heavily expanded solar power capacity over the past few years) while diverting away from coal power projects (to align with the global environmental trend), in the so-called "LNG-to-power" scheme. BGRIM believes its strong track record and scale advantages from its experience in running gas power plants in Thailand for more than 10 years represent its major competitive advantages in securing sizable power purchase contracts from the scheme.

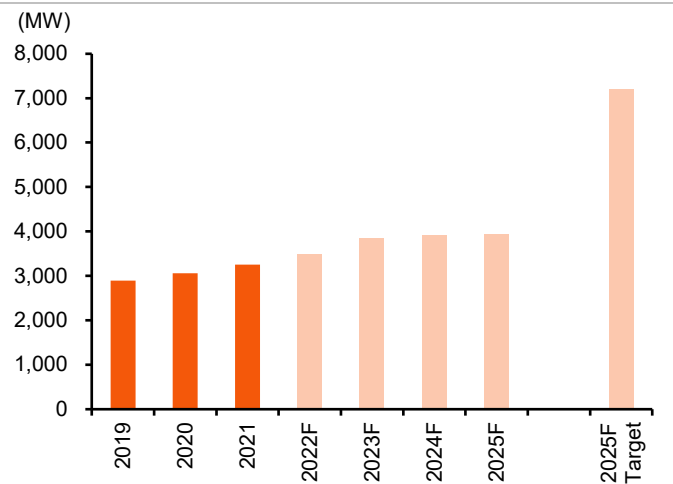
We see a risk of the scheme being delayed further ...

The delay in the release of Vietnam’s new Power Development Plan (PDP-8), which is expected to include more details and the timeline for the LNG-to-power scheme, thus affects BGRIM’s growth outlook. Vietnam’s government initially planned to announce the country’s PDP-8 in mid-2022, but it has been delayed by the COVID-19 pandemic, the country’s parliamentary election, the global energy price crisis, and now its weakened economic growth outlook and softer local currency. Given that most of these delay factors remain in place, we believe there is a chance of the new PDP being announced later than the current timeline of 1H23. This would likely disappoint the market again in terms of the outlook for BGRIM’s capacity growth pace, leading to negative sentiment toward its share price which is now trading at high multiples.

... or having less favorable terms

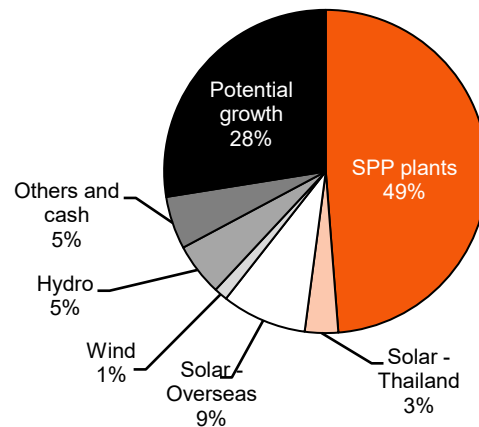
Moreover, given recent downward revisions to forecasts for Vietnam’s GDP growth pace over the near term and the severe tightening of gas supplies globally, we foresee risks of the LNG-to-power scheme having a smaller-than-expected capacity quota in the near term or less favorable conditions (lower profitability) for the developers. Note that we have factored in a Bt6.0/share potential value from BGRIM’s growth opportunities from the scheme in our TP, assuming that BGRIM can secure 3.0GW of equity-capacity gas-fired power contracts and that the projects commence operations over 2025-27F.

Ex 8: Still Sizable Gap To Reach Capacity Target In 2025F



Sources: Company data

Ex 9: Our SOTP Value Breakdown For BGRIM



Sources: Thanachart estimates

Ex 10: Our DCF-derived Sum-Of-The-Parts (SOTP)-Based 12-month TP Calculation

	Valuation method	WACC (%)	Value per BGRIM's share (Bt)
Operating gas-fired SPP plants (ABP, ABPR, BPLC, BPWHA, BIP, BPAM, ATP, UVBGP)	DCF	5.2 - 6.4%	8.8
SPP replacement projects (ABP1, ABP2, BPLC1, BPAM1, BPAM2)	DCF	5.7%	5.9
Projects under development (BGPR, U-Tapao airport, other IPS projects)	DCF	5.5 - 6.5%	2.9
Renewable projects			6.6
Solar - Thailand	DCF	6.0%	1.2
Solar - Vietnam	DCF	6.7%	1.0
Solar - Cambodia	DCF	7.1%	0.0
Solar - Malaysia	DCF	6.4%	2.0
Wind - Thailand	DCF	5.7%	0.5
Hydro - Thailand + Laos	DCF	6.7%	1.9
Others & cash on hand			1.9
Potential projects			9.9
- Korea wind farms	DCF	10.0%	1.2
- Vietnam wind farms	DCF	10.0%	0.3
- Vietnam LNG-to-power	DCF	10.0%	6.0
- M&A pipeline	DCF	10.0%	2.4
Grand total			36.0

Source: Thanachart estimates

Valuation Comparison

Ex 11: Comparison With Regional Peers

Name	BBG code	Country	EPS growth		PE		P/BV		EV/EBITDA		Div yield	
			22F (%)	23F (%)	22F (x)	23F (x)	22F (x)	23F (x)	22F (x)	23F (x)	22F (%)	23F (%)
Huadian Power	1071 HK	China	na	45.2	8.7	6.0	0.5	0.5	17.8	12.5	6.6	8.8
Huaneng Power	600011 CH	China	51.2	na	na	15.5	1.3	1.2	15.4	9.7	0.3	3.3
Cheung Kong Infrastructure	1038 HK	Hong Kong	11.8	(4.5)	10.4	10.9	0.8	0.8	40.1	40.3	6.4	6.5
China Power Int'l	2380 HK	Hong Kong	na	65.7	14.2	8.6	0.9	0.8	10.2	7.7	3.5	5.2
China Resources Power	836 HK	Hong Kong	24.7	28.1	7.9	6.2	0.7	0.7	7.0	5.9	5.4	6.6
CLP Holdings	2 HK	Hong Kong	(43.2)	77.9	22.8	12.8	1.3	1.3	12.6	8.7	5.4	5.5
Hongkong Electric Holdings	6 HK	Hong Kong	6.5	(3.4)	12.6	13.0	1.0	1.0	35.7	62.2	7.1	7.1
Huaneng Power	902 HK	Hong Kong	na	78.9	11.2	6.2	0.5	0.6	14.1	9.3	3.7	5.6
Tata Power	TPWR IN	India	28.2	70.3	36.3	21.3	3.2	2.8	16.3	15.0	0.8	0.7
Tenaga Nasional	TNB MK	Malaysia	(8.0)	7.4	12.1	11.2	0.9	0.9	7.3	7.2	4.2	4.6
YTL Corp	YTL MK	Malaysia	na	181.3	na	45.0	0.5	0.5	10.7	28.8	3.9	5.1
YTL Power	YTLP MK	Malaysia	(105.4)	na	na	14.2	0.4	0.4	12.0	9.8	5.0	6.1
Manila Electric	MER PM	Philippines	9.3	1.5	12.6	12.4	3.2	2.9	8.7	7.8	5.4	5.6
BCPG Pcl *	BCPG TB	Thailand	(2.4)	(24.7)	13.5	18.0	1.0	1.0	8.9	10.5	3.1	3.1
B.Grimm Power Pcl *	BGRIM TB	Thailand	(68.6)	184.2	128.2	45.1	3.3	3.2	18.9	15.0	0.4	1.1
Banpu Power Pcl *	BPP TB	Thailand	23.6	14.7	15.9	13.9	1.0	1.0	44.3	35.1	4.4	5.0
CK Power Pcl *	CKP TB	Thailand	13.7	(4.5)	17.4	18.2	1.5	1.4	19.3	14.3	2.3	2.7
EA Pcl*	EA TB	Thailand	20.8	26.6	49.9	39.4	9.5	8.1	33.6	26.3	0.6	0.8
Electricity Generating *	EGCO TB	Thailand	15.4	(0.6)	7.6	7.7	0.7	0.7	18.8	17.8	3.8	4.1
Global Power Synergy *	GPSC TB	Thailand	(80.4)	356.7	149.0	32.6	1.8	1.8	27.6	18.8	0.4	1.7
Gulf Energy Dev. Pcl *	GULF TB	Thailand	22.2	37.4	57.7	42.0	4.9	3.9	41.5	32.8	1.0	1.4
Gunkul Engineering *	GUNKUL TB	Thailand	41.7	23.7	16.7	13.5	3.2	2.8	17.8	13.7	2.4	3.0
RATCH Group *	RATCH TB	Thailand	49.7	(19.9)	6.4	8.0	0.8	0.8	19.5	18.6	8.6	4.7
WHA Utilities & Power *	WHAUP TB	Thailand	45.9	9.3	10.9	10.0	1.2	1.1	26.2	23.2	5.5	6.0
Average			2.8	52.3	29.6	18.0	1.9	1.7	20.2	18.8	3.8	4.3

Sources: Bloomberg, * Thanachart estimates

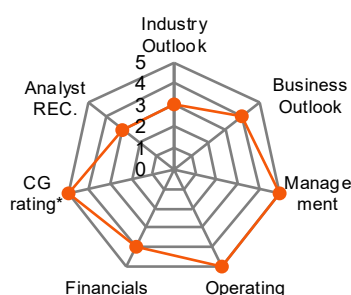
Based on 1 December 2022 closing prices

COMPANY DESCRIPTION

Established in 1993, BGRIM, a power arm of B.Grimm Group which has been operating businesses in Thailand for over 140 years, is one of the largest power producers in Thailand under the Small Power Producer (SPP) scheme. BGRIM provides electricity and steam for the national power grid as well as nearly 200 large manufacturers in many industrial estates and has also expanded its power business into Vietnam and Laos. The company has a target to expand its total capacity to 5.0GW by 2025.

Source: Thanachart

COMPANY RATING



Rating Scale

Excellent	5
Good	4
Fair	3
Weak	2
Very Weak	1
None	0

Source: Thanachart; * CG rating

THANACHART'S SWOT ANALYSIS

S — Strength

- Good engineering team with strong expertise in developing and operating gas-fired power plants for over 20 years.
- Benefits from relationships with B.Grimm Group and other key strategic partners.

O — Opportunity

- Expansion of power business in neighbouring countries and the rest of Asia.
- Increasing power industry liberalization opens room for new business areas, i.e., smart grid and peer-to-peer trading.

W — Weakness

- Financial gearing looks a bit high compared with peers', but is still well below its targeted threshold.

T — Threat

- Relies on government's policy in balancing between fuel cost pass-on for power plants and its potential inflationary impacts on economy.
- Regulatory risks from business overseas.

CONSENSUS COMPARISON

	Consensus	Thanachart	Diff
Target price (Bt)	42.87	36.00	-16%
Net profit 22F (Bt m)	324	762	135%
Net profit 23F (Bt m)	2,381	2,166	-9%
Consensus REC	BUY: 13	HOLD: 4	SELL: 2

HOW ARE WE DIFFERENT FROM THE STREET?

- Our 2022F earnings are significantly higher than the Bloomberg consensus number, which we attribute to us assuming a sharper drop in the domestic gas pool price in 4Q22F. But our 2023F number is 9% lower, likely as we are concerned about a cut to the Ft adjustment in that year.
- Our DCF-derived SOTP-based TP is 16% lower, likely as we are more conservative on BGRIM's future growth potential.

Sources: Bloomberg consensus, Thanachart estimates

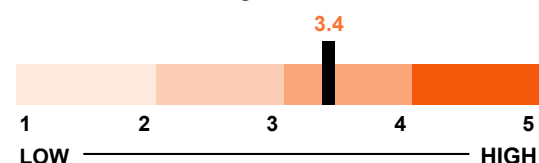
RISKS TO OUR INVESTMENT CASE

- A stronger/(weaker)-than-expected rise in domestic gas pool price than our assumptions is the key downside/(upside) risk to our earnings forecasts and target price.
- Faster/(slower) national electricity tariff adjustment to reflect rising fuel prices is another key upside/(downside) risk to our numbers.
- Lower-than-expected capacity growth, from both developing greenfield projects and potential M&As, than we currently expect would represent a secondary downside risk to our earnings and valuation.

Source: Thanachart

BGRIM is one of the major gas-fired power plant operators in Thailand. Of its 2.2GW operating capacity, 67% is gas power plants in Thailand and another 33% is renewable plants across ASEAN. We rate its ESG score at 3.4 on its policy to raise its green energy mix, various social activity initiatives, and its large dedicated team to improve the company’s ESG aspects.

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)
BGRIM	YES	YES	-	BBB	51.35	63.1	76.60	-	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

- BGRIM provides detailed set of data on the company’s environmental reporting, including energy consumption, pollution emissions, and waste-management aspects.
- BGRIM targets net-zero carbon emissions by 2050. However, it projects the mix of renewables in its total capacity to decline to 25% (from 33% in 2022) given that its expansion plans are still focusing on gas-based projects. BGRIM plans to invest in carbon capture units to offset this.
- BGRIM emitted 5.6m tonnes of CO2 equivalent in 2021, implying an emission intensity of 0.38 tonnes per MWh. Its emission reduction rate was 7% between 2018-21.
- BGRIM is one of the few Thai companies with a biodiversity policy. We like this initiative for helping to preserve the global environment apart from the global warming issue.

SOCIAL

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

- BGRIM’s human rights policy is in line with the UN Guiding Principles (UNGP) to protect, respect, and remedy staff and all stakeholders. The company has not reported any human rights or staff violations for the past five years.
- BGRIM has developed a strong platform for its employers to self-develop their competencies under the name “B.Grimm Academy”. The courses are formed based on BGRIM’s core cultures of “positivity, partnership, pioneering, and professionalism”.
- It also shares academic support to help develop human resources for Thais with 232 schools and over 100 students under its care.
- Since its core fossil-based power plant business leads to the risk of accidents and health issues in surrounding communities, BGRIM is committed to high standards and protocols to prevent unexpected chemical leaks and to ensure a swift emergency response.

GOVERNANCE & SUSTAINABILITY

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

- BGRIM’s board of directors comprises 10 members. Six of them are independent directors while half are female.
- We see BGRIM as one of leading companies in providing clear and detailed data on both its operations and (recently) ESG issues. It has developed a dedicated team to ensure high ESG standards, including business transparency.
- BGRIM has high business sustainability supported by long-term contracts for all of its power plants, while the company continuously looks for more investments to deliver business growth to its shareholders.
- BGRIM still lacks an innovative business plan, in our view. It may need to accelerate the exploration of new technology to complement its traditional power business, especially the carbon capture, utilization, and storage (CCUS) trend to mitigate the risk to its business from global emission regulations being implemented.

Sources: Thanachart, Company note

INCOME STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Sales	44,087	46,628	62,363	60,091	59,151
Cost of sales	34,848	37,935	56,565	51,613	48,395
Gross profit	9,239	8,694	5,798	8,478	10,756
% gross margin	21.0%	18.6%	9.3%	14.1%	18.2%
Selling & administration expenses	2,008	1,673	1,902	1,989	2,103
Operating profit	7,231	7,021	3,896	6,489	8,653
% operating margin	16.4%	15.1%	6.2%	10.8%	14.6%
Depreciation & amortization	5,616	5,308	5,442	5,513	5,625
EBITDA	12,847	12,329	9,338	12,002	14,278
% EBITDA margin	29.1%	26.4%	15.0%	20.0%	24.1%
Non-operating income	251	188	251	242	238
Non-operating expenses	0	0	0	0	0
Interest expense	(3,056)	(3,384)	(3,905)	(4,085)	(3,897)
Pre-tax profit	4,426	3,825	242	2,646	4,994
Income tax	233	298	(24)	225	424
After-tax profit	4,193	3,526	266	2,421	4,569
% net margin	9.5%	7.6%	0.4%	4.0%	7.7%
Shares in affiliates' Earnings	58	44	(58)	147	267
Minority interests	(1,581)	(1,141)	555	(402)	(1,589)
Extraordinary items	(495)	(153)	0	0	0
NET PROFIT	2,175	2,276	762	2,166	3,248
Normalized profit	2,670	2,429	762	2,166	3,248
EPS (Bt)	0.8	0.9	0.3	0.8	1.2
Normalized EPS (Bt)	1.0	0.9	0.3	0.8	1.2

BGRIM's earnings recovery prospects already look priced in

BALANCE SHEET

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
ASSETS:					
Current assets:	29,879	41,058	48,273	32,609	32,302
Cash & cash equivalent	20,389	25,707	30,000	15,000	15,000
Account receivables	6,818	8,983	10,251	9,878	9,723
Inventories	1,033	971	1,550	1,414	1,326
Others	1,638	5,397	6,472	6,317	6,253
Investments & loans	1,086	3,124	3,871	5,479	5,579
Net fixed assets	80,300	84,804	94,883	98,226	97,443
Other assets	19,431	20,211	20,629	21,035	21,382
Total assets	130,696	149,198	167,656	157,350	156,706
LIABILITIES:					
Current liabilities:	26,993	12,724	22,231	20,102	19,184
Account payables	5,641	5,691	9,298	8,484	7,955
Bank overdraft & ST loans	15,080	750	5,446	4,893	4,721
Current LT debt	5,705	5,745	6,725	6,043	5,830
Others current liabilities	567	538	762	681	677
Total LT debt	58,361	89,241	96,741	86,925	83,867
Others LT liabilities	6,038	6,418	8,399	8,202	8,052
Total liabilities	91,392	108,382	127,371	115,229	111,102
Minority interest	11,834	11,344	10,789	11,191	12,780
Preferred shares	0	0	0	0	0
Paid-up capital	5,214	5,214	5,214	5,214	5,214
Share premium	9,644	9,644	9,644	9,644	9,644
Warrants	0	0	0	0	0
Surplus	5,544	6,842	6,842	6,842	6,842
Retained earnings	7,068	7,771	7,795	9,230	11,124
Shareholders' equity	27,470	29,471	29,495	30,930	32,824
Liabilities & equity	130,696	149,198	167,656	157,350	156,706

Balance sheet was not hit significantly by commodity price issues

Sources: Company data, Thanachart estimates

CASH FLOW STATEMENT

FY ending Dec (Bt m)	2020A	2021A	2022F	2023F	2024F
Earnings before tax	4,426	3,825	242	2,646	4,994
Tax paid	(233)	(298)	24	(225)	(424)
Depreciation & amortization	5,616	5,308	5,442	5,513	5,625
Chg In working capital	(12,339)	(2,054)	1,761	(305)	(286)
Chg In other CA & CL / minorities	739	(4,504)	(909)	222	327
Cash flow from operations	(1,792)	2,277	6,560	7,851	10,236
Capex	(13,663)	(9,643)	(15,313)	(8,628)	(4,596)
Right of use	(1,256)	(309)	(200)	(200)	(150)
ST loans & investments	(16)	(1,413)	0	0	0
LT loans & investments	581	(2,038)	(747)	(1,609)	(100)
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	(320)	(629)	1,554	(631)	(593)
Cash flow from investments	(14,673)	(14,031)	(14,705)	(11,067)	(5,439)
Debt financing	16,040	17,346	13,177	(11,052)	(3,443)
Capital increase	0	0	0	0	0
Dividends paid	(965)	(1,173)	(738)	(732)	(1,354)
Warrants & other surplus	(1,884)	898	0	0	0
Cash flow from financing	13,192	17,072	12,439	(11,784)	(4,797)
Free cash flow	(15,454)	(7,366)	(8,753)	(777)	5,640

*Hefty capex in 2022-23F
for SPP replacements
and new SPP units*

VALUATION

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Normalized PE (x)	36.6	40.2	128.2	45.1	30.1
Normalized PE - at target price (x)	35.1	38.6	123.1	43.3	28.9
PE (x)	45.0	43.0	128.2	45.1	30.1
PE - at target price (x)	43.2	41.2	123.1	43.3	28.9
EV/EBITDA (x)	12.2	13.6	18.9	15.0	12.4
EV/EBITDA - at target price (x)	11.9	13.3	18.5	14.7	12.1
P/BV (x)	3.6	3.3	3.3	3.2	3.0
P/BV - at target price (x)	3.4	3.2	3.2	3.0	2.9
P/CFO (x)	(54.6)	42.9	14.9	12.5	9.6
Price/sales (x)	2.2	2.1	1.6	1.6	1.7
Dividend yield (%)	1.2	1.1	0.4	1.1	1.7
FCF Yield (%)	(15.8)	(7.5)	(9.0)	(0.8)	5.8
(Bt)					
Normalized EPS	1.0	0.9	0.3	0.8	1.2
EPS	0.8	0.9	0.3	0.8	1.2
DPS	0.5	0.4	0.1	0.4	0.6
BV/share	10.5	11.3	11.3	11.9	12.6
CFO/share	(0.7)	0.9	2.5	3.0	3.9
FCF/share	(5.9)	(2.8)	(3.4)	(0.3)	2.2

Sources: Company data, Thanachart estimates

FINANCIAL RATIOS

FY ending Dec	2020A	2021A	2022F	2023F	2024F
Growth Rate					
Sales (%)	(0.1)	5.8	33.7	(3.6)	(1.6)
Net profit (%)	(6.3)	4.6	(66.5)	184.2	49.9
EPS (%)	(6.3)	4.6	(66.5)	184.2	49.9
Normalized profit (%)	15.2	(9.0)	(68.6)	184.2	49.9
Normalized EPS (%)	15.2	(9.0)	(68.6)	184.2	49.9
Dividend payout ratio (%)	53.9	48.1	50.0	50.0	50.0
Operating performance					
Gross margin (%)	21.0	18.6	9.3	14.1	18.2
Operating margin (%)	16.4	15.1	6.2	10.8	14.6
EBITDA margin (%)	29.1	26.4	15.0	20.0	24.1
Net margin (%)	9.5	7.6	0.4	4.0	7.7
D/E (incl. minor) (x)	2.0	2.3	2.7	2.3	2.1
Net D/E (incl. minor) (x)	1.5	1.7	2.0	2.0	1.7
Interest coverage - EBIT (x)	2.4	2.1	1.0	1.6	2.2
Interest coverage - EBITDA (x)	4.2	3.6	2.4	2.9	3.7
ROA - using norm profit (%)	2.1	1.7	0.5	1.3	2.1
ROE - using norm profit (%)	9.6	8.5	2.6	7.2	10.2
DuPont					
ROE - using after tax profit (%)	15.1	12.4	0.9	8.0	14.3
- asset turnover (x)	0.3	0.3	0.4	0.4	0.4
- operating margin (%)	17.0	15.5	6.6	11.2	15.0
- leverage (x)	4.5	4.9	5.4	5.4	4.9
- interest burden (%)	59.2	53.1	5.8	39.3	56.2
- tax burden (%)	94.7	92.2	110.0	91.5	91.5
WACC (%)	5.9	5.9	5.9	5.9	5.9
ROIC (%)	10.2	7.5	4.3	5.5	7.0
NOPAT (Bt m)	6,850	6,473	4,285	5,937	7,917
invested capital (Bt m)	86,226	99,500	108,408	113,791	112,242

Sources: Company data, Thanachart estimates

ESG Information - Third Party Terms

www.Settrade.com

SETTRADE: You acknowledge that the use of data, information or service displayed and/or contained in this website may require third party's data, content or software which is subject to the terms of third party provider. By accessing and/or using of such certain data, you acknowledge and agree to comply with and be bound by the applicable third party terms specified below.

ESG Scores by Third Party data from www.SETTRADE.com

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

SET THSI Index (SETTHSI)

Nowadays, long-term investment tends to be more focused on sustainable companies. The financial statement performance and the consideration in environmental, social and governance (ESG) perspective are keys aspects for analysis.

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®

The S-Ray data here is published with a 3 month delay. For the latest data, please contact sray@arabesque.com

Arabesque S-Ray® is a service (the "Service") provided by Arabesque S-Ray GmbH ("Arabesque S-Ray") and its branch and subsidiary companies. Arabesque S-Ray is a limited liability company (Gesellschaft mit beschränkter Haftung) incorporated in Frankfurt am Main and organized under the laws of Germany with registered number HRB 113087 in the commercial register of the local court with its seat and business address at Zeppelinallee 15, 60325 Frankfurt am Main, Germany. The Service is unconnected to any of the asset management activities conducted within the wider group of Arabesque companies, and is not investment advice or a solicitation or an offer to buy any security or instrument or to participate in investment services. RELIANCE - Arabesque S-Ray makes no representation or warranty, express or implied, as to the accuracy or completeness of the information contained herein, and accepts no liability for any loss, of whatever kind, howsoever arising, in relation thereto, and nothing contained herein should be relied upon. ENQUIRIES - Any enquiries in respect of this document should be addressed to Arabesque S-Ray.

Arabesque S-Ray® - The ESG Score, ranging from 0 to 100, identifies sustainable companies that are better positioned to outperform over the long run, based on the principles of financial materiality. That is, when computing the ESG Score of a company, the algorithm will only use information that significantly helps explain future risk-adjusted performance. Materiality is applied by overweighting features with higher materiality and rebalancing these weights on a rolling quarterly basis to stay up-to-date

MSCI ESG Research LLC

"Certain information @2021 MSCI ESG Research LLC. Reproduced by permission"

"Although [User ENTITY NAME's] information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for, or a component of, any financial instruments or products or indices. Further, non of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages."

Score range	Description
CCC - B	LAGGARD: A company lagging its industry based on its high exposure and failure to manage significant ESG risks
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

The Dow Jones Sustainability Indices (DJSI)

The Dow Jones Sustainability Indices (DJSI) are a family of best-in-class benchmarks for investors who have recognized that sustainable business practices are critical to generating long-term shareholder value and who wish to reflect their sustainability convictions in their investment portfolios. The family was launched in 1999 as the first global sustainability benchmark and tracks the stock performance of the world's leading companies in terms of economic, environmental and social criteria. Created jointly by S&P Dow Jones Indices and SAM, the DJSI combine the experience of an established index provider with the expertise of a specialist in Sustainable Investing to select the most sustainable companies from across 61 industries. The indices serve as benchmarks for investors who integrate sustainability considerations into their portfolios, and provide an effective engagement platform for investors who wish to encourage companies to improve their corporate sustainability practices.

S&P Global Market Intelligence

Copyright © 2021, S&P Global Market Intelligence (and its affiliates as applicable). Reproduction of any information, opinions, views, data or material, including ratings ("Content") in any form is prohibited except with the prior written permission of the relevant party. Such party, its affiliates and suppliers ("Content Providers") do not guarantee the accuracy, adequacy, completeness, timeliness or availability of any Content and are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, or for the results obtained from the use of such Content. In no event shall Content Providers be liable for any damages, costs, expenses, legal fees, or losses (including lost income or lost profit and opportunity costs) in connection with any use of the Content. A reference to a particular investment or security, a rating or any observation concerning an investment that is part of the Content is not a recommendation to buy, sell or hold such investment or security, does not address the suitability of an investment or security and should not be relied on as investment advice. Credit ratings are statements of opinions and are not statements of fact.

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

© 2022 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy." Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

Additional terms for Hong Kong only: Any Second Party Opinion or other opinion that falls within the definition of "advising on securities" under the Hong Kong Securities and Futures Ordinance ("SFO") is issued by Vigeo Eiris Hong Kong Limited, a company licensed by the Hong Kong Securities and Futures Commission to carry out the regulated activity of advising on securities in Hong Kong. This Second Party Opinion or other opinion that falls within the definition of "advising on securities" under the SFO is intended for distribution only to "professional investors" as defined in the SFO and the Hong Kong Securities and Futures (Professional Investors) Rules. This Second Party Opinion or other opinion must not be distributed to or used by persons who are not professional investors.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

Refinitiv ESG

These Terms of Use govern your access or use of the ESG information and materials on the Refinitiv website and any AI powered voice assistance software ("Refinitiv ESG Information"). 2020© Refinitiv. All rights reserved. Refinitiv ESG Information is proprietary to Refinitiv Limited and/or its affiliates ("Refinitiv").

The Refinitiv ESG Information is for general informational and non-commercial purposes only. Reproduction, redistribution or any other form of copying or transmission of the Refinitiv ESG Information is prohibited without Refinitiv's prior written consent.

All warranties, conditions and other terms implied by statute or common law including, without limitation, warranties or other terms as to suitability, merchantability, satisfactory quality and fitness for a particular purpose, are excluded to the maximum extent permitted by applicable laws. The Refinitiv ESG Information is provided "as is" and Refinitiv makes no express or implied warranties, representations or guarantees concerning the accuracy, completeness or currency of the information in this service or the underlying Third Party Sources (as defined below). You assume sole responsibility and entire risk as to the suitability and results obtained from your use of the Refinitiv ESG Information.

The Refinitiv ESG Information does not amount to financial, legal or other professional advice, nor does it constitute: (a) an offer to purchase shares in the funds referred to; or (b) a recommendation relating to the sale and purchase of instruments; or (c) a recommendation to take any particular legal, compliance and/or risk management decision. Investors should remember that past performance is not a guarantee of future results.

The Refinitiv ESG Information will not be used to construct or calculate an index or a benchmark, used to create any derivative works or used for commercial purposes. Refinitiv's disclaimer in respect of Benchmark Regulations applies to the Refinitiv ESG Information.

No responsibility or liability is accepted by Refinitiv its affiliates, officers, employees or agents (whether for negligence or otherwise) in respect of the Refinitiv ESG Information, or for any inaccuracies, omissions, mistakes, delays or errors in the computation and compilation of the Refinitiv ESG Information (and Refinitiv shall not be obliged to advise any person of any error therein). For the avoidance of doubt, in no event will Refinitiv have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of the Refinitiv ESG Information.

You agree to indemnify, defend and hold harmless Refinitiv from and against any claims, losses, damages, liabilities, costs and expenses, including, without limitation, reasonable legal and experts' fees and costs, as incurred, arising in any manner out of your use of, or inability to use, any Information contained on the Refinitiv web site or obtained via any AI powered voice assistance software.

You represent to us that you are lawfully able to enter into these Terms of Use. If you are accepting these Terms of Use for and on behalf of an entity such as the company you work for, you represent to us that you have legal authority to bind that entity.

By accepting these Terms of Use you are also expressly agreeing to the following Refinitiv's website Terms of Use.

Refinitiv ESG scores are derived from third party publicly available sources ("Third Party Sources") and are formulated on the basis of Refinitiv own transparent and objectively applied methodology. Refinitiv's ESG Information methodology can be accessed here.

Score range	Description	
0 to 25	First Quartile	Scores within this range indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.
> 25 to 50	Second Quartile	Scores within this range indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly.
> 50 to 75	Third Quartile	Scores within this range indicates good relative ESG performance and above average degree of transparency in reporting material ESG data publicly.
> 75 to 100	Fourth Quartile	Score within this range indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.

CG Report : by Thai Institute of Directors Association (Thai IOD), Established in December 1999, the Thai IOD is a membership organization that strives to promote professionalism in directorship. The Thai IOD offers directors certification and professional development courses, provides a variety of seminars, forums and networking events, and conducts research on board governance issues and practices. Membership comprises board members from companies ranging from large publicly listed companies to small private firms.

90-100	▲▲▲▲▲	Excellent
80-89	▲▲▲▲	Very Good
70-79	▲▲▲	Good
60-69	▲▲	Satisfactory
50-59	▲	Pass
Below	▲	N/A

General Disclaimers And Disclosures:

This report is prepared and issued by Thanachart Securities Public Company Limited (TNS) as a resource only for clients of TNS, Thanachart Capital Public Company Limited (TCAP) and its group companies. Copyright © Thanachart Securities Public Company Limited. All rights reserved. The report may not be reproduced in whole or in part or delivered to other persons without our written consent.

This report is prepared by analysts who are employed by the research department of TNS. While the information is from sources believed to be reliable, neither the information nor the forecasts shall be taken as a representation or warranty for which TNS or TCAP or its group companies or any of their employees incur any responsibility. This report is provided to you for informational purposes only and it is not, and is not to be construed as, an offer or an invitation to make an offer to sell or buy any securities. Neither TNS, TCAP nor its group companies accept any liability whatsoever for any direct or consequential loss arising from any use of this report or its contents.

The information and opinions contained herein have been compiled or arrived at from sources believed reliable. However, TNS, TCAP and its group companies make no representation or warranty, express or implied, as to their accuracy or completeness. Expressions of opinion herein are subject to change without notice. The use of any information, forecasts and opinions contained in this report shall be at the sole discretion and risk of the user.

TNS, TCAP and its group companies perform and seek to perform business with companies covered in this report. TNS, TCAP, its group companies, their employees and directors may have positions and financial interest in securities mentioned in this report. TNS, TCAP or its group companies may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any entity mentioned in this report. Therefore, investors should be aware of conflict of interest that may affect the objectivity of this report.

Note: Thanachart Securities Public Company Limited act as a Market Maker and Derivative Warrants Issuer. At present, TNS has issued 74 Derivative Warrants which are ADVANC16C2301A, ADVANC16C2302A, AMATA16C2212A, AOT16C2212A, AOT16C2302A, BANPU16C2303A, BANPU16C2212A, BANPU16C2302A, BBL16C2212A, BGRIM16C2212A, BGRIM16C2301A, BGRIM16C2302A, BH16C2303A, BH16C2212A, BH16C2212B, BLA16C2212A, BLA16C2302A, BTS16C2301A, CBG16C2301A, CBG16C2301B, CBG16C2302A, COM716C2302A, CPN16C2303A, CPN16C2301A, CRC16C2303A, DOHOME16C2301A, DOHOME16C2303A, DTAC16C2212A, EA16C2303A, ESSO16C2303A, ESSO16C2302A, GPSC16C2301A, GPSC16C2302A, GULF16C2301A, GULF16C2302A, GULF16C2302B, GUNKUL16C2301A, GUNKUL16C2302A, HANA16C2301A, HANA16C2303A, IVL16C2212A, IVL16C2301A, JMART16C2303A, JMT16C2302A, KBANK16C2301A, KBANK16C2302A, KCE16C2301A, KCE16C2301B, KCE16C2302A, KTB16C2303A, MINT16C2301A, MINT16C2302A, MTC16C2212A, MTC16C2301A, PSL16C2212A, PTTEP16C2212A, PTTEP16C2303A, RCL16C2303A, SAWAD16C2302A, SCB16C2301A, SCGP16C2212A, SCGP16C2303A, SET5016P2303A, SET5016C2303A, SET5016C2212A, SET5016C2212B, SET5016C2212C, SET5016P2212A, SET5016P2212B, SINGER16C2212A, SPRC16C2212A, TIDLOR16C2212A, TRUE16C2212A, VGI16C2301A (underlying securities are (ADVANC, AMATA, AOT, BANPU, BBL, BGRIM, BH, BLA, BTS, CBG, COM7, CPN, CRC, DOHOME, DTAC, EA, ESSO, GPSC, GULF, GUNKUL, HANA, IVL, JMART, JMT, KBANK, KCE, KTB, MINT, MTC, PSL, PTTEP, RCL, SAWAD, SCB, SCGP, SET50, SINGER, SPRC, TIDLOR, VGI, TRUE). before making investment decisions.

Note: Our major shareholder TCAP (Thanachart Capital Pcl) which holding 89.96% of Thanachart Securities and also TCAP holding 100% of Thanachart SPV1 Co. Ltd. TCAP and Thanachart SPV1 Co. Ltd has stake in THANI for 60% and being the major shareholder of THANI.

Note: Thanachart Capital Public Company Limited (TCAP), TMBThanachart Bank Public Company Limited (TTB), are related companies to Thanachart Securities Public Company Limited (TNS). Thanachart Securities Pcl is a subsidiary of Thanachart Capital Pcl (TCAP) which holds 24.33% of the shareholding in TMBThanachart Bank Pcl.

Thanachart Capital Public Company Limited (TCAP), Ratchthani Leasing Public Company Limited (THANI), MBK PUBLIC COMPANY LIMITED (MBK) and PATUM RICE MILL AND GRANARY PUBLIC COMPANY LIMITED (PRG) are related companies to Thanachart Securities Public Company Limited (TNS) . Since TNS covers those securities in research report, consequently TNS incurs conflicts of interest.

Disclosure of Interest of Thanachart Securities

Investment Banking Relationship

Within the preceding 12 months, Thanachart Securities has lead-managed public offerings and/or secondary offerings (excluding straight bonds) of the securities of the following companies: The One Enterprise Pcl. (ONEE TB)

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.

Thanachart Securities Pcl.

Research Team

18 Floor, MBK Tower

444 Phayathai Road, Pathumwan Road, Bangkok 10330

Tel: 662 - 779-9119

Email: thanachart.res@thanachartsec.co.th

Pimpaka Nichgaroon, CFA

Head of Research

Tel: 662-779-9199

pimpaka.nic@thanachartsec.co.th

Pattarawan Wangmingmat

Senior Technical Analyst

Tel: 662-779-9105

pattarawan.wan@thanachartsec.co.th

Phannarai Tiyapittayarut

Property, Retail

Tel: 662-779-9109

phannarai.von@thanachartsec.co.th

Sarachada Sornsong

Bank, Finance

Tel: 662-779-9106

sarachada.sor@thanachartsec.co.th

Witchanan Tambamroong

Technical Analyst

Tel: 662-779-9123

witchanan.tam@thanachartsec.co.th

Adisak Phupiphathirungul, CFA

Retail Market Strategy

Tel: 662-779-9120

adisak.phu@thanachartsec.co.th

Nuttapop Prasitsuksant

Telecom, Utilities

Tel: 662-483-8296

nuttapop.pra@thanachartsec.co.th

Rata Limsuthiwanoom

Auto, Industrial Estate, Media, Prop. Fund

Tel: 662-483-8297

rata.lim@thanachartsec.co.th

Siriporn Arunothai

Small Cap, Healthcare, Hotel

Tel: 662-779-9113

siriporn.aru@thanachartsec.co.th

Sittichet Rungrassameephat

Analyst, Quantitative

Tel: 662-483-8303

sittichet.run@thanachartsec.co.th

Chak Reungsinpinya

Strategy, Insurance, Paper

Tel: 662-779-9104

chak.reu@thanachartsec.co.th

Pattadol Bunnak

Electronics, Food & Beverage, Shipping

Tel: 662-483-8298

pattadol.bun@thanachartsec.co.th

Saksid Phadthanarak

Construction, Transportation

Tel: 662-779-9112

saksid.pha@thanachartsec.co.th

Yupapan Polpornprasert

Energy, Petrochemical

Tel: 662-779-9110

yupapan.pol@thanachartsec.co.th

Thaloengsak Kucharoenpaisan

Analyst, Retail Market

Tel: 662-483-8304

thaloengsak.kuc@thanachartsec.co.th