

Bangchak Corporation Plc.

Management Discussion & Analysis of Business Operation

For the 1st quarter period ended March 31st, 2022



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Executive Summary

Summary of the company and its subsidiaries' operating result for the 1st quarter period ended 31st March 2022

Unit: THB Million	Q1/2022	Q4/2021	QoQ	Q1/2021	YoY
Total Revenue	69,055	66,762	3%	41,230	67%
Accounting EBITDA	13,714	9,281	48%	4,737	189%
Refinery and Trading Business ^{1/}	5,021	3,084	63%	2,411	108%
Marketing Business ^{2/}	1,118	255	338%	970	15%
Power Plant Business ^{3/}	3,075	1,038	196%	979	214%
Bio-Based Products Business ^{4/}	343	255	35%	422	-19%
Natural Resources Business and New Business Development ^{5/}	4,251	4,832	-12%	31	>1,000%
Others	(94)	(184)	49%	(76)	-24%
Profit attributable to owners of the Company	4,356	1,756	148%	2,284	91%
Earnings per share (Baht)	3.12	1.20		1.59	

Note: 1/ EBITDA from Refinery Business of the company (BCP), BCP Trading Pte. Ltd. (BCPT), Bangchak Fuel Pipeline and Logistic Co.,Ltd. (BFPL) and others

2/ EBITDA from Marketing Business of the company (BCP), Bangchak Green Net Co.,Ltd. (BGN), Bangchak Retail Co., Ltd., (BCR) and others

3/ EBITDA from Power Plant Business of BCPG Plc. (BCPG Group)

4/ EBITDA from Bio-Based Products Business of BBGI Plc. (BBGI Group)

5/ EBITDA from Natural Resources Business of OKEA ASA (OKEA), BCP Innovation Pte. Ltd. (BCPI) And BTSG Co., Ltd. (BTSG) and others

As for performance in Q1/2022, Bangchak Corporation Plc. (“the company”) and its subsidiaries generated revenues from sales and services of THB 69,055 million (+3% QoQ, +67% YoY) and EBITDA of THB 13,714 million (+48% QoQ, +189% YoY) which was the first quarter that EBITDA reached THB 10,000 million. The increase in performance was partially supported by the change in accounting treatment regarding OKEA consolidation in Q3/2021. The rest of the increase came from the **Refinery and Trading Business Group which** was benefited from the significant increase in crude oil and finished product prices in the global market as worries over Russia-Ukraine tensions. This led to many countries avoid buying Russian oil, resulting in tighter energy supply conditions. On the demand side, oil price was supported by the progress on COVID-19 vaccination and the gradual easing of social restrictions around the world. Although at the beginning of 2022, demand was pressured by the spread of Omicron variant which spread more easily than previous variants but with less severe symptoms and lower death rate. This was not significantly impact to oil demand. Average Dubai crude oil price in Q1/2022 increased to 96.21 \$/BBL, an increase of 17.95 \$/BBL QoQ and 36.00 \$/BBL YoY. As a result, this quarter the company group realized an Inventory Gain of THB 4,114 million which is higher than both Q4/2021 and Q1/2021. In addition, the Refinery Business benefited from improved operating GRM and remains at high level which lead Bangchak refinery increased its average crude run in Q1/2022 to 122.1 KBD, which is the highest on record. These factors helped to offset the performance of the **Marketing Business Group** which was still pressured from low net marketing margins, due to the increase in costs of finished products in line with global market. In addition, Bangchak cooperates with government’s policy to limit domestic diesel retail price below 30 baht per liter to alleviate cost of living for consumers. As a result, the company was unable to appropriately adjust retail price in line with cost of products. However, the company implemented cost management measures to maintain marketing margins. The **Power Plant Business Group** recognized profit before tax from the disposal of the whole investment in Star Energy Group Holdings Pte. Ltd. (“SEGHPL”) of THB 2,031 million. The **Bio-Based Products**



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Business Group was supported by the continual increase in B100 price, even though the business was pressured by the government's biodiesel price control measures. In addition, the **Natural Resources Business and New Business Development Group** benefited from significantly higher energy prices, especially natural gas price which increased 367% YoY. Leading to the first three months of 2022, **net profit attributable to owners of the parent reached a record new high of THB 4,356 million** (+148% QoQ, +91% YoY), representing **Earnings per share of THB 3.12**, with performance results in each business unit as follows:

Refinery and Trading Business Group saw its performance increased 63% QoQ and 108% YoY as this quarter Inventory Gain increase to THB 3,566 million. Also, operating GRM increased to 6.84 \$/BBL as crack spreads of all products increased in line with global market conditions. Especially, a significant increase in Diesel and Dubai crack spread (GO-DB) which is the largest product yield of the Bangchak refinery. However, operating GRM was pressured from the increasing crude premium. In addition, the increase in crack spreads and to support the expansion of UCO export, Bangchak refinery increased its production in Q1/2022 to 122.1 KBD or 102% utilization rate which is highest on record. As for the Oil Trading business under BCPT, performance improved as profit per unit for low sulfur fuel oil products group increase as demand from marine transport segment improved in line with global economic recovery while supply conditions are tight from Russia-Ukraine conflict. In addition, the company began operating fuel pipeline transportation and logistics businesses through Bangkok Fuel Pipeline and Logistics Company Limited ("BFPL") which granted the right to manage the fuel pipeline systems (Bangkok - Bang Pa-in) from Fuel Pipeline Transportation Limited ("FPT"). The expansion into logistics business will create many opportunities with potential to not only reduce costs and losses from oil transportation but also increase revenue as well as reduce carbon emissions from vehicular transport and road accidents, supporting Bangchak's sustainable growth in harmony with the environment and society.

Marketing Business Group saw its performance increased 338% QoQ and 15% YoY, mainly from the increase in oil prices at higher rate. These resulted in the increase in Inventory Gain compared to Q4/2021 and Q1/2021. In addition, total sale volume for the Marketing Business Group increased 2% QoQ and 14% YoY, as most of the population has received COVID-19 vaccination and the Omicron variant outbreak decreased in severity which led consumers to resume activities under the new normal. In addition, the aviation industry began recovering as the country opens to tourists which resulted in higher jet fuel sale through the industrial channel which increased 47% QoQ and 149% YoY. Retail sales volume declined slightly from Q4/2021 as consumers reduced travel expenses due to continued increase in oil prices and from holiday season last quarter. In addition, net marketing margin per unit was pressured by higher cost of finished product prices in line with global market. In addition, Bangchak cooperates with government's policy to freeze domestic diesel retail price below 30 baht per liter to help reduce cost of living for consumers. As a result, retail price does not reflect the increase in cost of finished products which moves in line with the global market. However, the company pushed up sales of lubricants which have higher marketing margins than other products. In addition, the company managed sales through selective products and distribution channels with appropriate marketing margin as well as implemented the management policy of cost and expenses. As a result, net marketing margin per unit increased 9% QoQ but declined 22% YoY. The company's cumulative retail sales volume market share



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during January - March 2022 was 16.4% (data from the Department of Energy Business). At the end of Q1/2022, there were 1,292 Bangchak service stations. In addition, the company still emphasizes to expand non-oil business. At the end of Q1/2022 there were 853 Inthanin coffee branches where expansion will focus on pick up store model to increase the flexibility and pace of expansion as well as reach more customers in communities. Moreover, sales through online delivery platforms continue to grow where the number of cups sold per day through online delivery grew by 13% QoQ. And Inthanin coffee's products and services development helped to increase coffee sales to a record new high in March 2022.

Power Plant Business Group saw performance improved 196% QoQ and 214% YoY, mainly from BCPG's recognition of gains from the disposal of the whole investment in SEGHPL. Excluding the disposal, performance was stable compared to Q4/2021 and increased compared to Q1/2021. Although, total electricity sales declined 23% QoQ, mainly from the hydro power plant in Lao PDR, due to seasonal factors. However, the lower electricity sales were offset by higher irradiation and the commercial operation (COD) of additional solar rooftop projects in Thailand as well as full quarter recognition of electricity generation from the Chiba 1 solar power plant in Japan. Additionally, selling and administrative expenses decreased this quarter, resulting in the performance in Q1/2022 was on par with the previous quarter. However, total electricity sales increased 14% YoY, mainly from the COD of Chiba 1 and the increase in electricity sales of hydropower plant in Lao PDR which benefited from higher rainfalls because of summer storms. However, the solar power plant, named Komagane which located in Japan has been commercialized on 29th March 2022 with power purchase agreement (PPA) of 25 MW. Regarding to this commercial operation, BCPG has 59.7 MW of total operated solar power plant in Japan.

Bio-Based Products Business Group saw its performance increased by 35% QoQ but declined 19% YoY. BBGI saw gross margin increase 41% QoQ from the increase in selling price of ethanol and B100 together with lower cost of goods sold of ethanol business. However, the raw materials, energy, and chemicals prices continue to increase over last year, resulting in gross profit declined 13% YoY. In addition, selling and administrative expenses increased 2% QoQ and 29% YoY, mainly from expenses related to the issuance and initial public offering (IPO) and listing on the Stock Exchange of Thailand in this quarter. **High Value Products (HVP) Business** generated revenue from the sale of pharmaceutical grade alcohol hand wash products as well as health supplements such as "ASTA-IMMU" and "ASTA-ViS" under the B nature+ brand through online channels. In order to reach more customers, the brand has expanded sale and distribution channels to 50 Inthanin coffee branches in Bangkok metropolitan areas as well as other leading stores such as Gourmet Market and COSCEN. However, trading on common shares of BBGI on the Stock Exchange of Thailand began on 17th March 2022 in accordance with BBGI's plan to raise fund through an initial public offering (IPO).

Natural Resource Business Group and New Business Development saw performance declined 12% QoQ but increased >1,000% YoY, mainly from OKEA's performance which continues to benefit from rising energy prices. However, due to lower sales volume of 15% QoQ as there was no sales from Ivar Assen and Gjøa underwent planned maintenance in this quarter, resulting in performance declined compared to Q4/2021. While performance increased



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>1,000% YoY, mainly from the company group's change in recording method of investment in OKEA to subsidiary which resulted in recording of performance with consolidated method since 1st July 2021. If only OKEA's performance is considered, EBITDA increased 401% YoY, mainly from the significant increase in average selling prices of crude oil and gas, especially natural gas price increased 367% YoY. In 2022, OKEA expects to maintain production range of 18,500 - 20,000 boepd including the increased ownership in Ivar Aasen field from 0.554% to 2.777% since 31st March 2022.

During Q2/2022, oil prices are expected to be continuously supported by extremely tight crude supply as the US and western countries sanctions. As a result, the supply of Russian oil is expected to decline significantly. In addition, crude oil prices will continue to be supported by demand recovery after many countries around the world relax travel measure. These factors are positive for the Refinery and Oil Trading Business and the Natural Resources Business and New Business Development Group. In Q2/2022, the operating GRM is expected to remain high level which will support the refinery to maintain high crude run level. Meanwhile, the Marketing Business Group is expected to be continuously pressured by rising cost of finished products in line with global market conditions. However, marketing margin is expected to improve as the cost management measures implemented by the company has already prepared. However, the company continues to closely monitor and assess the situation in order to optimize the business plan and to focus ensuring sufficient working capital for business operations.



Other importance events in this quarter

March

- BBGI, a subsidiary of company, completed its Initial Public Offering (“IPO”) by issuing 433.20 million new ordinary shares with an offering price of THB 10.50 per share (par value of THB 2.50 per share) in the amount of THB 4,549 million. As a result of IPO, the company’s ownership interest in BBGI was 42.02%. In addition, during the period, the company purchase additional ordinary shares of BBGI which resulted in the company’s ownership interest at 43.96% as of 31st March 2022.

- The company notified the Stock Exchange of Thailand in regard to the acquisition of Oam Suk Social Enterprise Co., Ltd. In 2022, Oam Suk Social Enterprise Co., Ltd., plans to raise its registered capital from THB 10 million to THB 126 million. The company invested an additional capital of approximately THB 62.5 million. Consequently, the company held 50.4% from 40%. The investment will be used as an investment in Sukpracha Housing Project together with the National Housing Authority, which aligns with the strategic direction and business goals in tandem with social stewardship of the company and Oam Suk Social Enterprise Co., Ltd.

April

- The 2022 Annual General Meeting of Shareholders approved the dividend payment for the second half of 2021 at THB 1.0 per share or approximately THB 1,357 million. The company has paid the dividend on 22nd April 2022. Combined with an interim dividend for the first half of the year, Bath 1.0 per share (paid out on 21st September 2021), the annual dividend payout amounts will be THB 2.0 per share.



Statement of Income

Consolidated Statement of Income (THB Million)	Q1/2022	Q4/2021	QoQ	Q1/2021	YoY
Revenue from sale of goods and rendering of services	69,055	66,762	3%	41,230	67%
Cost of sale of goods and rendering of services	(56,801)	(57,473)	-1%	(36,626)	55%
Gross Profit	12,254	9,289	32%	4,604	166%
Other income	350	225	56%	142	147%
Selling and administrative expenses	(1,669)	(2,465)	-32%	(1,443)	16%
Exploration and evaluation expenses	(346)	(344)	1%	(1)	>1,000%
Gain (loss) from derivatives	(1,320)	133	N/A	(429)	N/A
Gain (loss) on foreign exchange	60	(75)	N/A	43	N/A
Gain (loss) from sale of investment	2,031	(2)	N/A	(2)	N/A
Reversal of (loss) from impairment of assets	563	(1,757)	N/A	400	N/A
Profit from operating activities	11,923	5,003	138%	3,313	260%
Finance costs	(836)	(809)	3%	(464)	80%
Impairment gain and reversal of impairment loss (impairment loss) determined in accordance with TFRS 9	(384)	(29)	N/A	6	N/A
Share of profit of associates and joint ventures accounted for using equity method	148	159	-7%	194	-24%
Profit before tax expense	10,851	4,323	151%	3,049	256%
Tax expense	(5,347)	(1,756)	204%	(408)	>1,000%
Profit for the period	5,504	2,567	114%	2,642	108%
Owners of parent	4,356	1,756	148%	2,284	91%
Non-controlling interests	1,147	811		358	
Basic earnings per share (Baht)	3.12	1.20		1.59	

Performance in Q1/2022, the company and its subsidiaries recorded a profit for the period THB 5,504 million, of which the net profit attributable to the owners of the parent was THB 4,356 million, an increase of 148% QoQ and an increase of 91% YoY or basic earning per shares of THB 3.12. The company group has changed the record of OKEA performance from share of profit (loss) to consolidated financial statement method since 1st July 2021. The difference of items in consolidated statement of income compared YoY was significantly affected by the change as below.

Statement of Income

Items in consolidated statement of income (THB Million)	Difference of consolidated statement of income Q1/2022 compared to Q1/2021 (A)	OKEA's contribution in Q1/2022 (B)	% (B) / (A)
Revenue from sale of goods and rendering of services	27,825	5,661	20%
Cost of sale of goods and rendering of services	20,175	1,406	7%
Gross Profit	7,650	4,255	56%
Other income	208	119	57%
Selling and administrative expenses	226	108	48%
Exploration and evaluation expenses	345	346	100%
Loss from derivatives	891	122	N/A
Reversal of loss from impairment of assets	163	812	N/A
Finance costs	372	234	63%
Tax expense	4,940	4,098	83%

Factors which effected to consolidated statement of income as the following reasons:

- 1) Revenue from sale of goods and rendering of services THB 69,055 million, an increase of 3% QoQ mainly from petroleum related business. The company's revenue increased from the rise in average selling price per unit by 12% QoQ as global crude oil price increased. OKEA's sales revenue from crude and gas declined 9% QoQ, mainly from lower sales volume due to the planned maintenance of Gjøa field and no sales from Ivar Aasen.

As such, when compared to Q1/2021, revenue increased 67% YoY, an increase attributed to OKEA of 20%. Excluding sales from OKEA, the company group's recorded revenue increase in petroleum related business from both the increase in average selling price and total sales volume.

- 2) Gross profit THB 12,254 million, an increase of 32% QoQ, mainly from the company group realized Inventory Gain of THB 4,114 million in this quarter, an increase of THB 2,574 million compared to Q4/2021.

As such, when compared to Q1/2021, gross profit increase 166% YoY, where OKEA contributed 56% of the increase. The other businesses recorded the increase in gross profit, mainly from the company group's Inventory Gain increase of THB 1,640 million compared to Q1/2021. In addition, the refinery business's operating GRM increased THB 1,921 million, from higher crude run and significant increases in all crack spreads of all products.

- 3) Other income THB 350 million, an increase of 56% QoQ and 147% YoY, mainly from the company's recognition of assets received from termination of lease agreement.

Statement of Income

- 4) Selling and administrative expenses THB 1,669 million, decreased 32% QoQ as expenses during the 4th quarter of every year are generally higher. When compared to Q1/2021, selling and administrative expenses increased 16% YoY, an increase mainly attributed to OKEA of 48% while the remainder from increasing in employee expenses and transportation expenses.
- 5) Loss from derivatives were recorded at THB 1,320 million, mostly from the fair value measurement for crude and product oil price hedging contract according to accounting standards.
- 6) Gain from sale of investment THB 2,031 million, from BCPG's disposal of the whole investment in SEGHPL to Springhead Holdings Pte. Ltd
- 7) Reversal of impairment loss THB 563 million, mainly from OKEA's reversal of Yme's impairment as forward oil price improved significantly.
- 8) Impairment loss determined in accordance with TFRS 9 in the amount of THB 384 million, from BCPG's additional allowance for impairment of account receivables was booked to reflect the customer's credit risks.
- 9) Share of profit of associates and joint ventures accounted for using equity method THB 148 million, mainly from SEGHPL in the amount of THB 108 million which was recognized prior to the sale of investment.
- 10) Tax expense was recorded at THB 5,347 million, an increase of THB 3,591 million compared to Q4/2021 and an increase of THB 4,940 million compared to Q1/2021, mainly attributed to OKEA and tax expense from BCPG's disposal of the whole investment in SEGHPL.

Performance by Business Group

1) Refinery and Oil Trading Business Group

Crude Oil Price Situation

Crude Oil Price (\$/BBL)	Q1/2022			Q4/2021	QoQ	Q1/2021	YoY
	MAX	MIN	AVG	AVG	+/-	AVG	+/-
Dubai (DB)	127.81	76.85	96.21	78.27	17.95	60.21	36.00
Dated Brent (DTD)	137.64	78.99	102.23	79.76	22.47	61.12	41.11
DTD-DB	9.83	2.14	6.02	1.49	4.53	0.91	5.11

In Q1/2022, average Dubai crude price increased 17.95 \$/BBL compared to Q4/2021 supported by tight energy supply constraints concerns. Crude oil price rose from the on-going Russia-Ukraine conflict and the current situation has no consensus. As a result, many countries avoid buying Russian oil which caused worsening of tight supply. In addition, OPEC+ failed to meet increased production target of 400,000 barrels per days in January - March as many countries such as Nigeria, Angola and Libya struggled to increase production. In Q1/2022, average Dubai crude price increased 36.00 \$/BBL compared to Q1/2021. Price increase was driven by global economic recovery and expansion in oil demand after the progress of global COVID-19 vaccination and loosening of lockdown measures. Even though demand recovery was slowed by the spread of Omicron variant in the beginning of 2022. Due to mild symptoms and low death rate was not significantly impacted to oil demand.

Average Dated Brent and Dubai spread (DTD-DB) in Q1/2022 increase compared to Q4/2021 and Q1/2022, due to the US and other western countries sanctions of Russia because of Russia-Ukraine conflict. As a result, many refineries avoid buying Russian oil and increasingly turn to light crude from the North Sea.

Crack Spreads Situation

Crack Spreads (\$/BBL)	Q1/2022			Q4/2021	QoQ	Q1/2021	YoY
	MAX	MIN	AVG	AVG	+/-	AVG	+/-
UNL95-DB	25.96	13.18	17.82	15.44	2.38	7.19	10.62
IK-DB	33.83	7.88	16.53	10.21	6.32	3.22	13.30
GO-DB	48.52	12.00	19.87	11.45	8.42	4.70	15.16
LSFO-DB	21.11	8.19	13.97	8.69	5.28	8.81	5.16

Gasoline and Dubai crack spread (UNL95-DB) average in Q1/2022 increased compared to Q4/2021. The increase was supported by demand recovery in Asia as easing of travel restrictions while low supply in region. After the decrease in China's export as refined products export quota was limited and demand from the driving activities in the US remain high. Gasoline and Dubai crack spread (UNL95-DB) average in Q1/2022 increased when compared to Q1/2021 as demand recovery continued even with the COVID-19 outbreak but the global vaccination progress have led many countries to further loosen lockdown restrictions. As for **Jet (Kerosene) - Dubai crack spread (IK-DB)** average in Q1/2022 increased when compared to Q4/2021, due to the increase demand for kerosene for heating during the winter in North Asia which experienced colder than usual winter season resulting in lower export from North Asia refineries while inventory level remained low as refineries increase production yield of diesel due to supply tighten. In addition, Jet (Kerosene) - Dubai crack spread (IK-DB) average in Q1/2022 increased when compared to Q1/2021,

Performance by Business Group

due to aviation demand recovery as many countries open their borders to tourists. As for **Diesel and Dubai crack spread (GO-DB)** average in Q1/2022 increased when compared to Q4/2021. The increase was supported by regional supply tightening, due to lower Chinese export volume as export quota was limited. And, global supply tightening from Russia-Ukraine conflict as Russia is a major exporter of diesel to Europe while European demand recovery accelerated. Diesel and Dubai crack spread (GO - DB) average in Q1/2022 increased when compared to Q1/2021, from demand recovery in line with economic recovery as loosening of travel restrictions while regional diesel supply was low level. As for **Low Sulphur Fuel oil and Dubai crack spread (LSFO-DB)** average in Q1/2022 increased when compared to Q4/2021 and Q1/2021, supported by Russia-Ukraine conflict including sanctions from the US and western countries toward Russia. Resulting in much lower Russia fuel oil supply to the Asian market. In addition, fuel oil inventory in Singapore was lower than 5-year average.

Refinery and Oil Trading Business Group Performance

	Q1/2022	Q4/2021	QoQ	Q1/2021	YoY
EBITDA (THB Million)	5,021	3,084	63%	2,411	108%
Average Crude Run (KBD)	122.1	112.2	9%	64.9	88%
Utilization Rate (%)	102%	94%		54%	
Average FX (THB/USD)	33.23	33.55		30.44	
<i>(Unit: \$/BBL)</i>					
Operating GRM	6.84	6.79	0.05	3.24	3.60
Oil Hedging	(3.32)	(0.72)	-2.60	(0.04)	-3.28
Inventory Gain/(Loss) ^{1/}	9.77	3.91	5.86	12.26	-2.49
Total GRM	13.29	9.97	3.31	15.46	-2.17
Total Sales Volume in each market category of the Company (Million Liters) ^{2/}					
Marketing Business	1,408	1,379	2%	1,239	14%
Petroleum traders in accordance with section 7	189	211	-11%	144	31%
Export	421	510	-17%	228	85%
Total Sales Volume	2,018	2,101	-4%	1,611	25%

Note: 1/ Inventory Gain/(Loss) in the table included (Reversal of) losses on inventories devaluation (NRV)

2/ Sales volume excluded oil swaps between petroleum traders in accordance with section 7 and sales of crude oil

Performance for Q1/2022, the Refinery and Oil Trading Business Group recorded EBITDA of THB 5,021 million, an increase of THB 1,936 million when compared to Q4/2021, with factors affecting performance as follows:

1. As crack spreads of all products were high level during the quarter couple with expansion of UCO export volume, Bangchak refinery increased average crude run to 122.1 KBD or 102% utilization rate which was the highest on record.

2. During this quarter, the refinery's Total Gross Refinery Margin (Total GRM) was 13.29 \$/BBL, an increase of 3.31 \$/BBL when compared to the previous quarter, due to the following reasons:

- Operating GRM was recorded at 6.84 \$/BBL, an increase of 0.05 \$/BBL, due to the increase in crack spread of all products in line with global markets where demand was supported by the continued recovery in global



Performance by Business Group

oil demand. Especially, a significant increase in Diesel and Dubai crack spread (GO-DB) which is the largest product yield of the Bangchak refinery. However, due to receiving pressure from the increasing crude premium in this quarter, resulting in slightly higher Operating GRM than previous quarter.

- During this quarter, the refinery business recorded loss from crude and product oil price forward contract 3.32 \$/BBL, mainly due to fair value measurements in accordance with accounting standards. Whereas, the previous quarter recorded a loss of 0.72 \$/BBL
- This quarter the refinery business recorded Inventory Gain of THB 3,566 million (equivalent to 9.77 \$/BBL), an increase from Q4/2021 where Inventory Gain was THB 1,355 million (equivalent to 3.91 \$/BBL). The gain is attributed to the continue increase in crude oil price at higher rate from the rise in global oil demand recovery while tight supply condition due to Russia-Ukraine conflict.

3. BCPT performance improved compared to Q4/2021 due to increase in gross profit per unit of low sulfur fuel oil products group as demand from marine transportation picked up in line with global economic recovery. While supply conditions were tight as Russian fuel oil export to Asia declined significantly as a result of Russia-Ukraine conflict. In addition, fuel oil inventory in Singapore was lower than 5-year average, due to the tightness in supply. As a result, trade volume for crude oil and refined products declined 0.92 million barrels (-12%) compared to the previous quarter.

Performance for Q1/2022, the Refinery and Oil Trading Business Group recorded an increase in EBITDA of THB 2,609 million when compared to Q1/2021, with the following factors affecting performance:

1. Bangchak refinery's average crude run increased 88% YoY, due to during Q1/2021 the refinery underwent turnaround maintenance and during this quarter the refinery increased production capacity on the reasons stated above.
2. Total GRM was THB 4,851 million, an increase of THB 2,103 million when compared to Q1/2021, mainly due to the following reasons:
 - Operating GRM increased THB 1,921 million, due to the increase in crude run as well as a significant increase in crack spreads of all product from growth in global demand for finished products as the progress of COVID-19 vaccination. In addition, production yield of UCO increased to 3 times compared to Q1/2021 which helped to support GRM. However, the rise in crude premium pressured increase in GRM.
 - This quarter, the refinery recorded loss from crude and product oil price hedging contract THB 1,212 million (equivalent to 3.32 \$/BBL), whereas during Q1/2021 realized a loss of THB 7 million (equivalent to 0.04 \$/BBL).
 - The refinery business recorded an Inventory Gain of THB 3,566 million (equivalent to 9.77 \$/BBL), due to this quarter the crude oil price increase at higher rate compared to Q1/2021. As a result, this quarter Inventory Gain was increase of THB 1,387 million compared to Q1/2021.
3. BCPT recorded an increase in trade transactions of crude oil and finished product by 1.01 million barrels (+17%) compared to Q1/2021, with mainly attributed from sales of crude oil to Bangchak refinery that was able to maintain

Performance by Business Group

high production throughout Q1/2022. In addition, gross profit increase mainly from transactions of low sulfur fuel oil products group due to the reasons stated above.

2) Marketing Business Group

Marketing Business Performance	Q1/2022	Q4/2021	QoQ	Q1/2021	YoY
EBITDA (THB Million)	1,118	255	338%	970	15%
Net Marketing Margin (Baht / Liter)	0.59	0.54	9%	0.75	-22%
Sales Volume (Million Liters)					
Retail	1,122	1,142	-2%	1,054	6%
Industrial	286	237	21%	186	54%
Total	1,408	1,379	2%	1,239	14%
Sales volume in each product category (Million Liters)					
LPG	25	28	-11%	17	46%
Gasoline	5	4	25%	8	-33%
Gasohol	388	412	-6%	383	1%
Jet Fuel	88	60	47%	35	149%
Diesel	849	829	2%	748	14%
Fuel Oil and Others	53	46	15%	48	9%
Total	1,408	1,379	2%	1,239	14%

Note: Net Marketing Margin of Bangchak only (excluding Inventory Gain/(Loss) and NRV)

The Q1/2022 performance of the Marketing Business Group recorded EBITDA of THB 1,118 million, an increase of THB 863 million compared to Q4/2021, with the following factors affecting performance:

1. Total sale volume of the Marketing Business Group increased 2% QoQ, attributed to an increase in sale volume of industrial channel by 21% QoQ. This was due to the high percentage vaccinated population in many countries resulting in more borders openings for tourists as well as domestic and international flights which pushed up jet fuel sale volume 47% QoQ. Retail sales volume slightly declined as consumers cutback on driving as oil prices increase and due to a reduction from high season in the previous quarter.

2. Net marketing margin per unit increased by 9% QoQ, mainly from net marketing margin of the industrial channel which rose in line with higher lubricant sales volume portion which has higher marketing margin than other products. In addition, the company managed sales through selective products and distribution channels with appropriate marketing margin. Whereas net marketing margin for the retail channel was pressured by the increasing cost of finished products in line with the global situation. In addition, Bangchak cooperates with the government's policy to freeze domestic diesel retail prices below 30 baht per liter to reduce consumers' cost of living. As a result, domestic retail price does not reflect the increase in cost of finished products which moves in line with the global market. However, the company implemented the cost and expense management policy and sold high marketing margin products. As a result, the net market margin of the retail channel was stable compared to the previous quarter. This quarter the company recorded increase Inventory Gain as crude oil price rose at a higher rate than previous quarter.

Performance by Business Group

3. Bangchak continues to expand the number of service stations, with goals to develop services stations into destinations that can fulfill customer's wide-ranging needs and desires under the "Greenovative Destination" and Unique Design concepts. This quarter the company opened 15 new service stations. At the end of Q1/2022, there are 1,292 Bangchak service stations with 49 Unique Design Service Stations. Due to the continual expansion and development of service stations, and the company's policy to freeze the retail price of diesel in accordance with government's policy, together with delaying the increase in other finished products to reduce the consumers' cost of living. As a result, the company's cumulative retail sales volume market share during January - March was 16.4% (data from the Department of Energy Business).

4. Marketing Business Group continues to develop and expand its non-oil business both inside and outside service stations. This quarter 40 new Inthanin coffee shops were opened. At the end of Q1/2022, there are 853 Inthanin coffee branches. Expansion will focus on pick up store model to increase the flexibility and accelerate branch expansion as well as reach more customers in communities and to respond to customer's behavior shift to takeaway service in the new normal. In addition, Inthanin coffee opened branches in our 3 partner's stores: Mini Big C, B-Quik and Tops daily. During this quarter, sales through online delivery continues to grow as it fits with customer's changing behavior. As a result, the number of cups sold per day through online delivery grew by 13% QoQ. In addition, Inthanin coffee's products and services development helped to increase coffee sales to a record new high in March 2022.

5. Selling and administrative expense declined compared to the previous quarter which was normally high due to employee expense, marketing promotions and service station maintenance costs.

Performance comparison between Q1/2022 and Q1/2021, the Marketing Business Group recorded EBITDA increase of THB 148 million, with factors affecting operations as follow:

1. Total sale volume of the Marketing Business Group increased by 14% YoY where retail and industrial sales increase by 6% and 54% YoY, respectively. The increase in sale volume was due to economic recovery as a high percentage of population have received COVID-19 vaccine. Also, Omicron variant is less severe than previous variants which has led consumers to resume living in the new normal. In addition, the aviation sector begun to recovery as the country opens for tourists resulting in increases for both domestic and international flight. Compare to Q1/2021, jet fuel sales grew by 149% YoY. As during Q1/2021, the government implemented strict lockdown measures to limit outbreaks such as lockdown in special strictly controlled areas and limiting movement in some areas. In addition, the population has not been vaccinated.

2. Net marketing margin per unit decline 22% YoY, due to the impact of the government policy to freeze domestic diesel retail price to below 30 baht per liter in Q1/2022. As a result, the retail price was not in line with the increase in finished products costs. However, Inventory Gain increased due to the higher increase in oil price compared to Q1/2021.

3. Bangchak's cumulative retail sales volume market share during January - March 2022 was 16.4% while cumulative retail sales volume market share during January - March 2021 was 15.9% (data from the Department of Energy Business). From the end of Q1/2021 to the end of this quarter, there were 61 new service stations and 185 new Inthanin coffee shops.



Performance by Business Group

3) Power Plant Business Group

Power Plant Business Performance (THB Million)	Q4/2021	Q3/2021	QoQ	Q4/2020	YoY
EBITDA	3,075	1,038	196%	979	214%
Revenue from sale and rendering of services	1,158	1,232	-6%	1,047	11%
Share of profit from	142	152	-7%	140	1%
Wind Power Plant	34	5	537%	19	76%
Geothermal Power Plant	108	147	-26%	121	-11%
Electricity Sales (GWh)					
Solar Power Plant - Thailand (172.5 MW)	84.23	80.09	5%	81.58	3%
Wind Power Plant - Thailand (9.0 MW)	3.22	3.31	-3%	3.69	-13%
Solar Power Plant - Japan (59.7 MW)	14.90	8.63	73%	4.02	271%
Hydro Power Plant - Lao PDR (114.0 MW)	76.91	142.19	-46%	68.12	13%
Total Electricity Sales	179.26	234.22	-23%	157.41	14%

Performance for Q1/2022, the Power Plant Business Group recorded EBITDA of THB 3,075 million, an increase of THB 2,037 million compared to Q4/2021 mainly from BCPG's profit from the disposal of the whole investment in Star Energy Group Holdings Pte. Ltd. ("SEGHPL"), which invests in geothermal projects in Indonesia, in the amount of THB 2,031 million. Excluding the disposal of SEGHPL, performance was stable compared to Q4/2021 with the following factors affecting operations:

1. Solar Power Plant projects in Thailand recorded an increase in total electricity sales by 5% QoQ, due to higher average irradiation hours coupled with the commencement of commercial operation (COD) of additional solar rooftop projects.

2. Wind Power Plant project in Thailand, recorded a decrease in total electricity sales by 3% QoQ, from the decline of average wind speed compared to the previous quarter. However, the revenue was increased, due to higher Ft rate which compensated the drop of electricity generation.

3. Solar Power Plant projects in Japan recorded an increase in total electricity sales by 73% QoQ, mainly from full quarter recognition of electricity production from the Chiba 1 power plant (PPA 20 MW) which COD in November 2021.

4. Hydro Power Plant project in Lao PDR recorded a decrease in total electricity sales by 46% QoQ, due to seasonal factors, which is normally out-of-season in quarter 1.

5. Recognized share of profits from investments in associated companies of THB 142 million, a decrease of THB 10 million compared to the previous quarter, with details as follow:

- Share of profit from Wind Power Plant business in the Philippines was recorded THB 34 million, an increased from the previous quarter by THB 29 million, due to the high season of wind power plant in the Philippines. In addition, the project realized higher tariff rate.

Performance by Business Group

- Share of profit from Geothermal Power Plant business in Indonesia was recorded THB 108 million, declined THB 39 million compared to the previous quarter because in Q1/2022 the company disposed the whole investment in SEGHPL and the transaction has been completed on 3rd March 2022. As a result, only 2 months of share of profits was received (January - February 2022).
6. Selling and administrative expenses decreased from the previous quarter due to the decrease in consulting expenses.

Performance comparison between Q1/2022 and Q1/2021, the Power Plant Business Group recorded EBITDA increase of THB 2,096 million, mainly from the profit from the disposal of investment in SEGHPL. Excluding the disposal, performance improved compared to Q1/2021, with the following factors affecting operations:

1. Solar Power Plant projects in Thailand recorded an increase in total electricity sales by 3% YoY, from the COD of additional solar rooftop projects during the past year. In addition, the COD of such project and higher Ft rate (ft) helped to lessen the impact of the adder expiration of 8 MW solar project in August 2021 and the decline in average irradiation hours.

2. Wind Power Plant project in Thailand, recorded a decrease in total electricity sales by 13% YoY, mainly from the decline in average wind speed at the projects compared to the same period last year.

3. Solar Power Plant projects in Japan recorded an increase in total electricity sales by 271% YoY, mainly from the COD of Chiba 1 power plant.

4. Hydro Power Plant projects in Lao PDR recorded an increase in total electricity sales by 13% YoY, from higher rainfall due to summer thunderstorm during Q1/2022.

5. Recognized share of profits from investments in associated companies at a similar level to the same period last year, with details as follow:

- Share of profit from Wind Power Plant business in the Philippines increased THB 15 million, from higher tariff rate; however, there was no such transaction booked in Q1/2021.
- Share of profit from Geothermal Power Plant business in Indonesia declined THB 13 million, due to the disposal of investment in SEGHPL (as mentioned earlier).

Performance by Business Group

4) Bio-Based Product Business Group

Bio-Based Products Business Performance (THB Million)	Q1/2022	Q4/2021	QoQ	Q1/2021	YoY
EBITDA	343	255	34%	422	-19%
BBGI Performance					
Sales Revenue	3,740	4,001	-7%	3,398	10%
Gross Profit	320	227	41%	368	-13%
Selling and Administrative expenses	(85)	(83)	2%	(66)	29%

As for the performance of the Bio-Based Product Business Group in Q1/2022, total EBITDA was recorded THB 343 million, an increase of THB 88 million compared to Q4/2021 and a decrease of THB 78 million compared to Q1/2021, with the following factors affecting operations:

1. Sales Revenue was THB 3,740 million, a decrease of 7% QoQ while an increase of 10% YoY.

- Revenue from production and distribution of ethanol business was THB 987 million, decreased of 24% QoQ, due to a holiday season in Q4/2021 resulting in a demand for ethanol in gasohol production is at a high level. Whereas, ethanol sale volume increased 13% YoY, causing revenue from the ethanol production and distribution business to increase 13% YoY.
- Revenue from production and distribution of biodiesel (B100) business was THB 2,752 million, increased of 2% QoQ and 9% YoY in accordance with the price of domestic crude palm oil increased due to the delay in palm production and the export of crude palm oil causing the country's crude palm oil inventories maintained at low level. Consequently, the price of B100 increased accordingly. Although, the Committee on Energy Policy Administration (CEPA) has announced a reduction in the proportion of B100 blend from 7% (B7) to 5% (B5) from 5th February 2022 to 30th June 2022, due to a high price of both world oil price and B100 price. Consequently, the sales volume of B100 products decreased QoQ and YoY.

2. Gross profit was THB 320 million, an increase of 41% QoQ, due to the higher selling price of ethanol and B100 but lower cost of goods sold of ethanol business. However, raw material costs, utility, and chemical cost has continued to increase resulting in gross profit decreased 13% YoY.

3. Selling and administrative expenses was THB 85 million, an increase of 2% QoQ and 29% YoY, mainly from expenses of issuance of initial public offering (IPO) and listing on the Stock Exchange of Thailand in Q1/2022.

Performance by Business Group

5) Natural Resources Business and New Business Development Group

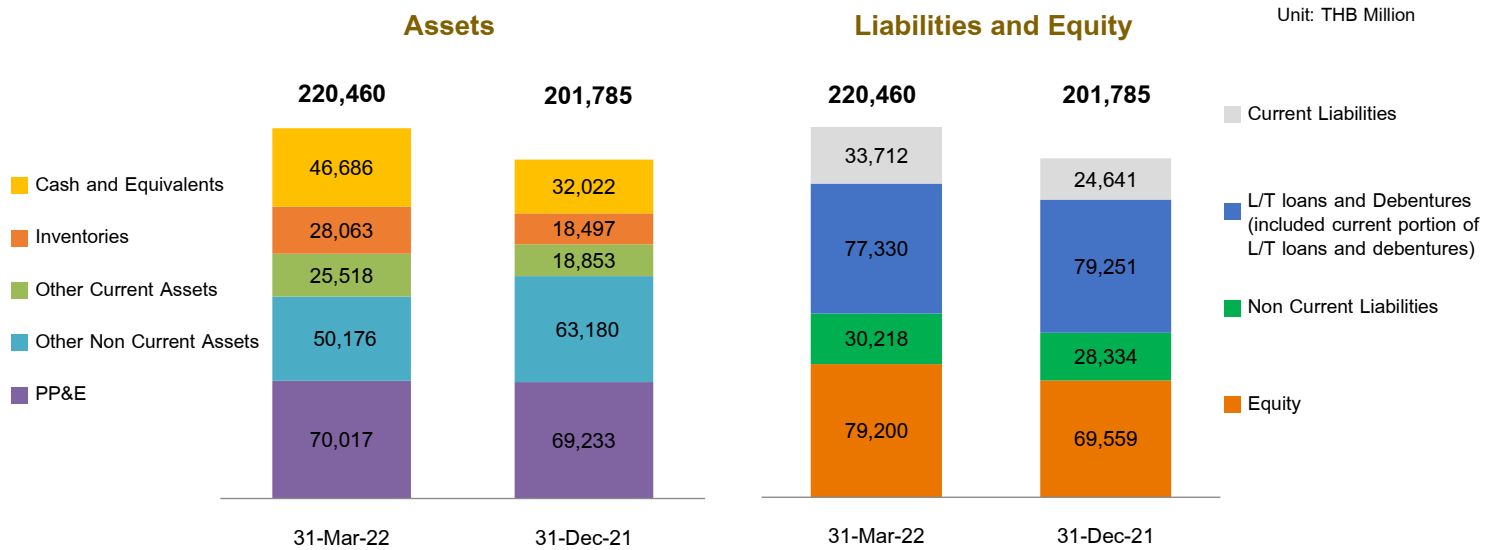
Natural Resources Business and New Business Development Group Performance	Q1/2022	Q4/2021	QoQ	Q1/2021	YoY
EBITDA* (THB Million)	4,251	4,832	-12%	31	>1,000%
Share of profit OKEA* (THB Million)	N/A	N/A	N/A	38	N/A
OKEA Performance					
EBITDA (THB Million)	4,276	4,827	-11%	854	401%
Revenue from crude oil and gas sales (THB Million)	5,661	6,247	-9%	1,908	197%
Production volume - Net to OKEA (Kboepd)	14.91	16.04	-7%	16.56	-10%
Sales volume - Net to OKEA (Kboepd)	15.44	18.10	-15%	15.20	2%
Realized liquids price (USD/BBL)	89.60	78.00	15%	49.50	81%
Realized gas price (USD/MMBTU)	31.73	31.44	1%	6.80	367%

* Natural Resources Business Group changed the recording of OKEA's performance from share of profit (loss) to consolidated method since Q3/2021.

Performance of the Natural Resources Business and New Business Development Group in Q1/2022 recorded an EBITDA of THB 4,251 million, a decline of THB 580 million compared to Q4/2021, mainly attributed to lower performance from OKEA. Although OKEA benefited from the increase in average selling price of oil and gas in line with global market conditions but sales volume declined 15% QoQ as there was no sales from Ivar Assen field. Also, Gjøa field underwent planned maintenance, resulting in lower revenue from sales of crude oil and gas.

In Q1/2022 Natural Resources Business and New Business Development Group's EBITDA rose THB 4,220 million when compared to Q1/2021, mainly from the company group's change in recording method of investment in OKEA from associated company to subsidiary resulting in recognition of operating results through consolidated financial statements from 1st July 2021. As a result, Natural Resources Business and New Business Development Group's EBITDA for Q1/2022 increased significantly. However, if only OKEA's performance is considered, EBITDA increased 401% YoY, mainly from the significant increase in the average selling price of oil and gas. Especially, the price of natural gas increased 367% YoY, due to tight supply conditions from Russia-Ukraine tensions as well as demand growth from loosening lockdown restrictions in many countries.

Statement of Financial Position



Assets

As of 31st March 2022, the company and its subsidiaries had Total Assets in the amount of THB 220,460 million, an increase of THB 18,675 million when compared to 31st December 2021, changes in assets are as follow:

- Cash and cash equivalents increased by THB 14,664 million, Details are stated in Analysis of the Cash Flow Statement.
- Inventories increased by THB 9,566 million, mainly from the company as the increase in crude and product volume and cost of oil inventory per unit.
- Other current assets increased THB 6,665 million mostly from:
 - Trade and other current receivables increased THB 2,978 million, mainly due to an increase in trade account receivable of the company and BCPT as average selling price of refined oil product increased. Also, other current receivables increased, mainly attributed to the company's receivable from Revenue Department related to VAT.
 - Oil fuel fund subsidies receivable increase THB 2,314 million, mainly from the government's increase in diesel subsidies.
 - Short-term investments increased THB 1,454 million, due to the deposit of proceed received from BBGI's IPO into fixed deposit account.
- Other non-current assets main items consist of right of use assets, intangible assets and indemnification assets. Other non-current assets decreased by THB 13,004 million, mainly from investments in associates and joint ventures decreased by THB 12,157 million from BCPG's disposal of the whole investment in SEGHPL to Springhead Holdings Pte. Ltd.

Statement of Financial Position

5. Property, plant and equipment net increased by THB 784 million from (1) investment during the period of THB 1,502 million mainly from (1.1) Power Plant Business invested in solar power business in Japan and Thailand by THB 674 million (1.2) OKEA invested in Draugen and Yme field, and increasing stake in Ivar Aasen field of THB 1,136 million (1.3) Bio-Based Product Business invested in construct ethanol and biogas plants of THB 97 million (2) reversal of asset impairment of THB 761 million (3) effect of financial statement translation resulting in decrease in asset value of THB 393 million; and (4) depreciation for the period was THB 1,623 million.

Liabilities

As of 31st March 2022, the company and its subsidiaries had Total Liabilities THB 141,260 million, an increase of THB 9,034 million, changes in liabilities are as follow:

1. Current liabilities (excluded current portion of long-term loans and debentures) increased by THB 9,070 million, mainly due to the company and BCPT's trade accounts payable from high purchase volume and average purchase price, and OKEA's income tax payable items.
2. Long-term loans and debentures (included current portion of long-term loans and debentures) decreased by THB 1,920 million from (1) OKEA's bond buy-back of THB 1,064 million (2) loan repayment of THB 767 million (3) additional loan drawdown of THB 323 million and (4) impact of exchange rate resulting in lower liability of THB 422 million.
3. Other non-current liabilities increased by THB 1,885 million, mainly from the deferred tax liabilities of OKEA and lease liabilities of BFPL.

Equity

As of 31st March 2022, the company and its subsidiaries had Total Equity in the amount of THB 79,200 million, an increase of THB 9,640 million. Mainly from (1) the net profit for the period of THB 5,504 million (2) changes in ownership interests in subsidiary of THB 4,093 million. Total equity attributable to owners of the parent was THB 58,385 million, and book value per share (exclude perpetual subordinated debentures) was THB 35.68.

Statement of Cash Flows

As of 31st March 2022, the company and its subsidiaries had Cash and cash equivalents in the amount of THB 46,686 million, details are as follow:

Cash Flows (THB Million)	3M2022	3M2021
Net cash received from operating activities	2,985	2,090
Net cash received (used in) investing activities	10,595	(4,344)
Net cash received (used in) financing activities	839	(1,319)
Effect of exchange rate changes on cash and cash equivalents	245	253
Net increase (decrease) in cash and cash equivalents	14,664	(3,321)
Cash and cash equivalents as of 1 st January	32,022	21,651
Cash and cash equivalents as of 31st March	46,686	18,330

Details of each activity are as follows:

Net cash received from operating activities in the amount of THB 2,985 million which was derived from (1) profit for the period by THB 5,504 million (2) adjustments the net gain transactions by THB 7,344, in which the main activities that affected (2.1) an increase in cash flow items were tax expense by THB 5,347 million, depreciation and amortization by THB 2,267 million, unrealized loss from derivatives by THB 1,060 million, finance costs by THB 836 million (2.2) a decrease in cash flow items were gain from sale of investment in associated company by THB 2,031 million (3) change in net operating assets and operating liabilities resulted in cash flow declining by THB 9,083 million, and (4) taxes paid by THB 779 million.

Net cash received from investing activities of THB 10,595 million, mainly from cash received from sales investment associates of THB 14,551 million while, cash paid for (1) property, plant and equipment in the amount of THB 1,580 million which details are aforementioned in assets section and (2) short-term investments of THB 1,451 million.

Net cash received from financing activities of THB 839 million, mostly from cash received from subsidiaries' share capital by THB 3,991 million while cash paid for (1) repayment of short-term and long-term loans from financial institutions by THB 1,483 million (2) redemption of debentures by THB 1,080 million and (3) finance costs by THB 476 million.

Financial Ratios

	Q1/2022	Q4/2021	Q1/2021
Profitability Ratios (%)			
Gross Profit Margin	17.75%	13.91%	11.17%
EBITDA Margin	19.86%	13.90%	11.49%
Net Profit Margin	7.97%	3.84%	6.41%
Return on Equity (ROE)	17.96%	15.27%	-0.05%
Efficiency Ratio (%)			
Return on Assets (ROA)	13.45%	9.51%	2.44%

	31 Mar 2022	31 Dec 2021	31 Mar 2021
Liquidity Ratios (Times)			
Current Ratio	2.19	2.03	2.12
Quick Ratio	1.46	1.40	1.35
AR Turnover	23.67	26.29	18.92
Collection Period (Days)	15	14	19
AP Turnover	16.71	18.61	20.38
Payment Period (Days)	22	20	18
Leverage Ratios (Times)			
Debt to Equity	1.78	1.90	1.39
Interest bearing Debt to Equity	1.11	1.28	1.13
Net Interest-bearing Debt to Equity	0.49	0.81	0.79
Release of Debenture Ratio (Times)			
Net Debt to Equity	0.45	0.70	0.64

Financial Ratios Calculation

Profitability Ratios

- Gross Profit Margin (%) = $\text{Gross Profit} / \text{Revenue from sale of goods and rendering of services}$
- EBITDA Margin (%) = $\text{EBITDA} / \text{Revenue from sale of goods and rendering of services}$
- Net Profit Margin (%) = $\text{Profit attributable to owners of the parent} / \text{Revenue from sale of goods and rendering of services}$
- Return on Equity (%) = $\text{Profit attributable to owners of the parent (Yearly)} / \text{Total Equity attributable to owners of the parent (Average)}$

Efficiency Ratio (%)

- Return on Assets (%) = $\text{EBIT (Yearly)} / \text{Total Asset (Average)}$

Liquidity Ratios (Times)

- Current Ratio (Times) = $\text{Current Asset} / \text{Current Liabilities}$
- Quick Ratio (Times) = $(\text{Cash \& Equivalents} + \text{Short-term investments} + \text{Trade and other Account Receivable}) / \text{Current Liabilities}$



Financial Ratios

- Accounts Receivable Turnover (Times) = $\frac{\text{Revenue from sale of goods and rendering of services}}{\text{Accounts receivable before doubtful debt (Average)}}$
- Collection Period (Days) = $365 / \text{Account Receivable Turnover}$
- Accounts Payable Turnover (Times) = $\frac{\text{Cost of sale of goods and rendering of services}}{\text{Accounts Payable (Average)}}$
- Payment Period (Days) = $365 / \text{Account Payable Turnover}$

Financial Policy Ratios (Times)

- Debt to Equity (Times) = $\frac{\text{Total Debt}}{\text{Equity}}$
- Interest Bearing Debt to Equity (Times) = $\frac{\text{Interest bearing Debt}}{\text{Total equity}}$
- Net Interest Bearing Debt to Equity (Times) = $\frac{(\text{Interest bearing Debt} - \text{Cash and cash equivalents} - \text{Current investments})}{\text{Total equity}}$

Issuance of Debenture Ratio (Times)

- Net Interest Bearing Debt to Net Equity (Times)= $\frac{(\text{Interest bearing Debt} - \text{Cash and cash equivalents} - \text{Current investments})}{(\text{Total equity} - \text{Unrealised gain/loss from derivatives} - \text{Unrealised gain/loss on foreign exchange} - \text{Inventory gain/loss})}$

Note:

1/ Average Total Equity attributable to owners of the parent

- Yearly = $\frac{(\text{Total Equity attributable to owners of the parent of the year before} + \text{Total Equity attributable to owners of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Total Equity attributable to owners of the parent of the quarter of the year before} + \text{Total Equity attributable to owners of the parent of the quarter this year})}{2}$

2/ Average Total Assets

- Yearly = $\frac{(\text{Total Assets of the year before} + \text{Total Assets of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Total Assets of the quarter of the year before} + \text{Total Assets of the quarter this year})}{2}$

3/ The numerator of ROE is defined as the Profit attributable to owners of the parent and have to be annualized.

4/ The numerator of ROA is defined as EBIT and have to be annualized.

5/ Average Accounts Receivable before doubtful debt

- Yearly = $\frac{(\text{Accounts Receivable before doubtful debt of the year before} + \text{Accounts Receivable before doubtful debt of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Accounts Receivable before doubtful debt of the quarter of the year before} + \text{Accounts Receivable before doubtful debt of the quarter this year})}{2}$

6/ Average Accounts payable

- Yearly = $\frac{(\text{Accounts payable of the year before} + \text{Accounts payable of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Accounts payable of the quarter of the year before} + \text{Accounts payable of the quarter this year})}{2}$

7/ Interest Bearing Debt defined as Short-term loans + Long-term loans (including current portion of long-term loans) + Debentures (including current portion of long-term debentures) + Lease liabilities (including current portion of lease liabilities)

Economic Outlook

The global economy is expected to experience a slowdown in Q2/2022 due to Russia-Ukraine conflict, COVID-19 outbreaks in some countries, supply chain disruption, and inflations in both developed and emerging economies. The United Nations forecasts a 4% growth in global GDP in 2022 and slowdown from 5.5% growth in 2021. In addition, the US inflation is expected to remain high throughout 2022 will put pressure on the Fed to signal a more hawkish stance toward faster and higher rate rise.

In Q2/2022, the Thai economy is expected to slow down in line with global economic conditions. Key factor contributing to economic slowdown is inflation which rose 5.73% in March 2022, due to Russia-Ukraine conflict which has not been resolved and is expected to be prolonged resulting in higher prices for commodities, especially crude oil. Businesses experienced higher and more volatile input prices while having limited ability to pass on cost increase to customers. In addition, exports and imports could slow down from worsening supply chain disruption and temporary logistics disruptions. Recovery in the tourism sector is expected to be delayed due to the COVID-19 outbreak in China which is the largest market for inbound tourism. The Bank of Thailand cuts 2022 GDP growth projection from 3.4% to 3.2%

Crude Oil Price Outlook

The International Energy Agency (IEA) expects global crude oil supply to reach 99.63 million barrels per day in 2022, a decline of 0.81 million barrels per day from 2021, due to demand destruction from impact of high crude oil prices. The IEA expects global oil market to move toward surplus as supply from OPEC+ and the US increase in the second half of the year.

Average Dubai crude oil price is expected to move between 90 - 100 \$/BBL in Q2/2022. Price will be supported by extreme tightness in crude oil supply as a result of the US and other western countries' sanctions on Russia. The supply of Russian oil is expected to decline significantly while demand recovery remains strong as many countries around the world relax travel restrictions which will support crude oil price at an elevated level.

Average Dated Brent and Dubai spread (DTD - DB) is expected around 3.5-5.5 \$/BBL in Q2/2022, due to increase demand for light crude as countries avoid importing crude oil from Russia with sanction measures being considered as the US, the European Union, and G7 countries reached an agreement to reduce energy dependency from Russia. In addition, light crude demand is likely to increase which supported by improved COVID-19 situation around the world. This resulted in aviation demand recovery and the resumption of international flights.

As for the Gross Refinery Margin (GRM) in Q2/2022, it is expected that Dubai crude cracking margin in Singapore is continuously increase from Q1/2022, due to recovery in demand of refined products in Asia as both domestic and international travel restrictions are lifted and demand for air travel recover. In addition, during Q1/2022 global inventory level of middle distillates products is below 5-year average which is a factor that help to keep Diesel and Jet (Kerosene) prices to remain in elevated levels.