

Bangchak Corporation Plc.

Management Discussion & Analysis of Business Operation

For the 3rd quarter period ended September 30th, 2022



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Executive Summary

Summary of the company and its subsidiaries' operating result for the 3rd quarter period ended 30th September 2022

Unit: THB Million	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
Total Revenue	74,767	83,796	-11%	47,649	57%	227,619	132,655	72%
Accounting EBITDA	11,487	12,572	-9%	7,531	53%	37,773	16,537	128%
<i>Refinery and Trading Business^{1/}</i>	4,131	6,506	-37%	1,891	118%	15,658	6,279	149%
<i>Marketing Business^{2/}</i>	203	1,468	-86%	562	-64%	2,789	2,359	18%
<i>Power Plant Business^{3/}</i>	1,209	1,112	9%	1,179	3%	5,396	3,155	71%
<i>Bio-Based Products Business^{4/}</i>	35	93	-63%	890	-96%	471	1,607	-71%
<i>Natural Resources Business and New Business Development^{5/}</i>	6,064	3,541	71%	3,112	95%	13,856	3,418	305%
<i>Others</i>	(155)	(148)	-4%	(102)	-52%	(397)	(281)	-41%
Profit attributable to owners of the Company	2,470	5,276	-53%	1,820	36%	12,103	5,868	106%
Earnings per share (Baht)	1.73	3.79		1.25		8.64	4.05	

Note: 1/ EBITDA from Refinery and Trading Business of the company (BCP), BCP Trading Pte. Ltd. (BCPT), Bangchak Fuel Pipeline and Logistic Co.,Ltd. (BFPL), BSGF Co.,Ltd (BSGF) 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 and New Business Development of OKEA ASA (OKEA), BTSG Co., Ltd. (BTSG), BCP Innovation Pte. Ltd. (BCPI) and others

As for performance of the first 9 months of 2022, Bangchak Corporation Plc. (“the company”) and its subsidiaries generated revenues from sales and rendering of services of THB 227,619 million (+72% YoY), EBITDA of THB 37,773 million (+128% YoY) and **net profit attributable to owners of parent at THB 12,103 million** (+106% YoY), representing **earnings per share of THB 8.64**. The increase in performance was partially supported by the change in accounting treatment regarding OKEA consolidation since Q3/2021. With the rest of increase coming from each business group as follows.

Refinery Business Group was supported by a significant increase in global crude oil and refined oil prices market as demand recovers from the loosening of COVID-19 restrictions which improved economic activity and travel recovery. Meanwhile, oil supply remains tight due to ongoing conflict between Russia and Ukraine. However, crude oil prices began to decline in Q3/2022 as concerns about global economic is likely to enter recession and inflation remains continuously a problem. However, crude price was supported by OPEC+’s decision in late September to cut production for supporting crude prices. The average Dubai crude oil price in 9M/2022 was 100.29 \$/BBL, an increase of 33.93 \$/BBL from 9M/2021 (+51% YoY), resulting in the Bangchak Group's inventory gain of THB 5,754 million, which is higher than 9M/2021.

In addition, crack spreads of all products increased significantly in line with global market price mechanism that varies according to supply and demand. As a result, the refinery business had a significant increase in operating GRM which also a supporting factor in 9M/2022 for Bangchak refinery to maintain high average crude run at 122.6 KBD.



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However, higher crack spread also caused losses from crude and oil products forward contracts to increase compared to 9M/2021, mainly due to fair value measurements in accordance with accounting standards.

Marketing Business Group was supported by increased in total sales volume due to the improvement in COVID-19 situation and higher total net marketing margin per unit. This was because during Q2/2022, the government increased the ceiling of retail diesel prices to be more in line with the global oil price situation. Also, the average finished product price in Q3/2022 adjusted downward in line with the global situation. As a result, the retail prices at service stations better reflected the cost of finished products. In addition, demand for diesel fuel in power plants and industrial plants to replace the high price of liquefied natural gas (LNG), resulting in both the sales volume and marketing margin of the industrial market increased.

Power Plant Business Group recognized an increase in revenue from sales of electricity, mainly from the COD of 3 solar power plants in Japan with total PPA of 65 MW and hydropower project in Lao PDR receiving positive factor from US dollar appreciated against Thai baht. In addition, the Business Group recognized profit from the disposal of all investment in Star Energy Group Holdings Pte. Ltd. ("SEGHPL") of THB 2,031 million.

Bio-Based Products Business Group saw a decline in B100 sale volume due to the resolution issued by the Committee of Energy Policy Administration (CEPA) which reduced the blending mandate for B100 in high speed diesel from B10 in 9M/2021 to B5 in 9M/2022. In addition, ethanol sales volume also declined due to management of sale plan. Furthermore, during Q3/2021 recognized gains from fair value adjustment of investments.

Natural Resource Business Group and New Business Development supported by OKEA's revenue from crude oil and gas sales which was approximately 2 times of 9M/2021 due to the sharp increase in energy prices, especially gas price which rose by as much as 153% YoY. However, the performance was affected by the impairment of Yme field was about THB 220 million (a net after tax and in the proportion of the group's equity share).

Bangchak Group's performance continues to recover from COVID-19 crisis. In addition, financial status also improved significantly. As a result, on 27th October 2022, TRIS Rating Co., Ltd. upgraded the company's credit rating to "A" from "A-". BCPG, a main subsidiary, and BBGI, a strategically important subsidiary, were upgraded to "A" (from A-) and "A-" (from BBB+), respectively. As for the outlooks for all companies remains Stable.

Financial Position as of 30th September 2022, the company group had cash and cash equivalents of THB 33,288 million and **total assets of THB 227,863 million**, an increase of THB 26,078 million when compared to 31st December 2021, mainly due to inventories which increased in line with the rise in price and volume of crude oil and finished products, and the increase in Short-term investments. In additional, other current receivable increased due to receivable from Revenue Department related to VAT. The oil fuel fund subsidies receivable increased from the government policy while investments in associate companies decreased due to the sale of investment in SEGHPL. The company group had **total liabilities of THB 144,435 million**, an increase of THB 12,209 million, mainly from an increase in trade accounts payable and derivative liabilities. The increase in trade accounts payable was due to crude oil and finished products which experienced both price and purchase volume increase. **Total equity of THB 83,427 million**, an increase of THB 13,868 million, mainly from net profit during 9M/2022 in the amount of THB 12,103 million.



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As for performance in Q3/2022, the company and its subsidiaries generated revenues from sales and rendering of services in amount of THB 74,767 million (-11% QoQ) and EBITDA of THB 11,487 million (-9% QoQ), a decrease from the previous quarter. The decline in performance was due to the drop in global prices of crude oil and finished products which resulted in inventory loss of THB 2,698 million. In addition, the **Refinery and Trading Business Group's** operating GRM declined in line with crack spread and crude premium increased. The **Marketing Business Group's** performance was impacted by inventory loss even though the marketing margin increased, resulting in a decline in overall performance. The **Natural Resources Business Group** helped to lessen the impacts stated above. This quarter, OKEA's revenue from sale of crude oil and gas hit all time high as gas price increased as much as 136% QoQ. As a result, this quarter **net profit attribute to owners of parent at THB 2,470 million** (-53% QoQ), representing **earnings per share of THB 1.73**. The performance of each Business Group is as follows:

Refinery and Trading Business Group

Performance declined 37% QoQ but increased 118% YoY. This quarter, performance was pressured by the decline in crude oil and finished products prices which resulted in inventory loss of THB 1,996 million. However, the performance was mitigated by recording gain from crude and product price forward contracts of THB 1,687 million from declining trend of crack spread. While in Q2/2022 and Q3/2021, there was inventory gain and loss from crude and product price forward contracts. However, performance in QoQ still declines, due to the additional impact of Operating GRM dropped from the previous quarter to 11.20 \$/BBL. However, Bangchak refinery maintains high average crude run at 123.2 KBD or 103% utilization.

The performance still increased when compared YoY even with inventory loss in this quarter. This was due to the increase in operating GRM from higher crack spread of all products when compared to Q3/2022. Especially, Diesel and Dubai crack spread (GO-DB) which is the largest product yield of Bangchak refinery, rose significantly. In addition, this quarter realized gains from crude and product oil price forward contract.

Furthermore, BSGF is preparing to establish Sustainable Aviation Fuel (SAF) unit within the Bangchak refinery with an initial production of 1.0 million liters per day. The SAF will be ready for commercial sale for both domestic and international flights by Q4/2024. The project will help to decrease Bangchak's GHG emissions in line with the company group's Net Zero GHG Emissions target by 2050.

Marketing Business Group

Performance declined 86% QoQ and 64% YoY, mainly from inventory loss for this quarter even though net marketing margin per unit increased 6% QoQ and 28% YoY. This was due to finished products prices declined which resulted in retail prices at the service stations were better reflection of finished product costs. In addition, power plants and industrial plants have switched to using diesel fuel during expensive liquefied natural gas (LNG), resulting in higher marketing margin for the industrial market. Furthermore, COVID-19 situations in the countries have subsided compared to Q3/2021 which helped to raise total sales volume of marketing business by 32% YoY. After the government's international restrictions have been lifted, sales of jet fuel increased as much as 146% YoY.



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The company's cumulative retail sales volume market share during January - September 2022 was 16.2% (data from the Department of Energy Business). At the end of Q3/2022, there were 1,320 service stations of which 67 Unique Design Service Stations.

Furthermore, the Marketing Business Group continues to focus on non-oil business. At the end of Q3/2022, there were 931 and 51 branches of Inthanin coffee and Dakasi, respectively. In addition, Bangchak continues to expand partnerships with leading restaurants and street food vendors to support the modern consumer lifestyle who enjoy more convenient and quick services. Also, Bangchak continued to expand the number of EV charging service stations to across the country. As a result, EV Chargers are available at 107 service stations covering 39 provinces.

Power Plant Business Group

Performance increased 9% QoQ and 3% YoY as revenue from sales of electricity increase. For performance in QoQ, revenue from hydro power plant in Lao PDR increased from entering rainy season (high season). Although revenue from solar power plants in Thailand declined due to lower irradiation during the low season. In addition, the adder scheme for a 30 MW solar power plant ended. However, the increasing of Ft rate alleviated the impact. For YoY, the performance increased in line with revenue from sales of electricity, mainly from the COD of 3 additional solar power plants in Japan with total PPA of 65.0 MW. Although share of investment in associated companies decreased from Q3/2021, due to BCPG's disposal of the whole investment in SEGHPPL in March 2022.

Bio-Based Products Business Group

Performance declined 63% QoQ and 96% YoY (if excluding gains from fair value adjustments on investments incurred in Q3/2021, performance decline 87% YoY). BBGI's gross profit decreased 112% QoQ and 102% YoY, mainly from lower sales revenue of the biodiesel (B100) business. The QoQ performance was mainly impacted by the drop in B100 price in line with the decreasing in crude palm oil price as supply continued to come on the market. In addition, Indonesia and Malaysia, which are the two biggest producers, have supported more palm oil exports. The YoY performance was impacted by the announcement of the CEPA which reduced the blending mandate for B100 in high diesel from B10 in Q3/2021 to B5 in Q3/2022. However, the ethanol business helped to alleviate the aforementioned impact as ethanol sale volume increased from Q2/2022 due to sales management plans in accordance with higher ethanol price to optimize benefits of BBGI.

The CEPA has approved an increase in biodiesel blending in high speed diesel fuel from B5 to B7 commencing from 10th October 2022 to 31st December 2022. This will result in an increase in the demand for biodiesel in Q4/2022, which is also the high season for travel and tourism.

Natural Resource Business Group and New Business Development

Performance increased 71% QoQ and 95% YoY, mainly from OKEA's average sales price of liquid price and gas price increased and remained highly volatile, especially gas price which increase as much as 136% QoQ and 115% YoY. Moreover, sales volume increased 8% QoQ, mainly from Gjøa and Ivar Aasen fields. When compared to Q3/2021, sales volume increased slightly.



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In addition, as of 1st November 2022, OKEA has completed the acquisition of Wintershall Dea Norge AS's 35.2% working interest in Brage field, 6.5% working interest in the Ivar Aasen field and 6.0% working interest in the Nova field. The acquisition also includes the operatorship of Brage field. The total value of the transaction amounts to NOK 1,100 million (THB 4,000 million). As a result, OKEA's total production will be 25,000-27,000 boepd in 2023-2024 and OKEA's reserves will also increase by 30-40%, and further expand its portfolio and strengthen the company's position as leading mid-to-late-life operator on the Norwegian Continental Shelf (NCS). The Brage field will become OKEA's second major petroleum field after the Draugen field.

The company continues to closely monitor and assess the oil price situation for adjust business plans accordingly as the global economy enters a slowdown period with persistently high global inflation and various central banks implementing tightening monetary policy by raising the policy interest rate to combat inflation. Especially, the US Federal Reserve raised interest rates relatively quickly. As a result, the dollar has sharply appreciated and affecting the global economy. In addition, China's Zero-Covid policy is depressing global crude oil price. However, oil prices continued to be supported by the ongoing conflict between Russia and Ukraine as well as OPEC+ production cut. As for the sales volume of the market business group is expected to be supported by an increase in domestic oil demand from the arrival of travel season in Q4/2022. Also, the government's announcement that COVID-19 is a communicable disease surveillance (from dangerous communicable diseases) and continue to relax travel measures from travelers entering Thailand. This will help support the increase in number of foreign tourists. In addition, power plants continued to use diesel fuel to replace the high cost of liquefied natural gas (LNG).

Energy supply has been pressured by the ongoing conflict between Russia and Ukraine while global energy demand increased after the loosening of COVID-19 restrictions in many countries as well as the OPEC+ production cut. Bangchak Group focus on energy security coupled with low-carbon business operations to meet targets Carbon Neutrality by 2030 and Net Zero by 2050 goals. Bangchak aims to balance three energy challenges: energy security, energy affordability and environmental sustainability by using the business model, experiences and skills in petroleum exploration and production business in Norway as a model to strengthen the business of Bangchak Group from the top of the value chain.

Other importance events

August

- The company announced its interim dividend payment for the first six-month period of 2022 to the company's shareholders at THB 1.25 per share, totaling THB 1,697 million. The dividend has been paid to the shareholders on 13th September 2022.
- The company issued Name-Registered, Unsubordinated and Unsecured Debentures with a Debentureholders' Representative to Institutional Investors and/or High Net Worth Investors in the amount of THB 10,000 million. The debentures are split into 3 series which are tenors of 3, 5 and 10 years with fixed coupon rate of 2.84%, 3.26% and 4.00%, respectively.
- The company notified the Stock Exchange of Thailand in regards to the establishment of BSGF Co., Ltd. ("BSGF"), a joint venture with BBGI Plc. ("BBGI") (a subsidiary of the company) and Thanachok Oil Light Co., Ltd. Objective is to secure raw materials and production together with distribution of sustainable aviation fuel (SAF) from used vegetable oil. Initial registered capital has a value of THB 1.0 million and will continue to increase capital. The company, BBGI and Thanachok Oil Light Co., Ltd. will holds 51%, 20% and 29% of BSGF's shares respectively.

October

- The company issued "Bangchak Digital Debentures", which were the company's first Digital debentures, via the Krungthai Bank's Paotang application. The debentures were issued Name-Registered, Unsubordinated and Unsecured Debentures with a Debentureholders' Representative in the amount of THB 3,000 million, a 4-year investment period, with an interest rate of 3.60% p.a.

November

- On 1st November 2022, OKEA has completed the acquisition of Wintershall Dea Norge AS's 35.2% interest in the Brage field, 6.5% interest in the Ivar Aasen field, as well as a 6.0% interest in the Nova development field. The acquisition also includes the operatorship of Brage oil field. The total value of the transaction amounts to NOK 1.1 billion (over THB 4 billion). The acquisition will add over 7,000 barrels of oil equivalent per day (boepd) of production capacity and bring OKEA's total production to 25,000 – 27,000 boepd in 2023 – 2024.

Statement of Income

Consolidated Statement of Income (THB Million)	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
Revenue from sale of goods and rendering of services	74,767	83,796	-11%	47,649	57%	227,619	132,655	72%
Cost of sale of goods and rendering of services	(65,492)	(65,579)	-0.1%	(41,613)	57%	(187,872)	(118,271)	59%
Gross Profit	9,276	18,218	-49%	6,036	54%	39,747	14,384	176%
Other income	455	472	-4%	777	-41%	1,276	1,051	21%
Selling and administrative expenses	(2,109)	(2,074)	2%	(1,652)	28%	(5,852)	(4,686)	25%
Exploration and evaluation expenditures	(68)	(95)	-29%	(133)	-49%	(509)	(172)	195%
Loss from derivatives	1,460	(6,422)	N/A	(777)	N/A	(6,282)	(1,407)	N/A
Gain (loss) on foreign exchange	215	(516)	N/A	103	N/A	(241)	326	N/A
Gain (loss) from fair value adjustment of investment	5	5	N/A	575	N/A	10	618	N/A
Gain (loss) from sale of investment	-	-	N/A	122	N/A	2,031	120	N/A
Reversal of (loss) from impairment of assets	(2,214)	4	N/A	(13)	N/A	(1,647)	400	N/A
Profit from operating activities	7,019	9,592	-27%	5,037	39%	28,534	10,633	168%
Finance costs	(1,093)	(1,043)	5%	(748)	46%	(2,971)	(1,731)	72%
Impairment loss determined in accordance with TFRS 9	1	(20)	N/A	-	N/A	(404)	(1)	N/A
Share of profit (loss) of associates and joint ventures accounted for using equity method	42	(6)	N/A	177	N/A	183	884	N/A
Profit before income tax expense	5,969	8,522	-30%	4,466	34%	25,342	9,785	159%
Tax expense	(3,062)	(3,033)	1%	(1,904)	61%	(11,442)	(2,507)	356%
Profit for the period	2,907	5,489	-47%	2,562	13%	13,900	7,278	91%
Owners of parent	2,470	5,276	-53%	1,820	36%	12,103	5,868	106%
Non-controlling interests	437	213		742		1,797	1,410	
Basic earnings per share (Baht)	1.73	3.79		1.25		8.64	4.05	



Statement of Income

Performance in Q3/2022, the company and its subsidiaries recorded a profit for the period THB 2,907 million, of which the net profit attributable to the owners of the parent was THB 2,470 million, a decrease of 53% QoQ and an increase of 36% YoY, representing earning per shares of THB 1.73, mainly due to the following reasons:

1. Revenue from sale of goods and rendering of services was THB 74,767 million, a decline of 11% QoQ, mainly from the petroleum related business. The company's revenue declined due to the decrease in product sales volume of 10% QoQ. This was due to lower export volume and lower volume from Marketing Business as the domestic market entered low season during the rainy season. In addition, average price per unit decreased 3% QoQ in line with the decline of global crude oil and refined product prices. In addition, BCPT's revenue with partners outside of Bangchak Group also declined, due to lower price per unit and sales volume. While OKEA's revenue from sale of crude oil and natural gas increased 68% QoQ, mainly from the rise in gas price by 136% QoQ as well as the increase in sales volume from crude oil and natural gas by 8% QoQ.

When compared to Q3/2021, revenue increased 57% YoY, mainly from oil related business where both products price per unit and sales volume increased.

2. Gross profit was THB 9,276 million, a decline of 49% QoQ, mainly from oil related business. Especially, the company group realized an inventory loss of THB 2,698 million while last quarter the company group realized an inventory gain of THB 4,337 million. In addition, the Refinery Business Group's operating GRM was 11.20 \$/BBL, a decline of 13.22 \$/BBL compared to Q2/2022, mainly due to lower crack spreads for all products in line with the global market, together with the increase in crude premium cost.

When compared to Q3/2021, gross profit increased 54% YoY, mainly from OKEA which benefited from higher energy prices, especially natural gas price increased as much as 115% YoY.

3. Other income was recorded at THB 455 million, a decrease of 41% YoY, mainly from construction delay claim which received from contractor in Q3/2021.

4. Selling and administrative expenses of THB 2,109 million was similar to previous quarter. Whereas the expenses increased 28% YoY, mainly from the expenses related to sales. In addition, OKEA's expenses were from the asset acquisition agreement with Wintershall Dea Norge AS.

5. Gain from derivatives were recorded at THB 1,460 million, mostly from the fair value measurement for crude and product oil price hedging contract according to accounting standards.

6. Gain from exchange rate was THB 215 million, while last quarter's loss was THB 516 million, mainly from the repurchase of OEA02 debentures which was in US dollars, resulting in lower foreign exchange losses.

7. In Q3/2021 was recorded gain from fair value adjustment of investment of THB 575 million, mainly from recognized profit from changing investment status in the UBE from investment in associate to other investment as a result of UBE's initial public offering (IPO).

Statement of Income

8. Loss on asset impairment was THB 2,214 million, mainly from OKEA's asset impairment. This was due to the reduction in reserves of the Yme field, resulting in a net after tax and in the proportion of the group's equity share was about THB 220 million.

9. Finance costs of THB 1,093 million was similar to previous quarter. Whereas the finance costs increased 46% YoY, mainly due to the company's increase in long-term borrowing and the reduction in OKEA's capitalization of financial costs to project costs. In addition, this quarter OKEA incurred one-time expenses which related to the bond buyback of OKEA02 debentures.

10. Share of profit of associates and joint ventures accounted for using equity method was recorded at THB 42 million, which declined from BCPG's disposal of the whole investment in SEGHPL.



Performance by Business Group

1) Refinery and Oil Trading Business Group

Crude Oil Price (\$/BBL)	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M	9M	YoY
	AVG	AVG	+/-	AVG	+/-	2022	2021	+/-
Dubai (DB)	96.68	108.22	-11.54	71.68	25.00	100.29	66.36	33.93
Dated Brent (DTD)	100.84	113.93	-13.09	73.51	27.33	105.51	67.92	37.59
DTD-DB	4.16	5.71	-1.55	1.83	2.32	5.22	1.55	3.66

Average Dubai crude price in Q3/2022 declined 11.54 \$/BBL compared to Q2/2022, due to global recession concerns as central banks around the world raise policy rate to combat high inflation. In addition, China persists Zero-Covid policy to control spread, resulting in concerns over oil demand. However, crude oil price is supported by OPEC+'s decision in September to reduce production to support crude price. Average Dubai crude price in Q3/2022 increased 25.00 \$/BBL compared to Q3/2021, due to the recovery in global demand after the opening of economic activities and concerns over tight supply from Russian-Ukraine war.

Average Dated Brent and Dubai spread (DTD-DB) in Q3/2022 declined 1.55 \$/BBL compared to Q2/2022 as Libya's production and export returned to normal after prolonged protest situation improved. This has helped to ease the supply tightness in Europe. In addition, the US increased export crude oil to Europe, resulting in the decline in the price of Dated Brent. Average Dated Brent and Dubai spread (DTD-DB) in Q3/2022 increase 2.32 \$/BBL compared to Q3/2021 as unrest situation in Libya improved but overall production remained lower than 2021. Combined with concerns over energy uncertainties due to Russia-Ukraine war.

Crack Spread Situation

Crack Spreads (\$/BBL)	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M	9M	YoY
	AVG	AVG	+/-	AVG	+/-	2022	2021	+/-
UNL95-DB	13.07	35.14	-22.06	11.76	1.31	21.84	9.64	12.21
IK-DB	32.43	39.62	-7.19	5.40	27.02	29.50	4.38	25.12
GO-DB	35.23	43.60	-8.37	5.44	29.79	32.87	5.13	27.74
LSFO-DB	13.37	24.80	-11.43	6.43	6.94	17.30	(4.19)	21.49

Gasoline and Dubai crack spread (UNL95-DB) average in Q3/2022 declined compared to Q2/2022, pressured by increased in supply from Asian refineries production resuming after seasonal maintenance shutdown. Also, the increase in gasoline exports from China as domestic demand was under pressure from lockdown measures to curb the spread of COVID-19. While demand was pressured by the US summer driving season was lower than normal and concerns about the global economic recession. Gasoline-Dubai crack spread (UNL95-DB) average in Q3/2022 increased compared to Q3/2021, due to demand increased from the easing of COVID-19 restrictions in many countries. As for **Jet (Kerosene) and Dubai crack spread (IK-DB)** average in Q3/2022 declined compared to Q2/2022, due to demand pressure from the slowdown in flights during the monsoon season which put pressure on tourism as well as lockdowns in China. Jet (Kerosene) and Dubai (IK-DB) crack spread average in Q3/2022 increased compared to Q3/2021, due to demand recovery from the aviation sector as improved COVID-19 outbreak situation, resulting in many countries are open to foreign tourists. As for **Diesel and Dubai crack spread (GO-DB)** average in Q3/2022 declined

Performance by Business Group

compared to Q2/2022, pressured by supply increase from Asian refineries which increased production capacity. However, due to persistently high freight costs led to decreased export from Asia to Europe. Meanwhile, demand has been pressured by the start of the monsoon season in Asia as well as by concerns about the global economic recession. Diesel and Dubai crack spread (GO-DB) average in Q3/2022 increased compared to Q3/2021, due to EU countries preparing sanctions. Therefore, EU began to reduce oil imports from Russia which is a major diesel exporter to Europe, resulting in concerns over supply. Meanwhile, demand increased due to the improvement of the COVID-19 outbreak situation and switching fuel to diesel as natural gas prices continue to rise. As for **Low Sulphur Fuel Oil and Dubai crack spread (LSFO-DB)** average in Q3/2022 declined compared to Q2/2022, pressured by oversupply in the region as refineries cut operations of Fluid Catalytic Cracking (FCC) to reduce production of gasoline, which is lower spread, resulting in higher fuel oil production. Low Sulphur Fuel Oil and Dubai crack spread (LSFO-DB) in Q3/2022 increased compared to Q3/2021. This was due to lower supply of low sulphur fuel oil as refineries in region prioritize diesel production which had higher crack spread and reduced the use of diesel in low sulfur fuel oil blending in Q3/2022.

Refinery and Oil Trading Business Group Performance

Refinery and Oil Trading Business Group Performance	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
EBITDA (THB Million)	4,131	6,506	-37%	1,891	118%	15,658	6,279	149%
Average crude run (KBD)	123.2	122.5	0.5%	111.4	11%	122.6	94.6	30%
Utilization rate (%)	103%	102%		93%		102%	79%	
Average FX (THB/USD)	36.57	34.56		33.09		34.80	31.69	
(Unit: \$/BBL)								
Operating GRM	11.20	24.42	-13.22	3.07	8.13	14.21	3.54	10.66
Oil hedging	4.07	(16.83)	20.90	(1.24)	5.31	(5.16)	(0.67)	-4.49
Inventory gain/ (loss) ^{1/}	(4.82)	10.04	-14.86	3.72	-8.54	4.67	5.63	-0.97
Total GRM	10.45	17.63	-7.17	5.54	4.91	13.72	8.51	5.21
Total sales volume in each market category of the Company ^{2/} (Million Liters)								
Marketing business	1,386	1,470	-6%	1,052	32%	4,264	3,474	23%
Petroleum traders in accordance with section 7	151	152	-1%	212	-29%	492	527	-7%
Export	366	501	-27%	462	-21%	1,289	984	31%
Total sales volume	1,903	2,124	-10%	1,726	10%	6,044	4,985	21%

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 Q3/2022, the Refinery and Oil Trading Business Group recorded EBITDA of THB 4,131 million, a decrease of THB 2,376 million when compared to Q2/2022, with factors affecting performance as follows:

1. The Bangchak refinery maintains high level of average crude run at 123.2 KBD or 103% utilization rate which is similar rate to the previous quarter.
2. During this quarter, the refinery's Total Gross Refinery Margin (Total GRM) was 10.45 \$/BBL, a decrease of 7.17 \$/BBL when compared to the previous quarter, due to the following reasons:



Performance by Business Group

- Operating GRM was recorded at 11.20 \$/BBL, a decline of 13.22 \$/BBL, due to the decline in crack spread of all refined products in line with global markets where supply was increased due to the resumption of production from Asian refineries after undergoing maintenance in the previous quarter. While demand was pressured by economic slowdown and China's lockdowns to control the spread of COVID-19. In addition, GRM was pressured by the increase in crude premium during this quarter.
- The refinery business recognized gain from crude and oil products forward contract (including fair value measurements in accordance with accounting standard) of 4.07 \$/BBL as market forecasts decline in crack spread. Whereas the previous quarter recorded a loss of 16.83 \$/BBL.
- This quarter the refinery business recorded inventory loss of 4.82 \$/BBL (equivalent to THB 1,996 million) which is in line with the decline in global crude oil price from the previous quarter. Whereas Q2/2022 recognized inventory gain of 10.04 \$/BBL (equivalent to THB 3,868 million).

3. BCPT recorded total trade transactions of crude and finished product of 7.76 million barrels, an increase of 0.46 million barrels (+6%) compared to the previous quarter, resulting in higher gross profit. This was largely due to the continued growth of crude trading transactions as BCPT expands market to cover regions such as New Zealand as well as the strategy to reach crude producers and national oil companies. In addition, BCPT continues to expand transactions to external trading partners and to add product value through business cooperation development strategies that create sustainable growth for BCPT.

Performance for Q3/2022, the Refinery and Oil Trading Business Group recorded an increase in EBITDA of THB 2,240 million when compared to Q3/2021, with the following factors affecting performance:

1. Bangchak refinery's average crude run increased 11% YoY as crack spread slightly increased compared to Q3/2022. Also, domestic demand recovery after COVID-19 situation improved, resulting in the refinery increased crude run to high level.
2. Total GRM increased 4.91 \$/BBL compared to Q3/2021, mainly due to the following reasons:
 - Operating GRM increased 8.13 \$/BBL, mainly from higher crack spread for all products in line with global refined products demand recovery while supply remained tight, due to Russia-Ukraine war. Diesel and Dubai crack spread (GO-DB) which is the largest product yield of the Bangchak refinery increased significantly, resulting in higher Operating GRM compared to Q3/2021.
 - The refinery business recorded gain from crude and oil product forward contract (including the fair value measurements in accordance with accounting standards) 4.07 \$/BBL while in Q3/2021 recorded a loss of 1.24 \$/BBL.
 - The refinery business recorded an inventory loss of 4.82 \$/BBL (equivalent to THB 1,996 million) as stated above. While during Q3/2021 recorded an inventory gain of 3.72 \$/BBL (equivalent to THB 1,261 million), due to the rise in global crude oil price during the quarter.

Performance by Business Group

3. BCPT recorded an increase in gross profit compared to Q3/2021 as trade transactions of crude and finished product increased by 0.80 million barrels (+12%), mainly from the supply of crude oil to the Bangchak refinery which increased and continuously maintained high crude run.

2) Marketing Business Group

Marketing Business Performance	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
EBITDA (THB Million)	203	1,468	-86%	562	-64%	2,789	2,359	18%
Net marketing margin (Baht / Liter)	1.13	1.07	6%	0.88	28%	0.98	0.96	2%
Sales volume (Million Liters)								
Retail	1,096	1,170	-6%	900	22%	3,388	2,949	15%
Industrial	290	300	-3%	153	90%	876	525	67%
Total	1,386	1,470	-6%	1,052	32%	4,264	3,474	23%
LPG	31	26	21%	26	19%	82	69	19%
Gasoline	7	5	26%	3	148%	17	18	-5%
Gasohol	434	416	4%	326	33%	1,237	1,063	16%
Jet fuel	80	88	-9%	33	146%	257	102	151%
Diesel	787	884	-11%	627	26%	2,520	2,088	21%
Fuel oil and others	47	51	-6%	37	26%	151	135	12%
Total	1,386	1,470	-6%	1,052	32%	4,264	3,474	23%

Note: Net Marketing Margin of Bangchak and BGN (excluding inventory gain/(loss) and NRV)

Performance for Q3/2022 performance, the Marketing Business Group recorded EBITDA of THB 203 million, a decrease of THB 1,264 million compared to Q2/2022, with the following factors affecting performance:

1. Total sales volume of the Marketing Business Group decreased by 6% QoQ, mainly due to a decrease in sales of the retail market as the rainy season is a low season. In addition, it was also affected by storms which caused flooding in many provinces, resulting in vehicle and oil consumption decreased. However, power plants and industrial plants switched to diesel instead of expensive liquefied natural gas (LNG). And, this quarter, the company has expanded the distribution of into-plane jet fuel to Thai VietJet Air which is the third airline this year, resulting in a slight decrease in sales through the industrial market compared to the previous quarter.

2. Total net marketing margin per unit increased by 6% QoQ, due to this quarter the decline in average finished product prices in line with global market conditions. As a result, retail price at service stations was better reflection of finished product costs than the previous quarter. In addition, demand for diesel in power plants and industrial plants (as mentioned above) help to increase marketing margin of the industrial market. However, due to finished product prices adjusted downward, this quarter had an inventory loss while the previous quarter had inventory gain.

3. The company continues to expand the number of service stations to cover the whole country with a policy to develop service stations to meet various needs with the concept of being a creative and sustainable lifestyle



Performance by Business Group

destination for people of all ages under the concept of "Your Geenovative Destination for intergeneration" and has a strategy to open beautiful and unique design (Unique Design) service stations. This quarter, the company opened 20 new service stations, resulting in 1,320 service stations with 67 Unique Design service stations at the end of Q3/2022. The cumulative retail sales volume market share between January – September 2022 was 16.2% (data from the Department of Energy Business). In addition, Krungthai has expanded partnership to enable users of "KrungThai NEXT" application to apply Bangchak membership through the application. This also jointly developed a system for Bangchak members to use reward points to pay for products at "Money Bag Shops" through Bangchak application which is the first for retail oil business in Thailand. Previously, the company and Krungthai together to develop a system that helped Bangchak to become the first oil retailer in Thailand that accepts digital payments as well as can collect Bangchak member points via mobile EDC. The mobile EDC are currently being offered at more than 660 branches and with plans to expand to 800 branches nationwide by 2022.

4. Marketing Business Group continues to focus on developing and expanding high potential non-oil businesses by developing a community within service stations that meets the current daily lifestyles of consumers. This quarter, 55 new Inthanin coffee shops were opened. In order to support branch expansion plans, BCR increase the proportion of branches outside the service station by opening coffee shops in commercial building near the communities and at partners' commercial spaces, namely Mini Big C, B-Quik, Thai Watsadu, HomePro, Tops Daily and Mother Marche, as a result at the end of Q3/2022, there are 931 branches of Inthanin coffee shops. BCR continues to expand the number of branches of the Dakasi pearl milk tea shop. During this quarter, 4 Dakasi pearl milk tea branches were opened, resulting in 51 branches at the end of Q3/2022. In addition, Bangchak continues to expand partnerships with leading restaurants and street food vendors to satisfy customers quickly and conveniently. This quarter, the company added new partners to provide additional services at service stations, such as Somtam Che Daeng, Gateaux House, Sukishi Everyday, and Yakun Kaya Toast. In addition, the company expanded the number of electric vehicles charging stations (EV Chargers) in response to the continuously increase in the number electric vehicle users. EV chargers are now available at 107 Bangchak service stations covering 39 provinces nationwide.

Performance comparison between Q3/2022 and Q3/2021, the Marketing Business Group recorded EBITDA decrease of THB 359 million, with factors affecting operations as follow:

1. The total sales volume of the Marketing Business Group increased by 32% YoY as most people have immunity from COVID-19 vaccination. Also, the spread and severity of COVID-19 in the country declined coupled with the gradual recovery of the economy and various government stimulus measures, resulting in a rise in oil demand. In addition, the Thai aviation industry showed signs of continuous recovery after the government relaxed international travel restrictions. As a result, jet fuel sales increased by as much as 146% YoY. Whereas, during Q3/2021 was impacted by the severity of Delta variant outbreak. caused the government to implement strong measures to control the spread of the virus.

2. Total net marketing margin per unit increased 28% YoY because during Q3/2022, finished product prices declined in line with global market conditions while finished product prices increased in Q3/2021. As a result, the



Performance by Business Group

adjustment of retail price at service stations in this quarter was more appropriate in line with the cost of oil products compared to the same quarter of the previous year. In addition, marketing margin of the industrial market increased, due to the higher demand for diesel fuel in the industrial sector (as stated above). However, this quarter recorded inventory loss due to the decline in finished product prices while Q3/2021 recognized inventory gain.

3. The company's cumulative retail sales volume market share during January-September 2022 was 16.2%, while the cumulative retail sales volume market share during January-September 2021 was 16.0% (data from the Department of Energy Business). From the end of Q3/2021 to the end of this quarter, there has been 73 new service stations and 223 new Inthanin coffee shops.

3) Power Plant Business Group

Power Plant Business Performance (THB Million)	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
EBITDA	1,209	1,112	9%	1,179	3%	5,396	3,155	71%
Revenue from sale and rendering of services	1,544	1,436	7%	1,302	19%	4,138	3,437	20%
Share of profit (loss) from associated companies*	(17)	(9)	-97%	150	-111%	116	448	-74%
Electricity sales (GWh)								
Solar Power Plant - Thailand (173.7 MW)	75.58	85.90	-12%	75.30	0.4%	245.72	236.94	4%
Wind Power Plant - Thailand (9.0 MW)	3.36	1.93	74%	3.95	-15%	8.51	10.09	-16%
Solar Power Plant - Japan (79.7 MW)	33.07	35.62	-7%	5.02	558%	83.59	13.59	515%
Hydropower Plant - Lao PDR (114.0 MW)	208.44	100.98	106%	210.24	-1%	386.33	380.38	2%
Total	320.45	224.43	43%	294.52	9%	724.14	640.99	13%

*In March 2022, BCPG disposed the whole investment in SEGHP, which invests in geothermal projects in Indonesia

In Q3/2022, the Power Plant Business Group's EBITDA was THB 1,209 million, an increase of THB 97 million compared to Q2/2022 as electricity sales revenue for this quarter was THB 1,544 million, an increase of 7% QoQ, mainly from seasonal factor of **hydropower plants in Lao PDR** which entered high season. Although, the electricity sales revenue from **solar power plant projects in Thailand** declined in line with the electricity sales. This was due to lower irradiation as entering low season. In addition, the adder scheme for a 30 MW solar power plant ended in July 2022. However, the increasing of Ft rate alleviated the impact.

In Q3/2022, the Power Plant Business Group's EBITDA increased THB 31 million compared to Q3/2021. This was due to an increase in revenue from sales of electricity by 19% YoY, mainly from the commercial operations (COD) of 3 additional **solar power plant projects in Japan** with total PPA of 65.0 MW. And, **hydropower Plants in Lao PDR** was positively impacted by the more appreciate of USD currency against THB currency. Although the revenue from **solar power plant projects in Thailand** declined from the expiration of adder scheme (8 MW in August 2021 and 30 MW in July 2022). However, the impact was lessened by the higher Ft rate. In addition, this quarter recorded lower share of investment in associates by THB 167 million, due to no recognition of profit sharing from the geothermal power business in Indonesia, which BCPG disposed investment in the project in March 2022.



Performance by Business Group

4) Bio-Based Product Business Group

Bio-Based Products Business Performance (THB Million)	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
EBITDA	35	93	-63%	890	-96%	471	1,607	-71%
BBGI Performance								
Sales revenue	2,951	3,413	-14%	3,158	-7%	10,104	10,094	0.1%
Gross profit	(4)	37	-112%	204	-102%	352	803	-56%
Selling and administrative expenses	(72)	(68)	5%	(68)	6%	(225)	(192)	17%
Sales volume (Million Liters)								
Ethanol	40.21	25.18	60%	44.56	-10%	103.58	128.22	-19%
Biodiesel	46.89	46.59	1%	53.51	-12%	144.56	181.10	-20%

As for the performance of the Bio-Based Product Business Group in Q3/2022, total EBITDA was recorded THB 35 million, a decrease of THB 59 million compared to Q2/2022. Comparison between Q3/2022 and Q3/2021, EBITDA decreased THB 855 million (excluding gain from fair value adjustment of investment in Q3/2021, EBITDA declined THB 240 million), with the following factors affecting operations:

- Sales Revenue was THB 2,951 million, a decrease of 14% QoQ and 7% YoY. Details are as follow;
 - Revenue from production and distribution of ethanol business was THB 1,133 million, an increase of 63% QoQ, mainly due to the sales management plan in accordance with the higher ethanol price situation for the best benefit of BBGI. Whereas the revenue recorded a decrease of 2% YoY, because BBGI Bioethanol (Chachoengsao) Co., Ltd. plant entered its annual maintenance shutdown this quarter, when the shutdown was in the 2nd quarter of 2021, resulted in lower sales volume.
 - Revenue from production and distribution of biodiesel (B100) business was THB 1,816 million, a decrease of 33% QoQ, mainly due to a drop in B100 price in accordance with a drop in crude palm oil price because more products were consistently entering the market. Moreover, Indonesia and Malaysia, which are two major producers, were pushing for more crude palm oil exports. However, the Committee on Energy Policy Administration (CEPA) has announced an increase in biodiesel blending in high speed diesel from B5 to B7 from 10th October 2022 to 31st December 2022. As a result, B100 demand has begun to increase since the end of this quarter. However, the revenue recorded a decreased of 9% YoY, mainly from an announcement of the CEPA to reduce the biodiesel blending in high speed diesel from B7 to B5 from 5th February 2022 to 30th September 2022 for alleviation the pressure of the rising oil price and palm oil price situation. Meanwhile, the proportion of biodiesel blending was B10 as standard diesel type throughout Q3/2021, effecting a decrease of B100 sale volume.
 - Revenue from high value bio-based products was THB 1.2 million, came from the sale of food supplement products "ASTA-IMMU", "ASTA-VIS", and "Calcium-LT plus UC-II" under the brand B nature+ (B Nature Plus)

Performance by Business Group

2. Selling and administrative expenses was THB 72 million, an increase of 5% QoQ and 6% YoY because BBGI has more expenses related to the promotion of high value bio-based products and development of new products.

5) Natural Resources Business and New Business Development Group

Natural Resources Business and New Business Development Group (THB Million)	Q3/2022	Q2/2022	QoQ	Q3/2021	YoY	9M2022	9M2021	YoY
EBITDA	6,064	3,541	71%	3,112	95%	13,856	3,418	305%
Share of profit (loss) from OKEA*	N/A	N/A	N/A	N/A	N/A	N/A	371	N/A
OKEA Performance								
EBITDA	6,051	3,557	70%	3,005	101%	13,884	5,023	176%
Revenue from crude oil and gas sales	7,702	4,577	68%	3,822	102%	17,941	7,955	126%
Production volume - Net to OKEA (Kboepd)	16.06	16.04	0.2%	16.32	-2%	15.67	15.36	2%
Sales volume - Net to OKEA (Kboepd)	17.26	15.96	8%	16.98	2%	16.23	15.08	8%
Realized liquids price (USD/BBL)	106.60	100.30	6%	67.40	58%	98.90	60.30	64%
Realized gas price (USD/MMBTU)	34.71	14.68	136%	16.15	115%	27.05	10.70	153%

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

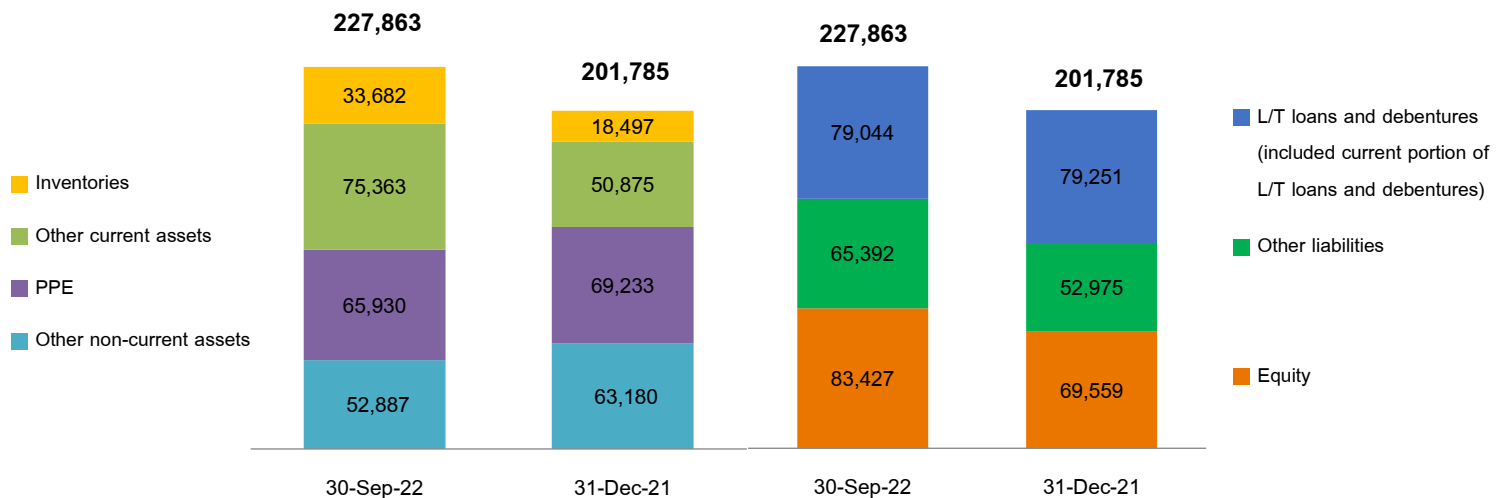
Performance of the Natural Resources Business Group in Q3/2022 recorded an EBITDA of THB 6,064 million, an increase of THB 2,523 million and THB 2,952 million compared to Q2/2022 and Q3/2021, respectively. This quarter's revenue from crude oil and gas sales was the highest recorded. This was due to OKEA's average selling price of crude oil and gas (liquid price) and natural gas price (gas price) increased and remained highly volatile, especially gas price which increased by as much as 136% QoQ and 115% YoY. Price was driven by damage to the Nord Stream pipeline which has raised concerns over uncertainties in European winter natural gas supply. In addition, sales volume increased 8% QoQ mainly from Gjøa and Ivar Aasen fields. When compared to Q3/2021, sales volume increased slightly.

Statement of Financial Position

Assets

Liabilities and Equity

Unit: THB Million



Assets

As of 30th September 2022, the company and its subsidiaries had total assets in the amount of THB 227,863 million, an increase of THB 26,078 million when compared to 31st December 2021, changes in assets are as follow:

- Inventories increased by THB 15,185 million, mainly from the company as the increase in crude and product volume, and cost of oil inventory per unit.
- Other current assets increased by THB 24,488 million, mainly from
 - Cash and cash equivalents increased by THB 1,266 million. Details are stated in analysis of the Cash Flow Statement.
 - Short-term investments increased THB 6,161 million, mostly from BCPG and BBGI's fixed deposit.
 - Trade and other current receivables increased THB 5,789 million, mainly from an increase in other current receivables of the company. This was due to receivable from Revenue Department related to VAT and loss from fair value measurement of crude and product oil price hedging contract. Trade account receivable increased from the company as sales volume and average selling price of refined oil product increased.
 - Oil fuel fund subsidies receivable increased THB 10,034 million, mainly from the government's increase in diesel subsidy rate.
- Property, plant and equipment net decreased by THB 3,303 million from (1) investment during the period of THB 4,973 million, mainly from (1.1) Power Plant Business invested in solar power plant projects in Japan by THB 1,197 million and (1.2) OKEA invested in Draugen, Hasselmus and Yme field, and also increasing stake in Ivar Aasen field of THB 2,806 million (2) asset impairment of THB 1,447 million, from a reduction in reserves of the Yme asset (3) effect of financial statement translation resulting in decrease asset value of THB 1,694 million and (4) depreciation for the period was THB 5,092 million.



Statement of Financial Position

4. Other non-current assets main items consist of right of use assets, intangible assets and indemnification assets. Other non-current assets decreased by THB 10,293 million, mainly from BCPG's disposal of the whole investment in SEGHPL in Q1/2022.

Liabilities

As of 30th September 2022, the company and its subsidiaries had total liabilities THB 144,435 million, an increase of THB 12,209 million, changes in liabilities are as follow:

1. Long-term loans and debentures (included current portion of long-term loans and debentures) decreased by THB 207 million from (1) loan repayment & drawdown and debenture repayment & issuance of THB 1,805 million (details are stated in analysis of the Cash Flow Statement) and (2) impact of exchange rate resulting in higher liability of THB 1,543 million.

2. Other liabilities increased by THB 12,416 million, mainly occurred from

- Trade and other current payables rose by THB 4,091 million, mainly due to an increase in purchase volume as well as average purchase price of the company and BCPT.
- Other current financial liabilities increased by THB 2,899 million, mainly due to loss from the fair value measurement for derivatives of the company.
- Deferred tax liabilities increased by THB 850 million, mainly from OKEA as a result of Norway's Special Petroleum Tax amendment since 1st January 2022.

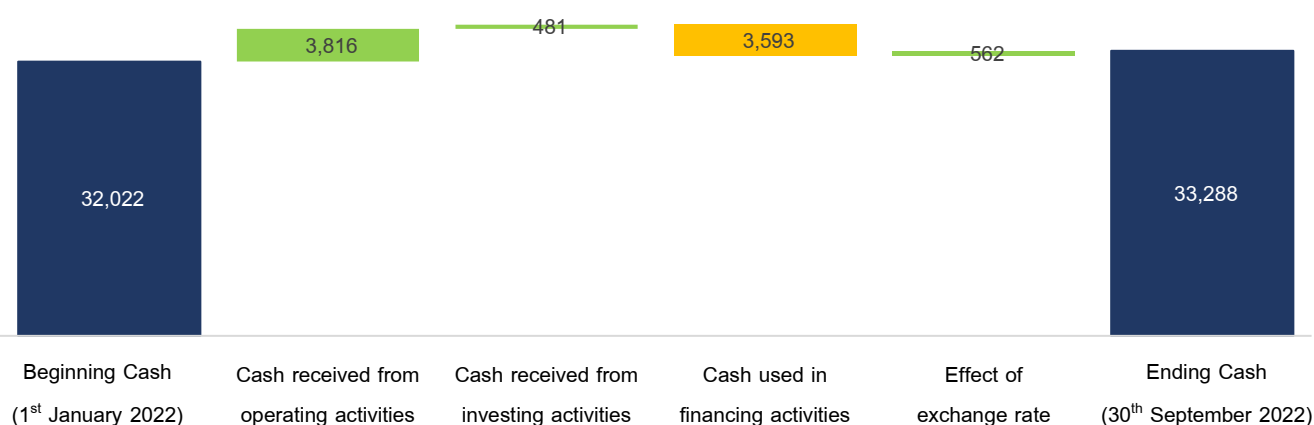
Equity

As of 30th September 2022, the company and its subsidiaries had total equity in the amount of THB 83,427 million, an increase of THB 13,868 million. Mainly from (1) the profit for the period of THB 13,900 million (2) changes in ownership interests in subsidiaries of THB 4,025 million (3) dividend paid by THB 4,061 million and (4) coupon payment on perpetual subordinated debentures by THB 249 million. Total equity attributable to owners of the parent was THB 62,859 million, and book value per share (excluded perpetual subordinated debentures) was THB 38.98.



Statement of Cash Flows

Unit: THB Million



As of 30th September 2022, the company and its subsidiaries had Cash and cash equivalents in the amount of THB 33,288 million, details of each activity are as follows:

Net cash received from operating activities in the amount of THB 3,816 million which was mainly from EBITDA by THB 37,773 million. Also, change in net operating assets and operating liabilities, in which the main activities that affected an increase in cash flow items were trade payables increased by THB 1,790 million and a decrease in cash flow items were inventory increased by THB 15,179 million, other current receivables increased by THB 15,338 million and taxed paid by THB 6,038 million.

Net cash received from investing activities of THB 481 million, mainly due to cash received from sales investment associates of THB 14,551 million while, cash paid for (1) short-term investments of THB 6,150 million and (2) property, plant and equipment of THB 4,847 million which details are aforementioned in assets section (3) short-term loan of THB 1,060 million (4) right-of-use assets of THB 655 million (5) intangible assets of THB 569 million (6) business acquisition of THB 503 million and (7) investment in subsidiaries and associates, net of cash acquired of THB 343 million.

Net cash used in financing activities of THB 3,593 million, mostly from cash paid for (1) redemption of debentures by THB 9,049 million (2) repayment of long-term loans by THB 6,021 million (3) dividends paid by THB 4,061 million (4) finance costs by THB 1,882 million and (5) payment of lease liabilities by THB 1,234 million while cash received from (1) issuance of debentures by THB 10,000 million (2) subsidiaries' share capital by THB 3,991 million and (3) short-term and long-term loans from financial institutions by THB 4,913 million.

Financial Ratio

	Q3/2022	Q2/2022	Q3/2021	9M2022	9M2021
Profitability Ratios (%)					
Gross Profit Margin	12.41%	21.74%	12.67%	17.46%	10.84%
EBITDA Margin	15.36%	15.00%	15.80%	16.59%	12.47%
Net Profit Margin	3.89%	6.55%	5.38%	6.11%	5.49%
Return on Equity (ROE)	24.11%	23.40%	12.37%		
Efficiency Ratio (%)					
Return on Assets (ROA)	15.76%	16.66%	7.43%		

	30 Sep 2022	30 Jun 2022	30 Sep 2021
Liquidity Ratios (Times)			
Current Ratio	2.46	1.97	1.76
Quick Ratio	1.38	1.19	1.03
AR Turnover	31.02	24.03	23.87
Collection Period (Days)	12	15	15
AP Turnover	25.67	14.67	22.33
Payment Period (Days)	14	25	16
Leverage Ratios (Times)			
Debt to Equity	1.73	1.81	1.94
Interest bearing Debt to Equity	1.13	1.03	1.30
Net Interest-bearing Debt to Equity	0.65	0.52	0.98
Release of Debenture Ratio (Times)			
Net Debt to Equity	0.59	0.47	0.82

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 (%) = $\text{Profit attributable to owners of the parent} / \text{Total Equity attributable to owners of the parent (Average)}$

Efficiency Ratio (%)

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

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 Ratio

- 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) = $\frac{365}{\text{Account receivable turnover}}$
- Accounts Payable Turnover (Times) = $\frac{\text{Cost of sale of goods and rendering of services}}{\text{Accounts payable (Average)}}$
- Payment Period (Days) = $\frac{365}{\text{Account payable turnover}}$

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) = $\frac{(\text{Interest bearing debt} - \text{Cash and cash equivalents} - \text{Short-term investments})}{\text{Total equity}}$

Issuance of Debenture Ratio (Times)

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

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 world economy is likely to experience a slowdown in Q4/2022, due to rising global inflation. The IMF forecasts that global inflation is expected to peak later this year at 8.8%. Rising inflation has prompted many central banks, especially the Federal Reserve to raise policy interest rate faster and more aggressively. In addition, the European economy still faces risks from prolonged Russia-Ukraine war and the resulting energy crisis which reverberate throughout the world. The slowdown in large economies is cause for concerns for the market as prospect of future recession increases.

As for the Thai economy, recovery is expected to continue gradually in Q4/2022. The Monetary Policy Committee (MPC) expects that the Thai economy expand by 3.3% this year, driven by better-than-expected recovery in the tourism sector. However, lower demand from key trade partners, especially China due to Zero-Covid policy and uncertain economic recovery, is a worrying sign for the export sector.

Crude Oil Price Outlook

The International Energy Agency (IEA) forecasted that crude oil demand will slowdown in Q4/2022, due to high oil price as a result of OPEC+ production cut. In addition, global recession concerns after many central banks around the world are tightening monetary policy. The IEA revised down the demand forecast growth to 1.9 million barrels per day in 2022 and 1.7 million barrels per day in 2023.

Average Dubai crude oil price is expected around 91 – 94 \$/BBL in Q4/2022. As global supply declined due to OPEC+'s decision to cut production by 2.0 million barrels per day from November onwards to support crude oil price. While European sanction of seaborne Russian oil import will become effective from December onwards. Also, demand is expected to grow from Chinese imports.

In Q4/2022, Dated Brent and Dubai spread (DTD-DB) is expected to average 3.8 – 4.5 \$/BBL, due to the decrease in global supply after OPEC+ production cut. In addition, European sanction of Russian oil will increase the demand for light crude in the region to replace purchases of Russian crude oil and for production of diesel during European winter.

In Q4/2022, Dubai crude cracking margin in Singapore is expected to increase from Q3/2022. Refining margin will be supported by crack spread of middle distillates products as sanction of Russian oil import, resulting in European supply reduction. While demand increase during the winter which likely led to more export volume of middle distillates products from other regions to Europe. In addition, demand for fuel oil products is expected to increase from electricity generation in North Asia during the winter.