

Bangchak Corporation Plc.

Management Discussion &
Analysis of Business Operation

For the 2nd quarter ended June 30th, 2021





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Executive Summary



Summary of the company and its subsidiaries' operating result for the 2nd quarter ended 30th June 2021

Unit: THB Million	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
Total Revenue	43,775	41,230	6%	26,594	65%	85,006	69,665	22%
Accounting EBITDA	4,269	4,737	-10%	1,131	277%	9,006	(1,415)	737%
<i>Refinery and Trading Business^{1/}</i>	1,976	2,411	-18%	(785)	352%	4,388	(3,375)	230%
<i>Marketing Business^{2/}</i>	827	970	-15%	725	14%	1,797	806	123%
<i>Power Plant Business^{3/}</i>	997	979	2%	863	16%	1,976	1,633	21%
<i>Bio-Based Products Business^{4/}</i>	296	422	-30%	339	-13%	717	848	-15%
<i>Natural Resources Business^{5/}</i>	276	31	786%	60	359%	307	(1,166)	126%
<i>Others</i>	(103)	(76)	-35%	(71)	-46%	(179)	(161)	-11%
Profit attributable to owners of the Company	1,765	2,284	-23%	(1,911)	192%	4,048	(6,571)	162%
Earnings (Loss) per share (Baht)	1.21	1.59		(1.50)		2.80	(5.02)	

Note: 1/ EBITDA from Refinery Business of the Company, BCP Trading Pte. Ltd. and share of profit from associated companies

2/ EBITDA from Marketing Business of the Company, Bangchak Green Net Co., Ltd., Bangchak Retail Co., Ltd., and share of profit from associated companies

3/ EBITDA from Power Plant Business of BCPG Plc., its subsidiaries, and share of profit from associated companies

4/ EBITDA from BBGI Plc., its subsidiaries, and share of profit from associated companies

5/ EBITDA from Natural Resources Business of Nido Petroleum Pty. Ltd., BCP Energy International Pte. Ltd., BCP Innovation Pte. Ltd., BCPR Co., Ltd. and share of profit from associated companies

As for performance of the first 6 months of 2021, Bangchak Corporation Plc. (The company) and its subsidiaries recorded revenue from sales and rendering of service in the amount of THB 85,006 million (+22% YoY), an all-time high EBITDA for a half year performance of THB 9,006 million (+737% YoY). This resulted in **net profit attributable to owners of the parent at THB 4,048 million** (+162% YoY) or **earning per share of THB 2.80**. The performance of first half was supported by demand for consumption of oil in the global market increasing. After the COVID-19 outbreak has subsided, especially in the US and Europe. Moreover, progress made on the distribution of vaccines have led to various countries unwinding their lockdown measures. In addition, the governments around the world has continuously carried out stimulus packages to mitigate the effects of the outbreak. This resulted in the price of crude oil and finished products in the global market to rise. The average price of Dubai Crude in 1H/2021 was 63.62 \$/BBL, an increase of 22.89 \$/BBL, or 56% from 1H/2020. This led to the company group recording an Inventory Gain of THB 3,773 million, and the Refinery Business recording a stabilized Operating GRM that has a positive trend. Moreover, share of profit from invested capital in associate company, OKEA was THB 371 million, the highest has ever recorded since investing in the Exploration and Petroleum Production business. As such, the aforementioned supporting factors assisted the Marketing Business Group and the Bio-based Product Business Group that were affected by the decline in domestic oil demand from the resurgence of the COVID-19 outbreak. Especially, demand for Jet fuel is still low, and would take a long period before returning to normal levels. Then, the company transitioned towards becoming a Niche Products Refinery that aims to provide new products to the market i.e. UCO (Unconverted Oil) that saw its sales rise by 2 folds from Q2/2020, Solvent; under the "BCP White Spirit 3040" name, and still has plans to launch many new products.



However, demand for oil in 2H/2021 may be pressured by the COVID-19 Delta variant outbreak that has caused the outbreak situation in many countries to become severe again, especially in Asia. At the same time, the effects of the vaccine to protect the Delta variant may have lessen. Governments of different countries have returned to strict containment measures which may affect the recovery of economies in many countries to slow down; including the overall global economy. Moreover, Thailand is still being pressured from its announcement of lockdown measure to contain the outbreak, despite not being a full lockdown similar to the previous year. Economic activities and demand for oil consumption have begun to be affected in a manner similar to the previous countrywide complete lockdown.

As for performance in Q2/2021, the company and its subsidiaries recorded revenue from sales and rendering of service in the amount of THB 43,775 million (+6% QoQ), Operating EBITDA of THB 3,059 million (+28% QoQ), which increased from the previous quarter. This was due to the Bangchak refinery resuming normal operations after its turnaround maintenance in Q1/2021. Furthermore, the crack spread of most products have increased, resulting in Operating GRM increasing marginally. Moreover, the Natural Resources Business Group received an increase in share of profit from associate company, OKEA due to the price of crude oil and natural gas adjusting upward from the previous quarter. However, the company group recorded EBITDA of THB 4,269 million (-10% QoQ), a decline from Q1/2021, mainly from the price of crude oil adjusting upward at a lower rate than the previous quarter. This led the company group to record an Inventory Gain of THB 1,299 million, which declined from the previous quarter THB 1,174 million. In addition, total sales volume made by the Marketing Business was affected by the third round of COVID-19 outbreak throughout the quarter. Leading to this quarter recording **net profit attributable to owners of the parent at THB 1,765 million** (-23% QoQ) or **earning per share of THB 1.21**. With performance for each business unit as follow.

Refinery and Oil Trading Business Group saw its performance declined by 18% QoQ, but increased by 352% YoY. Mainly, from this quarter recording an Inventory Gain of THB 1,171 million, a decline from Q1/2021 due to the price of crude oil adjusting upward at a lower rate compared to the previous quarter. Whereas, an Inventory Loss was recorded in Q2/2020. However, the Operating GRM increased to 4.18 \$/BBL in this quarter, due to decrease in crude premium over Dated Brent. The crack spread of most products have increased, following the increase in global demand of finished products. Moreover, the yield of high value product increased from the Bangchak refinery resuming normal operations after undergoing turnaround maintenance in Q1/2021. Resulting in average production rate in Q2/2021 increase to 107 KBD or 89% utilization rate. As for the Oil Trading business under BCPT Pte. Ltd., saw its crude oil and finished product transaction increased by 30% QoQ. Gross profit also increased, mainly attributed to the Diesel and the low Sulphur fuel oil products. This was due to various countries easing up on their lockdown measures which resulted in the recovery of oil demand.

Marketing Business Group performance declined by 15% QoQ, but increased 14% YoY, mainly from this quarter the price of oil increased at a lower rate. This resulted in a lower Inventory Gain from the previous quarter, but an increase when compared to Q2/2020. Despite the price of oil is adjusting upward, the company still recorded increase in net marketing margin per unit by 17% QoQ, from an effect of the lower cost of B100 product, and in combination with policy to manage cost effectively. Whereas net marketing margin per unit declined 2% YoY, due to global oil price declining sharply in Q2/2020, allowing the company to adjust its service stations retail price to coincide with product cost.

Note: Operating EBITDA is EBITDA excluding Inventory Gain/(Loss) (net NRV), one-time item and Gain/(Loss) from foreign currencies forward contract.



While, the price of crude oil has been continuously increasing over Q2/2021, a cost management policy was implemented. Thus, resulting in net marketing margin per unit declined slightly. Moreover, the total sales volume of the Marketing Business declined by 5% QoQ, from the effects of the third wave of COVID-19 outbreak throughout the quarter, but increased 3% YoY from the disparity in the measures announced to control the COVID-19 outbreak, in Q2/2020 being stricter. Furthermore, the airline business have resumed operations for some routes, resulting in the volume of Jet fuel sold to increase by 363% YoY. The company recorded cumulative retail sales volume market share between January - June 2021 at 15.9%, an increase from the same period of the previous year of 15.6%. As a result, the company was able to maintain its No. 2 market share (data from Department of Energy Business). As of the end of Q2/2021, the number of service stations was 1,247 stations, and PEA VOLTA charging stations installed at 27 Bangchak service stations, offering services in 17 provinces across the country. As such the company maintains its focus on expanding its Non-Oil business, there are 711 branches of Inthanin coffee shops as of the end of Q2/2021, and number of cups sold per day increased 7% QoQ. As for sales via the online delivery platforms, sales rose by more than 90% QoQ from the change in customer habit during the COVID-19 outbreak. Furthermore, Inthanin has branched out its beverage business by purchasing the franchise rights of DAKASI pearl milk tea shops to be operated in Bangchak service stations across the country. Currently, there are 2 branches open for business, with plans to open an additional 10 branches in this year.

Power Plant Business Group saw performance improved by 2% QoQ and 16% YoY from the increase in electricity sales by 20% QoQ and 25% YoY. Mainly attributed to the increase in electricity sales of the Hydro power plant in Lao PDR from the higher rainfall – due to the plant entering the high season. Furthermore, the investment in the 4 new Solar Power Plant projects (PPA 20 MW) during Q3/2020, resulted in the volume of electricity sold to increase YoY. This quarter, the company realized share of profit from investments in associate company THB 157 million, attributed to share of profit from the Wind Power Plant business in the Philippines THB 4 million, and the Geothermal Power Plant business in Indonesia THB 153 million. As such, BCPG Plc. (“BCPG”) expanded its investment into the Utility-Scale Energy Storage System business, or Vanadium Redox Flow Battery by purchasing convertible bonds of the VRB Energy Inc. worth USD 24 million in July. The aforementioned investment coincides with BCPG’s strategy of becoming the leader in the renewable energy business and the utility-scale energy storage system business. Further, aims to mitigate the limitations posed by the fluctuation of electricity generation by renewables.

Bio-Based Products Business Group saw its performance declined by 30% QoQ and 13% YoY. The **Biodiesel Business** recorded a decrease in gross profit by 32% QoQ, due to the crude palm oil costs used in production during this quarter was unable to keep up with the decline in selling price of B100 products, as a consequence of palm product yields entering the market seasonally. Meanwhile, gross profit increased by 67% YoY, mainly from the average selling price of B100 products increasing significantly. The B100 price (in accordance to announcement made by the Department of Energy Business) increased by 40% YoY, due to the demand for Biodiesel in Q2/2020 declined as a result of the first wave of COVID-19 outbreak. The **Ethanol Business** recoded a decline in gross profit 48% QoQ and 73% YoY, mainly from the cost of main raw material adjusting upward. Due to sugar cane yield declining from the severe draught. Moreover, the domestic cassava price rose from the increase in export volume. Furthermore, the demand for consumption of industrial grade ethanol to produce alcohol gel declined. The selling price of industrial grade



ethanol is higher than fuel grade. Moreover, BBGI Plc. (“BBGI”) was successful in its initial issuance of corporate bonds in this quarter, in the amount of THB 1,300 million for the purpose of repayment of outstanding debts, investment in new businesses, and to be used as working capital. As such, BBGI was assigned the “BBB+” rating by the Tris Rating Co., Ltd. Moreover, during June 2021, BBGI imported Astaxanthin Ingredients which are High Valued Bio-Based Products, and has a high antioxidant activity; able to prevent wrinkles, rejuvenating the skin. The products were sold in Thailand on a Business-to-Business (B2B) basis with plans for Business to Customers (BSC) basis under the B Nature Plus brand name. Furthermore, during April 2021, WIN Ingredients Co., Ltd. (WIN) which is a joint venture between BBGI and Manus Bio Inc. received the Food Recipe Registration Certificate (Orr. 18) for the sweetener substance, Neotame to be distributed in Thailand. In June 2021, the authorized dealers were appointed to sell the sweetener in 5 countries i.e. Thailand, Vietnam, Malaysia, Indonesia, and the Philippines.

Natural Resources Business Group saw its performance improved by 786% QoQ and 359% YoY, due to realizing an increase in share of profit from invested capital in its associate company OKEA. During this quarter OKEA recorded increase in revenue due to the price of crude oil and natural gas increasing. After the progress made in the deployment of the COVID-19 vaccine resulted in the gradual unwinding of lockdown measures in various countries. Moreover, this quarter recorded fully reversal of the impairment related to the Yme asset under development. Due to the price of oil and natural gas making a more positive trend, and the reorganization of operations in the Yme field, which resulted in the project recording improvement cash flow. As such, the Yme field will begin production as planned during 2H/2021 and will increase production for OKEA by 7,500 barrels per day. Over the first production year, production will increase 5,600 barrels per day which is higher than the first assessment of 4,900 barrels per day. Moreover, OKEA has plans to develop the Hasselmus field, which will be the first field development project for OKEA as operator. Hasselmus will also be the first tie-back to the Draugen production platform and is planned to start-up production in Q4/2023.

Amid the third wave of COVID-19 outbreak is still spreading in various countries, with higher degrees of severity than in the past – resulting in record numbers of new cases and deaths since the outbreak started. The company group maintains emphasis on the safety and health of its employees, customers, and related parties. The company assisted in the procurement of COVID-19 vaccines, resulting in high percentage of employees vaccinated. Furthermore, utmost adherence to follow the preventive and containment measures of COVID-19 were taken i.e. the Bubble and Seal measure for key personnel crucial to the production process, in order to control risk and prevent cluster formation that may affect production. Also, the Work From Home measure (WFH) has been in effect since April, and establish quarantine center for employees at high risk of contracting COVID-19 to name a few. The company provided assistance through various agencies and prioritize care towards the community around the refinery i.e. sponsoring Bangchak cash cards to volunteer ambulance responders, procuring medical equipment, delivering medical masks, the Midori alcohol gels, and water to name a few. In terms of business operation, the situation is being monitored closely in order to adequately adjust business plans. Also, strict cost controls were implemented to lower expenses and to efficiently utilizing the capital investment. This includes the management of working capital to conduct business in a continuous and smooth manner.



Other importance events

July

- The company notified the Stock Exchange of Thailand in regards to the founding of Carbon Markets Club. Bangchak Group, comprising the company, BCPG Plc and BBGI Plc, invited leading organizations in Thailand to jointly establish the Carbon Markets Club, which is committed to reducing the effects of carbon emissions. These founding members of the Carbon Market Club are committed to support, promote carbon credit trading and set out to develop the current over-the-counter mode of trade into a digital platform that is convenient and modern and in line with international standards. This project is aligned with the Company's aspiration and strategy to being a Thai energy company that conducts business in parallel with stewardship of the environment and society, engaging in the quality of life improvement for Thai society, and fulfilling Sustainable Development Goals.

- The company notified the Stock Exchange of Thailand in regards to the disposition of all shares in BCP Energy International Pte.Ltd. ("BCPE"), a wholly-owned subsidiary of the Company in Singapore, with Sacgasco Limited, a company listed in Australian Securities Exchange. The transaction was completed on 2nd July 2021 and is not impacting the Company's business operation

- On 20th July 2021, the company exercised Warrant of BCPG Public Company Limited No.1 (BCPG-W1) for 69.15 million units at exercise price of THB 8 each, for a value of THB 553 million. The Company's ownership interest in BCPG Plc has changed to be at 61.31% without change in control over BCPG Plc.

Statement of Income



Consolidated Statement of Income (THB Million)	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
Revenue from sale of goods and rendering of services	43,775	41,230	6%	26,594	65%	85,006	69,665	22%
Cost of sale of goods and rendering of services	(40,032)	(36,626)	9%	(26,036)	54%	(76,658)	(70,323)	9%
Gross Profit (loss)	3,744	4,604	-19%	558	570%	8,348	(658)	1369%
Other income	176	142	24%	187	-6%	317	292	9%
Selling and administrative expenses	(1,628)	(1,447)	13%	(1,585)	3%	(3,075)	(3,348)	-8%
Gain (loss) from derivatives	(202)	(429)	N/A	283	N/A	(630)	(77)	N/A
Gain on foreign exchange	181	43	N/A	132	N/A	223	459	N/A
Reversal of (loss) from impairment of assets	13	400	N/A	(83)	N/A	413	(1,487)	N/A
Profit (loss) from operating activities	2,283	3,313	-31%	(508)	549%	5,596	(4,819)	216%
Finance costs	(518)	(464)	12%	(517)	0.2%	(982)	(981)	0.1%
Impairment gain and reversal of impairment loss (impairment loss) determined in accordance with TFRS 9	(8)	6	N/A	(895)	N/A	(1)	(890)	N/A
Share of profit (loss) of associates and joint ventures accounted for using equity method	512	194	N/A	169	N/A	706	(913)	N/A
Profit (loss) before income tax expense	2,269	3,049	-26%	(1,751)	230%	5,319	(7,603)	170%
Tax income (expense)	(195)	(408)	N/A	26	N/A	(603)	1,562	N/A
Profit (loss) for the period	2,074	2,642	-21%	(1,725)	220%	4,716	(6,042)	178%
Owners of parent	1,765	2,284	-23%	(1,911)	192%	4,048	(6,571)	162%
Non-controlling interests	309	358		185		668	530	
Basic earnings (loss) per share (Baht)	1.21	1.59		(1.50)		2.80	(5.02)	

The Company and its subsidiaries Q2/2021 performance recorded a profit for the period THB 2,074 million, a decline of 21% QoQ, and an increase of 220% YoY, of which the net profit attributable to the owners of the parent was THB 1,765 million, or basic earning per shares of THB 1.21 mainly due to the following reasons:

- 1) Revenue from sales and rendering services was THB 43,775 million, an increase of 6% QoQ, mainly from petroleum related business. In terms of the company, revenue increased from the rise in average selling price per unit that increased 6% QoQ from the adjusting upward in crude oil price following economic recovery and the expansion of demand for oil. After the progress made from the deployment of COVID-19 vaccines across the world. Also, the company's total sales volume of products rose by 2% QoQ, mostly from the exporting of Gasoil and Fuel Oil. Moreover, BCP Trading Pte. Ltd. ("BCPT") recorded increase revenue from sales, due to the average selling price per unit increasing 9% QoQ. Whereas, the volume sold declined by 6% QoQ. The Bio-based Products business group recorded increased revenue from their ability to push sales volume of ethanol products.

Statement of Income



As such, when compared to Q2/2020, revenue increased 65% YoY, mostly from petroleum related businesses that saw average selling price per unit and the total volume of products sold increasing from the recovery in demand for oil consumption. This was due to the easing of lockdown measures, especially in the US and Europe. Also Thailand announcing containment measures of COVID-19 that were less strict than those announced during Q2/2020 when the first wave of outbreak took place. Thus resulting in domestic demand for oil consumption increasing when compared to the same period of the previous year.

- 2) Gross profit was recorded at THB 3,744 million, a decline of 19% QoQ, mainly from this quarter, the company group recorded Inventory Gain of THB 1,299 million, which declined from the previous quarter THB 1,174 million. With respect to the gains in crude oil price during this quarter were at a rate lower than the previous quarter. Resulting in the Refinery Business recording Total GRM of 7.60 \$/BBL, a decline of 7.86 \$/BBL. While the Operating GRM increased from the previous quarter 0.94 \$/BBL to 4.18 \$/BBL, due to the crude distillation unit and related units have resumed normal operation, and the crack spread of most products increased from the previous quarter. Moreover, the Marketing Business saw its net marketing margin per unit increased by 0.75 Baht/Liter to 0.88 Baht/Liter from efficient cost management policy.

As such, when compared to Q2/2020, gross profit extremely rose by 570% YoY, mainly from the company group recorded an Inventory Gain in this quarter, whereas in Q2/2020 incurred an Inventory Loss in the amount of THB 1,725 million (including reversal of losses on inventories devaluation (NRV)) from the first wave of COVID-19 outbreak situation that occurred in various countries across the world, resulting in the sharp decline of the price of crude oil.

- 3) Other income was recorded at THB 176 million, an increase of 24% QoQ, mainly attributed to gain from fair value measurement of general investment. While other income decreased by 6% YoY.
- 4) Selling and administrative expenses was recorded at THB 1,628 million, an increase of 13% QoQ and 3% YoY, mostly from employee expenses, sales promotion expenses, delivery expenses and adjustment of exploration and evaluation expenses in Natural Resource Business.
- 5) Reversal (loss) from impairment of assets was recorded at THB 13 million, a decline of THB 387 million, from the significant increase in crude oil price during Q1/2021, resulting in reversal of impairment assets from Natural Resource Business.
- 6) Financial costs was recorded at THB 518 million, an increase of 12% QoQ, mainly from the partial completion of Efficiency, Energy, and Environment Enhancement Project (3E) in this quarter. This led to financial costs which can be capitalized as project cost to decline.
- 7) Share of profit (loss) of associates and joint ventures accounted for using equity method was recorded at THB 512 million comprising of (1) Star Energy Holdings Pte. Ltd. THB 153 million (2) PetroWind Energy Inc. THB 4 million (3) Ubol Bio Ethanol Plc. THB 15 million (4) Bongkot Marine Services Co., Ltd. THB 8 million (5) OKEA THB 333 million and (6) WIN Ingredients Co., Ltd. THB -0.6 million.

Performance by Business Group



1.) Refinery and Oil Trading Business Group

Crude Oil Price Situation

Crude Oil Price (\$/BBL)	Q2/2021			Q1/2021	QoQ	Q2/2020	YoY	6M	6M	YoY
	MAX	MIN	AVG	AVG	+/-	AVG	+/-	2021	2020	+/-
Dubai (DB)	73.85	60.85	67.02	60.21	6.81	30.72	36.30	63.62	40.72	22.89
Dated Brent (DTD)	76.44	61.03	68.97	61.12	7.85	29.56	39.41	64.98	40.07	24.91
DTD/DB	2.59	0.17	1.95	0.91	1.04	(1.16)	3.11	1.36	(0.65)	2.01

Dubai crude price average in Q2/2021 increased compared to Q1/2021 and Q2/2020 with support from the economic recovery and the growth in demand for oil. After the progress made in the deployment of the COVID-19 vaccine across the world resulted in the continuously declining number of new infected patients, and gradual unwinding of lockdown measures in various countries. Furthermore, there is a rising propensity for travel during the summer season of the US and Europe. Whereas, the supplies from OPEC+ have increased in a limit after coming to a resolution to gradually increase oil production since May onwards.

As for the Dated Brent and Dubai spread (DTD/DB) average in Q2/2021, which adjusted upward when compared to Q1/2021 and Q2/2020, due to demand for Light Crude recovering after the unwinding of the lockdown and the COVID-19 outbreak situation. Especially, in the US and Europe have started to subside, after progress was made in the deployment of the vaccine resulting in the number of new infected patients slowing down. Additionally, a maintenance was carried out on the Forties crude pipeline located in Europe's Northern Sea during May to June 2021, resulting in tightening supplies of Light Crude.

Crack Spreads Situation

Crack Spreads (\$/BBL)	Q2/2021			Q1/2021	QoQ	Q2/2020	YoY	6M	6M	YoY
	MAX	MIN	AVG	AVG	+/-	AVG	+/-	2021	2020	+/-
UNL95/DB	11.66	7.78	9.89	7.19	2.69	2.57	7.32	8.54	4.58	3.96
IK/DB	6.24	1.07	4.49	3.22	1.27	(0.02)	4.51	3.86	4.29	-0.43
GO/DB	6.45	3.19	5.24	4.70	0.53	5.83	-0.60	4.97	8.46	-3.49
FO/DB	(3.08)	(8.89)	(5.81)	(3.47)	-2.34	(1.54)	-4.27	(4.64)	(4.47)	-0.17

Gasoline and Dubai crack spread (UNL95/DB) average in Q2/2021 increased when compared to Q1/2021 and Q2/2020, due to demand in the US making a recovery from driving activities progressively increasing after lockdown measures were unwound, under the low levels of Gasoline supplies in the US. Together with support from Indonesia importing more Gasoline, due to its domestic demand making a recovery during the Ramadan period throughout April 2021. **As for the Jet (Kerosene) and Dubai crack spread (IK/DB)** average in Q2/2021 gained in comparison to Q1/2021 and Q2/2020, which was a result of expectations for the aviation industry in Europe to make a faster recovery, after Europe has been continuously relaxing its lockdown measures in the midst of higher rates of vaccination. **As for the Gasoil and Dubai crack spread (GO/DB)** average in Q2/2021 increased when compared to Q1/2021, with support from the low level of Gasoil stock in Singapore compared to the previous quarter, among regional refineries entering

Performance by Business Group



maintenance season in April. Moreover, refineries in China had cut down on exports. However, there were additional exports from India, with the country's demand being limited under their lockdown measure. While the GO/DB average in Q2/2021 declined when compared to Q2/2020. This is due to Europe, which was the largest consumer of Gasoil, still having a high level of Gasoil stock. Consequently, the excess supplies from Asia could not be sent to Europe (Arbitrage). And, the **Fuel Oil and Dubai crack spread (FO/DB)** average in Q2/2021 adjusted downward compared to Q1/2021 and Q2/2020, with pressure from supplies of Heavy Crude increasing after OPEC+ had increased their production capacity since May 2021 onwards. Resulting in supplies for crude oil from OPEC+ increasing by approximately 0.6 million barrels per day from April 2021. Whereas, the demand for consumption of Fuel Oil for electricity generation had declined, leaving stock of Fuel Oil in Singapore at a 4 year all time high level.

Refinery and Oil Trading Business Group Performance

	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
EBITDA (THB Million)	1,976	2,411	-18%	(785)	352%	4,388	(3,375)	230%
Average Crude Run (KBD)	107.0	64.9	65%	89.3	20%	86.1	96.8	-11%
Utilization Rate (%)	89%	54%		74%		72%	81%	-11%
Average FX (THB/USD)	31.53	30.44		32.12		30.98	31.78	-3%
<i>(Unit: \$/BBL)</i>								
Operating GRM	4.18	3.24	0.94	3.93	0.25	3.85	3.36	0.15
Oil Hedging	(0.40)	(0.04)	-0.35	0.001	-0.40	(0.27)	0.14	-2.90
Inventory Gain/ (Loss) ^{1/}	3.81	12.26	-8.45	(7.15)	10.96	6.94	(8.29)	1.84
Total GRM	7.60	15.46	-7.86	(3.22)	10.82	10.53	(4.78)	3.20
Total Sales Volume in each market category of the Company ^{2/} (Million Liters)								
Marketing Business	1,183	1,239	-5%	1,144	3%	2,422	2,569	-6%
Petroleum traders in accordance with section 7	171	144	19%	153	12%	315	339	-7%
Export	294	228	29%	258	14%	522	476	10%
Total Sales Volume	1,648	1,611	2%	1,555	6%	3,259	3,385	-4%

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

2/ Sales volume does not include oil swaps between major oil companies (petroleum traders in accordance with section 7) and sales of crude oil

Performance for Q2/2021, the Refinery and Oil Trading Business Group recorded EBITDA of THB 1,976 million, a decrease of THB 435 million when compared to Q1/2021, with the following factors affecting performance as follow:

1. The Bangchak refinery averaged its production in Q2/2021 at 107 KBD or 89% utilization rate, which is higher than the previous quarter's average production rate. This is due to the crude distillation unit and related units have resumed normal operation after the turnaround maintenance was carried out in Q1/2021.

2. During this quarter, the refinery's Total Gross Refinery Margin (Total GRM) was recorded at 7.60 \$/BBL, a decline of 7.86 \$/BBL when compared to the previous quarter, mainly due to the following reasons.

- Operating GRM was recorded at 4.18 \$/BBL, an increase of 0.94 \$/BBL, due to crude premium over Dated Brent adjusted downward. Also, this quarter crude distillation unit and related units have resumed normal



operation. Thus, the proportion of high value products production increased from the previous quarter. Furthermore, the crack spread of most products increased from the previous quarter, due to the growth in global finished products consumption after Europe and the US started to ease up on their lockdown measures.

- In this quarter, the refinery business recorded loss from crude and product oil price hedging contract 0.40 \$/BBL, mostly from the fair value measurement in accordance with TFRS. Whereas, the previous quarter recorded a loss of 0.04 \$/BBL.
- This quarter the refinery business recorded Inventory Gain of 3.81 \$/BBL or THB 1,171 million, due to the price of crude oil in the global market still adjusting upward. As a result of increased in demand for oil consumption, after the easing of lockdowns in various countries. However, the price of crude oil increased at a lower rate when compared to the previous quarter. This resulted in this quarter recording an Inventory Gain that is lower than Q1/2021, which recorded an Inventory Gain of 12.26 \$/BBL or THB 2,180 million. Also, the diesel which has been gradually stocked in earlier during low cost of fuel, was to be sold over the turnaround maintenance in Q1/2021.

3. BCP Trading Pte. Ltd. (“BCPT”) recorded total trade transactions of crude oil and finished product of 7.86 million barrels, an increase of 1.81 million barrels (+30%) when compared to the previous quarter. The proportion that increased was mostly from the purchase of crude oil of the Bangchak refinery, due to it having undergone a turnaround maintenance in the previous quarter. As such, BCPT recorded increase gross profit, mainly attributed to the sales volume of the Diesel group adjusted upward, and the increase in margin per unit of the Low Sulphur Fuel Oil. This was due to the subsiding of the COVID-19 situation; resulting in demand for oil to make a recovery. Aside from this, new products were traded i.e. the Pyrolysis Gasoline, as well as expanding the customer base of UCO (Unconverted Oil), coinciding with BCPT’s business expansion strategy.

Performance comparison between Q2/2021 and Q2/2020, the Refinery and Oil Trading Business Group recorded EBITDA increase of THB 2,761 million, with the following factors affecting performance:

1. The Bangchak refinery’s average production rate increased 20% YoY, due to increase in domestic oil consumption. As a result of the government sector announcing COVID-19 control measures that is less strict than Q2/2020 when the first wave of outbreak took place.

2. Total Gross Refinery Margin increased 10.82 \$/BBL when compared to Q2/2020, mainly due to the following reasons:

- Operating GRM increased 0.25 \$/BBL, mainly from the significant decrease in crude premium over Dated Brent. It reduced the effects of the Gasoil and Dubai crack spread (GO/DB) that declined when compared to Q2/2020. The product yield of Diesel fuel is the largest portion of the Bangchak refinery. Furthermore, the refinery optimized its refining process to maximize efficiency after low Jet Fuel demand. Therefore, the refinery transitioned towards a Niche Products Refinery to develop solvent product groups

Performance by Business Group



under the name BCP White Spirit 3040, and increased production of Unconverted Oil (UCO) to improve refining margins.

- During this quarter the refinery recorded loss from crude and product oil price hedging contract 0.40 \$/BBL, whereas Q2/2020 realized a gain in the amount of 0.001 \$/BBL.
- The refinery business recorded an Inventory Gain of 3.81 \$/BBL or THB 1,171 million (as mentioned above). Whereas in Q2/2020 recorded Inventory Loss of 7.15 \$/BBL or THB 1,866 million (including reversal of losses on inventories devaluation (NRV)) from the first wave of COVID-19 outbreak in various countries across the world. This resulted in demand for oil consumption declining with significance and pressured the price of crude oil in the global market to decline sharply.

3. BCPT recorded an increase in trade transactions of crude oil and finished product by 0.83 million barrels (+12%) when compared to Q2/2020, mainly from Diesel fuel and crude oil. As a result of demand for oil consumption making a recovery after the lockdown measures have been unwound in various countries. However, BCPT recorded slight decline in gross profit, due to margin per unit of the Fuel oil group declining from a surge in supplies from producers and exports. Additionally, Gasoline sales volume declined. Moreover, Q2/2020 recorded increase in revenue partly from logistic service. As such, BCPT is still moving forward with the expansion of trade transactions with partners and new products in an increasing manner that coincides with the company's business expansion strategy.

2.) Marketing Business Group

Marketing Business Performance	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
EBITDA (THB Million)	827	970	-15%	725	14%	1,797	806	123%
Net Marketing Margin (Baht / Liter)	0.88	0.75	17%	0.90	-2%	0.82	0.84	-3%
Sales Volume (Million Liters)								
Retail (Service Stations)	996	1,054	-6%	971	3%	2,049	1,991	3%
Industrial	187	186	1%	173	8%	373	578	-36%
Total	1,183	1,239	-5%	1,144	3%	2,422	2,569	-6%
Sales volume in each product category (Million Liters)								
LPG	26	17	50%	30	-15%	43	69	-38%
Gasoline	8	8	-4%	9	-13%	16	23	-33%
Gasohol	354	383	-8%	345	3%	736	740	-0.5%
Jet Fuel	34	35	-3%	7	363%	70	223	-69%
Diesel	713	748	-5%	708	1%	1,461	1,422	3%
Fuel Oil and Others	49	48	0.5%	45	7%	97	92	5%
Total	1,183	1,239	-5%	1,144	3%	2,422	2,569	-6%

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

Performance by Business Group



The Q2/2021 performance of the Marketing Business Group recorded EBITDA of THB 827 million, a decrease of THB 144 million compared to Q1/2021, with the following factors affecting performance:

1. Total sales volume of the Marketing Business declined 5% QoQ, mainly from retail channel sales declining by 6% QoQ, due to the effects of the third wave of COVID-19 outbreak that took place throughout the quarter. With the number of new infected patients increasing significantly in comparison to the previous quarter. This led the government to escalate various measures to contain the outbreak of COVID-19 i.e. announcing that citizens residing in the maximum and strict controlled area by prohibiting commute out of control areas without reasonable cause, closing various locations susceptible to outbreaks, asking for cooperation from both the government and private sector to carry out work from home, and making online learning, to name a few. For these reasons, the demand for consumption of oil in the country declined.

2. Net marketing margin per unit increased 17% QoQ. Despite the price of finished product adjusting upward, but the result of B100 product cost declining compared to the previous quarter, combined with the company enacting its policy to effectively manage cost; led to net marketing margin per unit increasing. However, this quarter the price of oil increased at a rate lower than that of the previous quarter, which led to this quarter recording lower Inventory gain when compared to the previous quarter

3. The company still maintains its customer base growth strategy, and strives for higher throughput sales per service station. Doing so by expanding its service station locations to potential areas under the “Greenovative Experience” concept. In Q2/2021, the number of new service stations opened was 8 stations, as of the end of Q2/2021 was at 1,247 stations, and the cumulative retail sales volume market share between January – June 2021 was at 15.9% (data from the Department of Energy Business). During this quarter the company partnered with the Provincial Electricity Authority to officially debut the PEA VOLTA (EV charging station) inside Bangchak service stations for every 100 kilometers stretch on major routes across Thailand. PEA VOLTA is compatible with various car brands, as of the end of Q2/2021 the service is available in 27 stations in 17 provinces throughout the country. Furthermore, the company invested in Sharge Management Co., Ltd. to provide full vehicle charging service. The pilot charging station has been placed in the Bangchak service station at Sukhumvit 62, which is expected to begin service within Q3/2021, with plans to expand charging station coverage to encompass the vicinity of Bangkok. The installation of charging stations is part of the objective of the Greenovative Destination to cater to travelers.

4. The Marketing Business Group still emphasizes the expansion of its Non-Oil business, in order to attract more customers to Bangchak service stations. As such new Inthanin coffee shops were opened at an increment of 22 branches. As of the end of Q2/2021, the total number was 711 branches. With the COVID-19 outbreak, more focus has been on sales through the online channel. The number of cups sold per day increased 7% QoQ. Despite, Inthanin has beverages that fit the customer needs with quality coffee made from 100% Arabica coffee beans, and Cocoa Fever, it still looks to new opportunities to branch out its beverage business. This quarter, Inthanin purchased the franchise rights of DAKASI pearl milk tea shops that will be operated in Bangchak service stations across the country. Moreover, in order to be a part of encouraging Thais to get their COVID-19 vaccine, and support the works of

Performance by Business Group



medical personnel, Inthanin offered a discount of THB 10 per cup on every menu to customers who presented their COVID-19 vaccination documentation, and presented their medical personnel identification.

Performance comparison between Q2/2021 and Q2/2020, the Marketing Business Group recorded EBITDA increase of THB 102 million, with factors affecting operations as follow:

1. Total sales volume of the Marketing Business Group increased by 3% YoY, attributed to the fuel volume sold through the industrial market and the retail market increasing by 8% and 3% YoY, respectively. Due to the disparity in the measures announced to control the COVID-19 outbreak, in Q2/2020 being stricter i.e. declaration of Emergency Decree across country, the cancellation of the Songkran holidays, and closed country to name a few. As such the airline business have resumed operations for some routes, in tandem with various countries easing their lockdown measures, resulting in sales of Jet fuel increasing by 363% YoY.

2. Net marketing margin per unit declined by 2% YoY due to this quarter the company was unable to adjust retail price to coincide with the cost of finished products that rose in accordance to the state of the global market. However, with the implemented cost management policy (as mentioned earlier) caused net marketing margin per unit to decline slightly compared to Q2/2020, where the price of oil in the global market declined sharply. This led the company optimally determined retail price correspondingly to product cost. However, this resulted in Q2/2020 recording lower Inventory gain than this quarter.

3. The company's cumulative retail sales volume market share between January - June 2021 was 15.9%, whereas the cumulative between January – June 2020 was 15.6% (data from the Department of Energy Business), as such from the end of Q2/2020 to this quarter the number of newly opened service stations was 47 stations and newly opened Inthanin coffee shop was 121 branches.

Performance by Business Group



3.) Power Plant Business Group

Power Plant Business Performance (THB Million)	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
EBITDA	997	979	2%	863	16%	1,976	1,633	21%
Revenue from sale and rendering of services	1,088	1,047	4%	970	12%	2,135	1,856	15%
Share of profit (loss) from associated companies	157	140	12%	102	53%	297	194	53%
Wind Power Plant	4	19	-79%	(15)	126%	23	9	153%
Geothermal Power Plant	153	121	26%	118	30%	274	185	48%
Electricity Sales (Million KWh)								
Solar Power Business – Thailand (165.8 MW)	80.05	81.58	-2%	71.93	11%	161.63	143.26	13%
Wind Power Business – Thailand (9.0 MW)	2.44	3.69	-34%	1.72	42%	6.13	5.58	10%
Solar Power Business – Japan (14.7 MW)	4.55	4.02	13%	4.79	-5%	8.56	7.92	8%
Hydropower Business – Lao PDR (114.0 MW)	102.02	68.12	50%	73.02	40%	170.14	107.37	58%
Total Electricity Sales	189.06	157.41	20%	151.45	25%	346.47	264.12	31%

Performance comparison between Q2/2021 and Q1/2021 of the Power Plant Business Group recorded EBITDA of THB 997 million, an increase of THB 18 million, with the following factors affecting operations as follow:

1. Solar Power Plant projects in Thailand recorded a decrease in total electricity sales by 2% QoQ, due to declining in capacity factor when compared to the previous quarter.

2. Wind Power Plant project in Thailand, “Lom Ligor”, recorded a decrease in total electricity sales by 34% QoQ, in alignment with seasonal factor, of which the second quarter was a low season for wind power projects.

3. Solar Power Plant projects in Japan recorded an increase in total electricity sales by 13% QoQ, due to the increase in the average irradiation hours, which is a result of favorable weather condition. Whereas, the previous quarter was the winter season, being its low season.

4. Hydro Power Plant project in Lao PDR recorded an increase in total electricity sales by 50% QoQ, due to seasonal factor of hydro power plants, which gradually entered into high season in late Q2/2021.

5. Recorded shares of profit from investments in associated companies THB 157 million, an increase from the previous quarter THB 17 million, with details as follow:

- Share of profit from the Wind Power Plant business in the Philippines recorded THB 4 million, a decrease from the previous quarter of THB 15 million. Due to this quarter being its low season, therefore lower monsoon typhoons swept through the project.
- Share of profit from the Geothermal Power Plant business in Indonesia was recorded at THB 153 million, an increase from the previous quarter by THB 32 million, due to lower turnaround maintenance period than the previous quarter.

Performance by Business Group



Performance comparison between Q2/2021 and Q2/2020, the Power Plant Business Group recorded EBITDA increase of THB 134 million, with the following factor affecting operation as follow:

1. Solar Power Plant projects in Thailand recorded increase in total electricity sales by 11% YoY, due to investments in the 4 new Solar Power Plant projects (PPA 20 MW) during August 2020. The projects also have been improving the efficiency of electricity generation and gradually completed.

2. Wind Power Plant project in Thailand, the “Lom Ligor”, recorded an increase in total electricity sales by 42% YoY, mainly from the increase in wind speed sweeping through the project compared to the same period of the previous year.

3. Solar Power Plant projects in Japan recorded a decrease in total electricity sales by 5% YoY, from the decline in the average irradiation hours compared to the same period of the previous year.

4. Hydro Power Plant projects in Lao PDR recorded increase in total electricity sales by 40% YoY, due to an increase in rainfall compared to the same period of the previous year.

5. Realized increase in share of profit from investments in associated companies of THB 55 million from the same period of the previous year, with details as follow:

- Share of profit from the Wind Power Plant business in the Philippines increased by THB 19 million, mainly from the increase in wind speed at the project compared to the same period of the previous year. This led to an increase in total electricity sales. Also, the plant received tariff escalation in this quarter.
- Share of profit from the Geothermal Power Plant business in Indonesia increased by THB 35 million, due to an increase in tariff rate, and total electricity sales when compared to the same period of the previous year. Additionally, the plant recorded lower finance cost, due to drop of interest rate and principal reduction.

Performance by Business Group



4.) Bio-Based Product Business Group

As for the performance of the Bio-based Product Business Group in Q2/2021, total EBITDA was recorded at THB 296 million, a decline of THB 126 million when compared to Q1/2021, and a decline of THB 43 million when compared to Q2/2020

Biodiesel Business

Biodiesel Business Performance	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
Revenue (THB Million)	2,260	2,522	-10%	1,542	47%	4,782	4,031	19%
Gross Profit (THB Million)	176	258	-32%	105	67%	433	445	-3%
B100 Production Volume (Million Liters)	63.19	62.74	1%	59.77	6%	125.93	120.27	5%
B100 Sales Volume (Million Liters)	63.08	64.51	-2%	61.58	2%	127.58	129.25	-1%

Performance comparison between Q2/2021 and Q1/2021 are as follow

1. B100 product production volume was at 63.19 million liters. A marginal increase to maintain inventory at an optimal level. Whereas, the B100 products sales volume was at 63.08 million liters, a decline of 2% QoQ. This is due to the third wave of the COVID-19 outbreak taking place in Q2/2021 was more severe and persisted longer than the second wave of outbreak in Q1/2021. As a result of lowering demand for consumption of Biodiesel fuel compared to the previous quarter.

2. Revenue from sales during this quarter was THB 2,260 million, a decline of 10% QoQ, mainly from the decline in average selling price of B100 product from the previous quarter, which coincided with the market price of crude palm oil. This was due to the stock of crude palm oil increasing from entering the harvest season. Meanwhile, the costs of crude palm oil, which was used in production this quarter, was unable to adjust to coincide with the lowering B100 product price. As a result, gross profit of the Biodiesel Business recorded a decline in gross profit by 32% QoQ.

Performance comparison between Q2/2021 and Q2/2020 are as follow

1. B100 production volume and sales volume increased by 6% and 2% YoY, respectively. Attributed to the government sector announcing containment measures for the COVID-19 outbreak in this quarter that was less stringent than Q2/2020, when the first wave of outbreak occurred. In which the government launched various measures to curb the first outbreak i.e. lockdown measure, the announcement of the state of emergency, and closing off the country. This led to travel limitations, and affected the lowering demand for consumption of Biodiesel in Q2/2020 significantly.

2. Sales revenue and gross profit increased 47% and 67% YoY, respectively. Mainly from the average selling price of B100 products increasing significantly. The price of B100 (in accordance to announcements made by the Department of Energy Business) in Q2/2021 averaged at THB 37.41 per liter, an increase of 40% YoY. The demand for consumption of Biodiesel in Q2/2020 declined due to the effects of the first wave of outbreak causing the selling price of B100 to decrease. As such, revenue in Q2/2021 was partially from sales of Refined Glycerin which was yielded from trial productions of the Refined Glycerin Plant.

Performance by Business Group



Ethanol Business

Ethanol Business Performance	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
Revenue (THB Million)	1,278	876	46%	1,098	16%	2,154	2,039	6%
Gross Profit (THB Million)	60	116	-48%	224	-73%	176	370	-52%
Ethanol Production Volume (Million Liters)	41.73	56.10	-26%	47.31	-12%	97.83	95.59	2%
Ethanol Sales Volume (Million Liters)	49.76	33.90	47%	43.50	14%	83.66	83.71	-0.1%

Performance comparison between Q2/2021 and Q1/2021 are as follow

1. Total production volume of Ethanol products was at 41.73 million liters, a decline of 26% QoQ. During this quarter the Bangchak Bioethanol (Chachoengsao) Co. Ltd. (“BBE”) plant and the KSL Green Innovation Plc. (“KGI”) plant at Bo Ploi district, Kanchanaburi province and Nam Pong district, Khon Kaen province underwent turnaround maintenance. Despite this quarter an even more severe COVID-19 outbreaks has been taking place compared to the previous quarter, but with capabilities to push sales, resulted in total sales volume of Ethanol products was at 49.76 million liters, an increase of 47% QoQ.

2. Sales revenue was recorded at THB 1,278 million, an increase of 46% QoQ, mainly attributed to increase in sales volume of Ethanol products. However, the sugar cane yield declined from the severe draught experienced in 2020. Moreover, the domestic cassava price rose from the increase in export volume during January - June 2021, an increase of 42% from the same period of the previous year (according to report by Ministry of Commerce). Leading to the Ethanol Business recorded gross profit of THB 60 million, a decline of 48% QoQ.

Performance comparison between Q2/2021 and Q2/2020 are as follow

1. Total production volume of Ethanol products declined by 12% YoY, mainly from all 3 Ethanol plants undergoing turnaround maintenance (as mentioned earlier). Whereas, in Q2/2020 turnaround maintenance was taking place at the BBE and the KGI plant Nam Pong district, Khon Kaen province. However, total sales volume of Ethanol products increased 14% YoY, due to selling capabilities. And, the mitigated effect from the COVID-19 outbreak when compared to the first wave of outbreak, which occurred during the same period of the previous year.

2. Revenue from sales increased 16% YoY, from total sales volume of Ethanol product used in fuel increasing, whereas demand for industrial Ethanol declined. Due to Q2/2020, the government sector had allowed Ethanol production plants to sell industrial grade Ethanol to be used in the production of alcohol gel and disinfectant products. In order to meet the demand of the public during the initial outbreak of COVID-19, resulting in gross profit declining by 73% YoY.

Performance by Business Group



5.) Natural Resources Business Group

Natural Resources Business Group Performance	Q2/2021	Q1/2021	QoQ	Q2/2020	YoY	6M2021	6M2020	YoY
EBITDA (THB Million)	276	31	786%	60	359%	307	(1,166)	126%
Share of profit (loss) OKEA (THB Million)	333	38	774%	60	455%	371	(1,139)	133%
Production Volume - Net to OKEA (KBD)	13.21	16.56	-20%	16.05	-18%	14.87	17.57	-15%
Sales Volume - Net to OKEA (KBD)	13.05	15.20	-14%	14.63	-11%	14.12	15.22	-7%

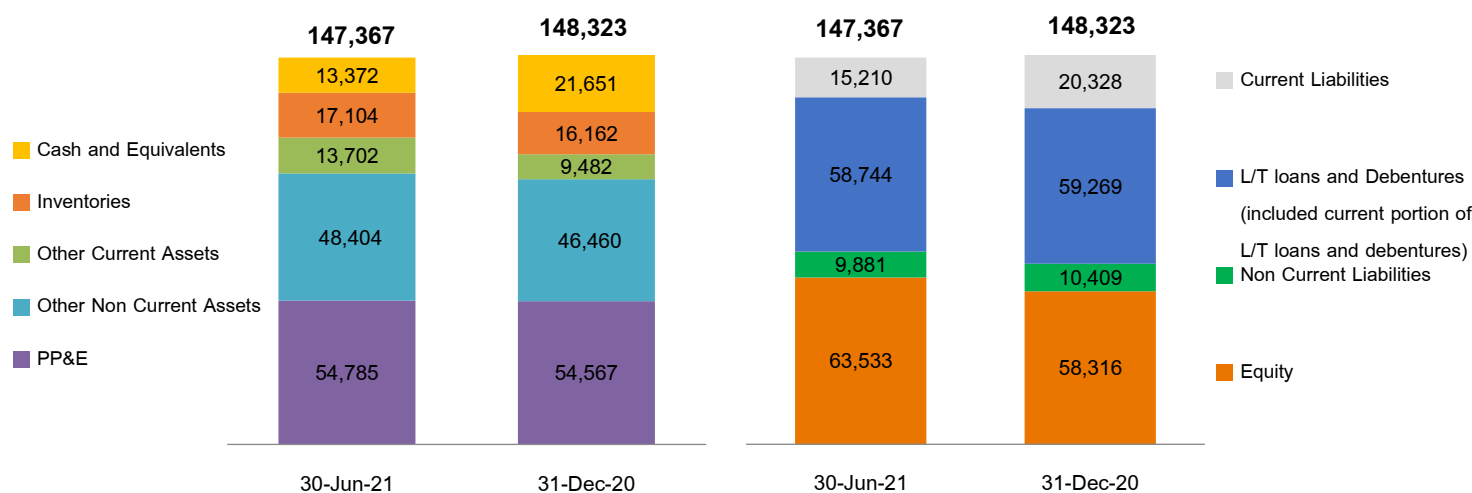
Performance of the Natural Resources Business Group in Q2/2021 recorded an EBITDA of THB 276 million, an increase from the previous quarter by THB 245 million. Due to this quarter realizing increase share of profit from investment in associate company, OKEA. With these main factors affecting performance as follow:

- Recorded an increase in revenue mainly from the price of crude oil and natural gas that has been adjusting upward continuously from the previous quarter. Due to demand for oil rising from the global economic recovery after the deployment of COVID-19 vaccine has been making progress in many countries. Despite recording volumes sold declining by 14% QoQ from the turnaround maintenance of the Gjoa field between April - May 2021.
- Recorded fully reversal of impairment related to the Yme asset under development. Due to the crude oil and natural gas price adjusting towards the positive trend, and the reorganization of operations in the Yme, which resulted in the project recording improvements in cash flow.

Performance in Q2/2021 compared to Q2/2020, the Natural Resources Business Group recorded EBITDA increase of THB 216 million due to this quarter realizing increase share of profit from investment in associate company, OKEA. With these main factors affecting performance as follow:

- Recorded increase in revenue with significance, mainly due to the price of crude oil and natural gas increasing in relation to the state of the global market. Whereas, in Q2/2020 the price contracted sharply, especially in April, from the effects of the first wave of COVID-19 outbreak around the world. Despite, the total sales volume declining by 11% YoY due to the maintenance period of the Gjoa field increasing from Q2/2020.
- This quarter recorded a reversal of impairment asset (as mentioned earlier), whereas in Q2/2020 recorded an impairment, which mainly from the Yme asset under development.

Statement of Financial Position



Assets

As of the 30th June 2021, the Company and its subsidiaries has Total Assets in the amount of THB 147,367 million, a decrease of THB 956 million when compared to the 31st December 2020, changes in assets are as follow:

- Cash and cash equivalents decreased by THB 8,279 million. Details are stated in Analysis of the Cash Flow Statement.
- Inventory increased by THB 941 million, mainly from petroleum related business which saw increase in cost of oil inventory per unit.
- Other current assets increased THB 4,220 million, mainly contributed from:
 - Short-term investments increased THB 3,025 million, mostly from BCPG Plc. increasing short term deposits with financial institutions. The proceeds, which was from the capital increase, will be used in the investments and repayment of loans.
 - Trade and other current receivables increased THB 1,457 million, mostly a result of the increase in the company's trade account receivables from the higher sales volume and average selling price of finished products.
- Other non-current assets rose by THB 1,944 million, mainly due to:
 - Investments in associates and joint ventures increased THB 2,091 million occurred from an effect of the currency conversion of invested capital in associated company, after the Thai Baht depreciated against the US Dollar and the Norwegian Krone, combined with a recognition of share of profit (loss) from associates and joint ventures, as well as the reversal from impairment of investment in Natural Resources Business.
 - Long-term loans increased THB 467 million from a result of loans given to LAC according to its agreement.
 - Right-of-use assets decreased THB 526 million from depreciation in the period.
 - Deferred tax assets decreased THB 549 million, mostly from utilizing previous year tax loss carry forward in this quarter and reduced in non-current provisions for employee benefits.

Statement of Financial Position



- Property, plant and equipment net increased by THB 218 million. The company invested in assets in the amount of THB 1,311 million, mainly from major turnaround and Efficiency, Energy, and Environment Enhancement Project (3E). Power Plant Business invested in solar power business in Japan and Thailand, the amount of THB 839 million. Additionally, Bio-based Product Business invested in the amount of THB 234 million to enhance the production capacity of the Ethanol plant and construct the power and steam generator plant. Depreciation for the period was THB 2,149 million.

Liabilities

As of the 30th June 2021, the Company and its subsidiaries has Total Liabilities THB 83,834 million, a decrease of THB 6,172 million, changes in liabilities are as follow:

- Current Liabilities (exclude current portion of long-term loans from financial institutions and debentures) decreased by THB 5,118 million, mainly contributed from:
 - Short-term loan from financial institutions net decreased by THB 2,440 million, a reduction from BCPG Plc. and BBGI Plc.
 - Trade and other current payables decreased by THB 2,590 million, mostly from BCPT's trade payables which recorded a lower purchase volume.
 - Current portion of lease liabilities decreased by THB 228 million.
- Long-term loans and debentures (included current portion of long-term loans and debentures) decreased by THB 525 million, due to loan drawdown increased by THB 1,664 million which were BCPG Plc. in amount of THB 1,501 million and BBGI Plc. in amount of THB 163 million, BBGI Plc's bond issuance THB 1,300 million. While there was loan repayment by THB 1,833 million and debenture repayment by THB 2,500 million, besides the effects of change in foreign exchange rate of THB 838 million.
- Other non-current liabilities decreased by THB 529 million, mainly attributed to lease liabilities which declined by THB 397 million, and non-current provisions for employee benefits declining by THB 141 million due to the recalculations of a defined employee benefit obligations for the period.

Equities

As of 30th June 2021, the Company and its subsidiaries has Total Equity in the amount of THB 63,533 million, an increase of THB 5,217 million. Mainly from the net profit for the period of THB 4,716 million and increased in other components of equity by THB 1,598 million, which mostly occurred from exchange differences on translating financial statements by THB 1,340 million, change in fair value of other long-term investment by THB 155 million and the measurement of employee benefit by THB 132 million. While Dividend paid by THB 881 million and coupon payment on perpetual subordinated debentures by THB 249 million. There was total equity attributable to owners of the parent was THB 50,872 million, and book value per share (exclude perpetual subordinated debentures) was THB 30.15

Statement of Cash Flows



As of 30th June 2021, the Company and its subsidiaries had Cash and cash equivalents in the amount of THB 13,372 million, details are as follow:

Cash Flows (THB Million)	30-Jun-21	30-Jun-20
Net cash received (used in) operating activities	4,173	3,406
Net cash received (used in) investing activities	(6,060)	(8,291)
Net cash received (used in) financing activities	(6,831)	15,919
Effect of exchange rate changes on cash and cash equivalents	439	(214)
Net increase (decrease) in cash and cash equivalents	(8,279)	10,818
Cash and cash equivalents as of 1 st January	21,651	7,276
Cash and cash equivalents as of 30th June	13,372	18,094

Details of each activities are as follows:

Net cash received from operating activities in the amount of THB 4,173 million which was derived from (1) profit for the period by THB 4,716 million (2) adjustments to net cash received by (used in) operating activities, in which the main activities that affected an increase in cash flow were depreciation and amortization by THB 3,390 million, finance costs by THB 982 million, tax expense by THB 603 million and unrealized loss from derivatives by THB 377 million. Whereas, the main items that affected a decrease in cash flow were share of profit of associates and joint ventures (net of tax) by THB 706 million and reversal of impairment loss on assets by THB 413 million (3) change in net operating assets and operating liabilities resulted in cash flow declining by THB 4,621 million, and (4) taxes paid by THB 232 million.

Net Cash used in investing activities of THB 6,060 million, mainly from increased in short-term investments by THB 3,025 million. Acquisition of property, plant and equipment in the amount of THB 2,571 million, mostly from equipment of major turnaround and working in progress of Efficiency, Energy, and Environment Enhancement Project (3E), Power Plant Business from solar power business in Japan and Thailand and Bio-based Product Business for enhance the production capacity of the Ethanol plant and construct the power and steam generator plant.

Net Cash used in financing activities of THB 6,831 million, mainly from (1) redemption of debentures by THB 2,500 million (2) decreased in short-term loans from financial institutions by THB 2,440 million (3) repayment of long-term loans from financial institutions by THB 1,833 million (4) finance costs paid by THB 1,010 million (5) payment of lease liabilities by THB 910 million and (6) dividends paid by THB 881 million. Whereas, the proceeds received from long-term loans from financial institutions by THB 1,664 million and proceeds from issuance of debentures by THB 1,300 million.

Financial Ratios



	Q2/2021	Q1/2021	Q2/2020	6M2021	6M2020
Profitability Ratios (%)					
Gross Profit Margin	8.55%	11.17%	2.10%	9.82%	-0.94%
EBITDA Margin	9.75%	11.49%	4.25%	10.59%	-2.03%
Net Profit Margin	4.74%	6.41%	-6.49%	5.55%	-8.67%
Return on Equity ^{1/} (ROE)	7.67%	-0.05%	-12.80%		
Efficiency Ratio (%)					
Return on Assets (ROA)	5.26%	2.44%	-3.36%		

1/ Profit and Total equity attributable to owners of the parent

	30-Jun-21	31-Mar-21	30-Jun-20
Liquidity Ratios (Times)			
Current Ratio	1.94	2.12	1.37
Quick Ratio	1.07	1.35	0.85
AR Turnover	25.54	18.92	27.49
Collection Period (Days)	14	19	13
AP Turnover	25.74	20.38	26.51
Payment Period (Days)	14	18	14
Leverage Ratios (Times)			
Debt to Equity	1.32	1.39	1.70
Interest bearing Debt to Equity	1.06	1.13	1.44
Net Interest bearing Debt to Equity	0.80	0.79	1.09
Release of Debenture Ratio (Times)			
Net Interest bearing Debt to Net Equity	0.66	0.64	0.82

Financial Ratios Calculation

Profitability Ratios

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

Efficiency Ratio (%)

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

Liquidity Ratios (Times)

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



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

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

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)

Management Outlook towards the Economy and Crude Oil Price in Q3/2021



Economic outlook

The global economy in Q3/2021 is likely to make a continuous recovery from Q2/2021 due to the subsiding of the COVID-19 outbreak, and progress made in various countries to distribute vaccines. Together with the government sector carrying out stimulus packages continuing to boost the domestic economy, supports global economic recovery, especially in the US. As such, in June, the World Bank increased their forecast of the global economic growth rate in 2021 to 5.6% from the previous 4.1%. However, the global economy is still susceptible to grow at a lower rate than the forecast, due to new wave of the outbreak and the Delta variant that could force the government to implement strict outbreak containment measures.

In terms of forecast for the Thai economy in Q3/2021, the economy would be making marginal recoveries when compared to Q2/2021; by assessing from consumption that is likely to decline due to decreasing income, increasing household debt. Additionally, the Consumer Confidence Index has continuously declined to its historic low level at 43.1 in the past June. Furthermore, the Monetary Policy Committee (MPC) lowered Thailand's GDP growth forecast for 2021 down to 1.8% from the previous 3.0%, with respect to the third wave of the outbreak which has registered increasing numbers of new COVID-19 cases on a daily basis, and has the propensity to increase in severity from virus mutation. Moreover, economic recovery has been slowing down, with the labor market becoming more fragile, especially the services sector and among the self-employed. However, the Thai economy in Q3/2021 will not slow down much, due to further stimulants under the new Emergency Decree that authorized THB 500 billion of government borrowing, a more transparent plan for vaccine procurement, as well as strong merchandise export growth on the back of trading partners' economies. However, the Thai economy is still under risk from the outbreak situation which may increase in severity both domestically and abroad from the mutation of the virus.

Crude Oil Price Outlook

The International Energy Agency (IEA) forecast that global demand for crude oil will increase by 5.39 million barrels per day in 2021 as opposed to the contraction of 8.67 million barrels per day in 2020. It is expected that the progress made in the COVID-19 vaccine rollout to the bulk of its population, and the subsidence of social measures - allowing for economic activities to recover and induce the rate of consumption of oil to increase in 2H/2021.

From assessment, price of Dubai Crude in Q3/2021 is expected to move within the range of 70-75 \$/BBL. It is expected that the developed countries can access to the COVID-19 vaccine for their population, will support the recovery of demand for oil. While, OPEC+ are still evaluating the market closely, and are in collaboration to gradually increase production in order to stabilize the price of oil.

Dated Brent and Dubai spread (DTD/DB) is expected to average between 1.80-2.20 \$/BBL in Q3/2021 from the recovery of demand for Light Crude following the growth in Gasoline and Gasoil demand - due to the winding down of the COVID-19 outbreak in western countries, after accelerate the deployment of COVID-19 vaccines. Whereas, the recovery of Heavy Crude in Asia remains sluggish after new wave of outbreak in many countries, combined with OPEC+ increasing oil production - leading to excess supplies.

As for the Gross Refinery Margin (GRM) in Q3/2021, it is expected that Dubai crude cracking margin in Singapore is likely to increase from Q2/2021. Demand for finished product in Asia is expected to make a recovery with the COVID-19 outbreak subsiding after accelerate the deployment of COVID-19 vaccines - resulting in economic activities and industries, including the tourism sector and demand for oil to make a recovery. However, the Asian oil market is still under pressure from an increase in COVID-19 cases in some countries, after an outbreak of new variants were documented. Whereas, the rate of COVID-19 vaccination is still lagging behind.