



Bangchak Corporation Plc.

Management Discussion & Analysis of Business Operation

For the 4th quarter period and year ended December 31, 2023



S&P Global

MSCI
ESG RATINGS



CCC B BB BBB A AA AAA

SET **AAA**
ESG Ratings 2023

Carbon Neutrality
by 2030

Net Zero
by 2050

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Key Financial Data

Refinery Business Group	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Average Crude Run (KBD)	120.8	116.4	4%	122.6	-2%	120.1	122.6	-2%
Utilization Rate (%)	101%	97%		102%		100%	102%	
GRM (US\$/BBL)								
- Operating GRM	7.27	14.67	(7.40)	14.68	(7.41)	9.50	14.33	(4.83)
- Total GRM	7.38	17.27	(9.89)	6.64	0.74	9.81	11.87	(2.06)
Marketing Business Group								
Marketing Margin (Baht/Liter)	0.97	0.84	15%	0.81	20%	0.92	0.93	-1%
Sales Volume (Million Liters)	1,727	1,571	10%	1,713	1%	6,490	5,977	9%
Bangchak Sriracha Business Group ^{1/}								
Average Crude Run (KBD)	119.3	48.2				101.9		
Utilization Rate (%)	69%	28%				59%		
GRM (US\$/BBL)								
- Operating GRM	1.96	5.31				2.14		
- Total GRM	0.59	37.43				4.38		
Total Sales Volume (Million Liters)	2,145	441				2,586		
Clean Power Business Group								
Electricity Sales Volume (GWh)	1,700.2	1,419.0	20%	233.8	>100%	3,744.8	980.2	28%
Bio-Based Product Business Group								
Sales Volume (Million Liters)								
- Ethanol	50.1	40.6	23%	37.6	33%	144.6	141.2	2%
- Biodiesel	77.8	66.9	16%	63.9	22%	277.3	208.5	33%
Natural Resources Business Group								
Production Volume-Net to OKEA (kboepd)	25.64	26.69	-4%	16.32	57%	28.22	16.25	74%
Realized Liquids Price (US\$/BBL)	83.4	89.0	-6%	95.2	-12%	80.1	98.4	-19%
Realized Gas Price (US\$/BBL)	74.6	61.9	21%	112.6	-34%	82.2	138.5	-41%

Note: 1/ Business of Bangchak Sriracha Plc. (formerly Esso Thailand Plc.), consolidated since 1 September 2023



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Unit: THB Million	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Total Revenue	142,922	94,528	51%	85,900	66%	385,853	328,017	18%
Refinery and Trading Business ^{1/}	95,907	69,274	38%	75,981	26%	289,484	286,083	1%
Marketing Business ^{2/}	49,353	46,718	6%	53,892	-8%	190,725	184,938	3%
Bangchak Sriracha Business ^{3/}	59,458	16,781	>100%	-	N/A	76,239	-	N/A
Clean Power Business ^{4/}	1,318	1,603	-18%	1,266	4%	5,031	5,405	-7%
Bio-Based Products Business ^{5/}	4,240	3,526	20%	3,269	30%	13,757	13,373	3%
Natural Resources Business ^{6/}	6,711	7,146	-6%	5,486	22%	28,848	23,583	22%
Eliminations and others	(74,065)	(50,521)	47%	(53,994)	37%	(218,231)	(185,365)	18%
Accounting EBITDA	10,247	13,813	-26%	6,951	47%	41,680	44,724	-7%
Refinery and Trading Business	3,086	6,306	-51%	2,206	40%	14,794	17,864	-17%
Marketing Business	556	1,312	-58%	120	>100%	3,157	2,909	9%
Bangchak Sriracha Business	(284)	1,281	<-100%	-	N/A	997	-	N/A
Clean Power Business	1,048	1,330	-21%	1,004	4%	4,219	6,400	-34%
Bio-Based Products Business	253	169	50%	146	73%	667	617	8%
Natural Resources Business	5,684	4,873	17%	3,769	51%	19,671	17,625	12%
Eliminations and others	(96)	(1,457)	-94%	(294)	-68%	(1,825)	(691)	164%
Profit attributable to owners of the parent	(977)	11,011	<-100%	473	<-100%	13,233	12,575	5%
Earnings (Loss) per share (Baht)	(0.82)	7.91		0.25		9.27	8.89	

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

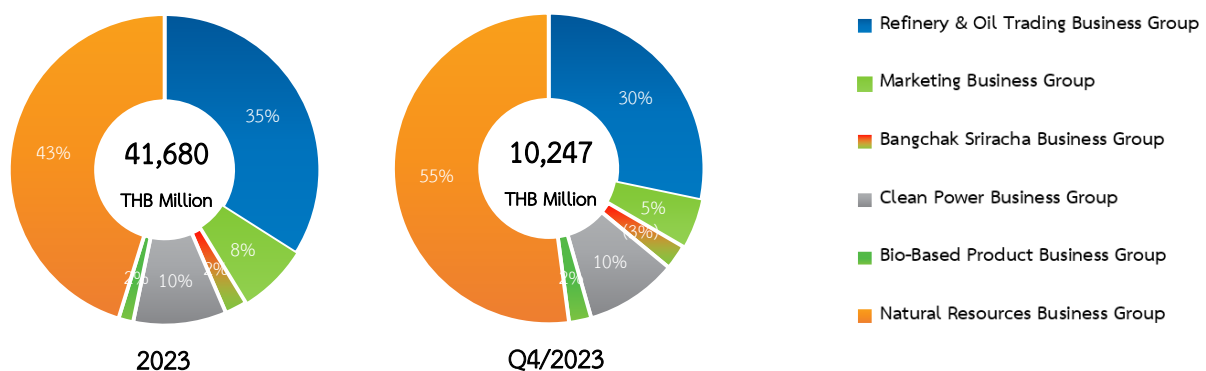
3/ EBITDA from Business of Bangchak Sriracha Plc. (formerly Esso Thailand Plc.), consolidated since 1 September 2023

4/ EBITDA from Clean Power Business of BCPG Plc. (BCPG Group)

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

6/ EBITDA from Natural Resources Business of OKEA ASA (OKEA), BTSG Co., Ltd. (BTSG), and others

Accounting EBITDA breakdown by business unit



For the year 2023, another year of success in the operation of Bangchak's businesses, after the Closing of the Historic Deal in respect of the acquisition of shares in Bangchak Sriracha Public Company Limited or BSRC (formerly Esso (Thailand) Public Company Limited) from ExxonMobil Asia Holding Pte. Ltd, the company holds total of 76.34% shares in



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BSRC, resulted in BSRC becoming a subsidiary of the company. The operating results of BSRC began to be incorporated into Bangchak's consolidated financial statements from September 1, 2023, onwards. **The gain on bargain purchase resulting from the fair value assessment of assets (PPA) of BSRC amounting to THB 7,389 million was recorded.** Apart from that, all business groups grew and improved substantially which resulted in Bangchak Group earning a **sales and services revenue of THB 385,853 million (+18% YoY)** and **net profit attributable to owners of the parent was THB 13,233 million (+5% YoY), achieving the record high performance since its establishment,** representing the **earnings per share of THB 9.27.** The company recorded an **EBITDA of THB 41,680 million (-7% YoY).** The **Refinery and Oil Trading Business Group** was able to maintain its high production. Despite a partial maintenance shutdown for the implementation of the Euro 5 project, the average production rate for the Bangchak 'Phra Khanong' refinery in 2023 was 120.1 kbd, with a capacity rate of 100%. From September 1, 2023, to December 31, 2023 (4 months after the BSRC acquisition), the average production capacity of Bangchak 'Sriracha' refinery was 101.9 KBD even though the refinery underwent a 40-day temporary production halt for maintenance in September - October 2023. The refinery was able to systematically increase its average production capacity and reached its highest rate for the year 2023 of 143.8 KBD in December. The Bangchak Group has a total nameplate capacity of 294 KBD, adding capacity from BSRC helping the company to meet the market demand that cannot be entirely fulfilled by Phra Khanong refinery alone. However, Bangchak Group recorded an inventory loss of THB 346 million (including reversal of loss on NRV) owing to the weakened global oil demand influenced by an economic slowdown and the plummeted oil prices. Operating GRM of Phra Khanong refinery decreased to US\$9.50/BBL in 2023, still higher than the Singapore GRM of US\$6.84/BBL. **Marketing Business Group** recorded new high sales volume of 6,490 million liters, grew by 9% YoY as the company strived to deliver products and services to customers across the network of 2,219 service stations nationwide (including Bangchak stations and service station networks acquired through BSRC). **Bio-Based Business Group** saw an improved sales volume of biodiesel and ethanol, benefiting from increasing demand from BSRC since Q4/2023. Moreover, the **Natural Resource Business Group** continuously expanded its investment. Performance recognition from the new petroleum field acquired from Wintershall Dea contributed to a full performance recognition in 2023, together with OKEA's capability to improve the asset resulting in organic growth. In 2023, OKEA ASA (OKEA) successfully developed and delivered Hasselmus project ahead of schedule. The Hasselmus project is a subsea tie-back to the Draugen platform where OKEA being an operator. The commencing production from Hasselmus adding to Draugen resulted in an increase in production by 46.9% YoY to 24.59 kboepd. Also, Brage's production capacity increased to almost double its previous rate. Furthermore, the investment in Statfjord's petroleum field which completed on December 29, 2023, led to a notable increase in OKEA's production capacity to reach 35-40 kboepd in 2024. However, the company recorded a special entry due to lower-than-anticipated petroleum reserves in the Statfjord field, resulted in NOK 619 million (or equivalent to THB 2,040 million) of losses from impairment of assets. **Clean Power Business Group** also expanded its investment into 4 natural gas power plants in the U.S. (Carroll County, South Field, Hamilton Liberty & Patriot) with a total installed capacity of 857 MW. As well as the investment in oil terminals, seaport, and pipeline in Phetchaburi Province to generate recurring income aiming to reduce the volatility of performance contribution from the renewable energy business and to mitigate the impact of the expiration of adder of the solar power plants in Thailand.



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In Q4/2023, Bangchak Group earned a sales and services revenue of THB 142,922 million (+51% QoQ, +69% YoY) and EBITDA of THB 10,247 million (-26% QoQ, +47% YoY). The Refinery and Oil Trading Business Group increased its production capacity by 4% QoQ to 120.8 KBD and recorded gains from derivatives totaling THB 1,266 million which full offset the impact from an inventory loss of THB 993 million (including reversal of loss on NRV), resulting from a decrease in oil prices QoQ. The Operating GRM also dropped QoQ in Q4/2023 owing to narrowing crack spreads of major products. For the Marketing Business Group, despite the impact from an Inventory Loss, the sales volume surged to its record high in this quarter. Also, for the Bio-Based Business Group, sales volume of biodiesel and ethanol reached its all-time high thanks to demand from BSRC. The Natural Resource Business Group experienced the record high production of 30.08 kboepd, primarily driven by the assets where OKEA has operatorship, specifically Draugen and Brage. The selling price of natural gas (Gas Price) rose by 21% QoQ, higher than the price of natural gas in the UK which increased by 18% QoQ. However, Q4/2023 recorded losses from impairment of assets, after tax and based on the shareholding portion, totaling THB 169 million for Yme field and THB 2,040 million for Statfjord field. The Clean Power Business experienced lower performance owing to seasonal factors and a lower share of profit from natural gas power plant projects in the U.S., resulting from the planned shutdown in the quarter and the lower margin spread in PJM market. As a result, in Q4/2023, the net loss attributable to owners of the parent was THB 997 million (<-100% YoY), representing the loss per share of THB 0.82. Nonetheless, excluding the extra items, the company recorded net profit of THB 1,347 million.

Financial Position as of 31 December 2023, Bangchak Group had cash and cash equivalents of THB 36,754 million and total assets of THB 340,429 million, an increase of THB 98,084 million compared to 31 December 2022, Bangchak Group with total liabilities of THB 240,397 million which increased by THB 81,431 million and total equity of THB 100,032, an increase of THB 16,654 million. Total equity attributable to owners of the parent was THB 72,112 million. Net Interest-Bearing Debt to Equity was 0.91 times, reflecting the strength of Bangchak's financial position. On 31 August 2023, TRIS rating affirmed the company rating on Bangchak Corporation Public Company at "A" reflecting positive view on its strong financial position after the successful acquisition of BSRC.

In 2024, Bangchak is primed for strategic growth and advancement, following the substantial investments in 2023 that propelled Bangchak to increase its assets by THB 98,084 million, reaching THB 340,429 million, marking a remarkable 40% growth and a significant leap forward for the Bangchak Group. In 2024, Bangchak is poised to recognize the full-year return on investment from the substantial projects undertaken in 2023, including the acquisition of BSRC shares and the investment in a combined cycle gas turbine power plant in the U.S. Beyond the acknowledgment of returns from these investments, Bangchak is strategically focused on creating and expanding synergies derived from the investments made in the previous year. Emerging from its origins as the smallest refinery in the country, Bangchak's refinery and oil trading business group has undergone significant evolution, presently asserting a preeminent position with a country-leading installed capacity of 294 KBD. Both the Phra Khanong and



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Sriracha refineries are strategically aligned to operate at their full capacity, with the Sriracha refinery poised for a noteworthy escalation in its production rate, rising from 116 KBD in 2023 to 155 KBD in 2024—surpassing its historical operational capacities. Furthermore, the company has refined its management strategy to utilize technology and various assets within the group, aiming to maximize benefits through the creation of **Platforms for Growth**. This involves designing optimal product yield ratios for the Bangchak Group, emphasizing the attainment of the highest refining margin, commonly referred to as Optimized Gross Refinery Margin (Optimized GRM). Additionally, the company has implemented joint procurement strategies for crude oil, further enhancing operational efficiency and cost-effectiveness across the organization, encompassing key areas in the central region to the northern region (spanning from Bangkok to Lamphang province), and the eastern region to the northeastern region (from Chonburi Province to Saraburi Province). This comprehensive approach includes the integration of both pipeline and sea transport methods, ensuring an efficient and integrated logistical framework. As a leading player with a nationwide network of service stations, a strategic opportunity unfolds for the expansion of Inthanin coffee shops (plan to increase the number of Inthanin coffee shop branches by 150 in 2024). This expansion not only serves as an additional distribution channel for Furio motor oil products but also facilitates increased sales of premium products, including Hi-Premium Diesel S B7 and Hi-Premium Gasohol 97. In 2024, Bangchak has prioritized the transition of service station logos to the **"New Leaf"**, ensuring a seamless integration of service stations operated by BSRC into the unified Bangchak brand. In the last four months of 2023, the company has successfully implemented the rebranding at 268 stations. Furthermore, the company is committed to the implementation of Shared Services in the Back Office system, encompassing Accounting, IT, and Human Resource systems, aiming to reduce costs and achieve overall economies of scale. Considering these strategic initiatives, the company **anticipates generating an EBITDA Synergy of not less than THB 3,000 million per year**. In addition to forthcoming synergies, Phra Khanong Refinery has outlined plans for continuous development, including augmenting the proportion of High-Valued Products such as Unconverted Oil (UO) from 75 to 92 million liters per month. Notably, the refinery **aims to become the first and only facility in Thailand to produce Sustainable Aviation Fuel (SAF)** by Q1/2025, with a production capacity of 1,000,000 liters per day. Additionally, the Bio-Based Products Business Group is poised to establish the first commercial CDMO biotechnology plant in Thailand and Southeast Asia, aligning with the target to increase sales volume and synchronizing with the expansion of Bangchak's service station network. **The clean energy business group** continues to flourish, with the anticipation of realizing full-year profits in 2024 from power plant projects in the U.S., complemented by the completion of investment projects in oil terminals, seaport, and oil transportation pipelines. In 2023, we also mark the development of projects in the pipeline, scheduled for commercial production (COD) as planned, including the solar power plant project in Taiwan. Additionally, 2024 is poised to witness recorded profits from the sale of investments in solar power plant projects in Japan in Q1/2024, with the strategic intention of reinvesting these proceeds into additional potential projects, demonstrating a commitment to Capital Recycling. In consideration of Energy Security, the company remains steadfast in prioritizing the growth of **the Natural Resource Business Group**, aiming for a targeted increase in petroleum production volume to reach levels ranging between 35-40 thousand barrels of oil equivalent per day (KBOEPD) in 2024. Collaboratively, OKEA



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and the Company will explore and evaluate additional growth opportunities stemming from potential petroleum fields in the future.

Bangchak towards its 40th year of operation, the company remains dedicated to maintaining balance through the concept of **“Greenovate to Regenerate”** and anchored in the foundational practice on preserving a balance between profits and value. This approach extends to adeptly maintaining equilibrium amid the multifaceted challenges posed by the Energy Trilemma, facilitated through the implementation of the BCP 316 NET plan. This comprehensive strategy involves enhancing efficiency improvement and refining production procedures to reduce carbon emissions, thereby propelling our businesses towards achieving Carbon Neutrality by 2030 and ultimately attaining Net Zero by 2050. Moreover, Bangchak received the “Thailand Quality Award (TQA)” and Bangchak Phra Khanong refinery also won the “Global Performance Excellence Award (GPEA)” achieving the eminent World Class level, the first Thai organization from the industrial sector and the world’s first and only refinery to receive this world class level quality award. Furthermore, the company has secured the prestigious **Top 2 position in global sustainability rankings for the Oil & Gas Refinery and Marketing Industry through the S&P Global Corporate Sustainability Assessment (S&P Global CSA)**. This accomplishment reinforces Bangchak’s standing as an international sustainable organization, further underscoring the company’s commitment to advancing its business objectives while prioritizing both business growth and environmental preservation. This success aligns with Bangchak’s dedication to promoting and supporting a high quality of life for society, all while operating under the tenets of good corporate governance, which serves as the DNA of Bangchak Group’s business operations over the past 40 years. Our unwavering commitment has enabled us to realize our vision of becoming an organization with sustainable growth for 100 years, encapsulated in our ambitious aspiration known as **“Bangchak100X**.”



Other Important Events in 2023 until Present

January 2023

- BCP: On January 11, 2023, the company entered into a Share Purchase Agreement with ExxonMobil Asia Holdings Ptd. Ltd. to directly acquire a total of 2,283,750,000 ordinary shares of Esso (Thailand) Public Company Limited (“ESSO”), whose name was changed to Bangchak Sriracha Public Company Limited (“BSRC”) on November 15, 2023, approximately 65.99 percent of the total issued shares.
- OKEA: On January 31, 2023, the board of directors approved a cash dividend of NOK 1.00 per share, approximately NOK 104 million. The dividend was paid on March 15, 2023.

February 2023

- BCPG: On February 15, 2023, established a new subsidiary, BCPG USA Inc., in the U.S. to invest in the power generation business. Subsequently, BCPG USA Inc. entered into a Share Purchase and Sale Agreement with 49% of the membership interests in AP-BCPG CCE Partners LLC (“AP-BCPG CCE”) from AP Carroll County Holdings LLC (“APCCH”) and 49 % of the membership interests in AP-BCPG SFE Partners LLC (“AP-BCPG SFE”) from AP South Field Holdings LLC (“APSFH”) with an aggregated investment value of approximately USD 115.00 million to acquire a generation capacity of 150.98 MW, proportionate to the membership’s interest.

March 2023

- BCPG: On March 31, 2023, BCPG USA Inc., entered into the Purchase and Sale Agreement to purchase 25% of all shares in Hamilton Holdings II LLC (“Hamilton”), from Franklin Power Holdings LLC, with an amount not exceeding USD 260 million (or equivalent to THB 8,919 million). This investment will result in BCPG acquiring an installed capacity of totaling 426 MW from 2 combined cycle gas turbine projects in the U.S. (Liberty and Patriot).

April 2023

- BBGI: On April 5, 2023, the 2023 Annual General Meeting of Shareholders of BBGI resolved to approve dividend payment for the second-half-year operations of 2022 at THB 0.05 per share (paid on May 3, 2023) equivalent to approximately THB 72.3 million. The total dividend payment for the year 2022 is THB 0.25 per share.
- BCPG: On April 10, 2023, the 2023 Annual General Meeting of Shareholders of BCPG resolved to approve dividend payment for the second-half-year operations of 2022 at THB 0.16 per share (paid on April 21, 2023) equivalent to approximately THB 465.24 million. The total dividend payment for the year 2022 is THB 0.36 per share.
- BCP: On April 11, 2023, the 2023 Annual General Meeting of Shareholders resolved to approve as follows.
 - Dividend payment for the second-half-year operations of 2022 at the rate of THB 1.00 per share (paid on April 24, 2023). The total dividend payment for the year 2022 is THB 2.25 per share.

Other Important Events in 2023 until Present

- The direct acquisition of 2,283,750,000 ordinary shares of BSRC (equivalent to approximately 65.99% of the total issued shares of ESSO as of September 30, 2022) from ExxonMobil Asia Holdings Pte. Ltd. and the tender offer for all remaining no more than 1,177,108,000 ordinary shares in ESSO (equivalent to approximately 34.01% of the total issued shares in BSRC as of September 30, 2022) after the completion of the Shares Acquisition Transaction to acquire the remaining BSRC shares at the same price as the purchase price of BSRC shares from ExxonMobil Asia Holdings Pte.
- The limit for debenture issuance and offer of up to THB 80,000 million or equivalent currencies at a given period for five years (2023-2027)

May 2023

- OKEA: On May 12, 2023, OKEA announced the dividend payment for Q1/2023 at the rate of NOK 1.00 per share or approximately NOK 104 million. The dividend was paid on June 15, 2023.
- BBGI: On May 12, 2023, BBGI increased its stake in BBGI Bioethanol (Chachoengsao) Company Limited (“BBGI-PS”) by purchasing from Sima Inter Product Company Limited, causing its stake to increase from 85% to 100%. Currently, BBGI-PS operates in the business of production and distribution of ethanol with a factory located in Chachoengsao Province and a capacity of 150,000 liters/day.
- BCPG: On May 17, 2023, Indochina Development and Operation Holding Pte. Ltd. (“IDO”), BBGI’s indirect subsidiary, acquired 100% share of SMP. AS Pte. Ltd. (“SMP AS”). SMP AS holds 10% of Monsoon Wind Power Company Limited (“MWP”). Therefore, BCPG becomes a net indirect shareholder in MWP with the total proportion of 48.25%, increasing from 38.25%, for an additional investment of 600-MW Wind Farm in Lao People’s Democratic Republic.
- BCPG: On May 23, 2023, BCPG established a new subsidiary, BCPG Energy Logistics Company Limited, with an initial registered capital of THB 1 million. BCPG holds 100% of issued shares.
- BCPG: On May 31, 2023, BCPG completed the acquisition of all shares of Asia Link Terminal Company Limited (“ALT”) and intended for ALT to enter the appointment of Bangkok Fuel Pipeline and Logistics Company Limited (“BFPL”) as the Asset and Tank & Terminal Management Contract including operating the seaport and pipeline of ALT in Phetchaburi Province. The transaction size is THB 410 million with no more than 6 years in total of the contract life (starting 1 June 2023 to 31 May 2029).
- BCP: On May 31, 2023, the Company announced the end of the Resale of Share Repurchase Project for Financial Management Purpose. Starting from December 23, 2022, the Company resold shares of 19,238,000 shares (of which 16,221,300 shares were sold to directors and employees of the Company and 3,016,700 shares were sold via the trading system of the Stock Exchange of Thailand), equivalent to 1.40% of the total shares sold. The total amount received was THB 551,213,532.

June 2023

- BCPG: The hydropower plant projects Nam San 3A and Nam San 3B in Lao PDR with total capacity of 114 MW, which BCPG invested through its subsidiary, BCPG Indochina Company Limited (“BIC”), started



Other Important Events in 2023 until Present

to commence commercial operation and distributed electricity to the Socialist Republic of Vietnam according to the Power Purchase Agreement with Electricity of Vietnam (“EVN”) on June 15, 2023. The revenue recognition has started since mid-June 2023.

July 2023

- BCPG: On July 12, 2023, BCPG fulfilled the terms and conditions under the Purchase and Sale Agreement and the transfer of the 25 % stake in total shares in Hamilton was successfully completed. This investment resulted in BCPG’s total installed capacity in the two projects of natural gas power plants (Liberty and Patriot) of 426 MW.
- OKEA: On July 13, 2023, OKEA announced the dividend payment for Q2/2023 at the rate of NOK 1.00 per share or approximately NOK 104 million. Dividend was paid on September 15, 2023.

August 2023

- BCPG: On August 7, 2023, BCPG entered into the Purchase and Sale Agreement to acquire additional 40% of total shares in Carroll County Energy Holdings LLC (“CCE”), which operates Combined Cycle Power Generation Plant Project, with an amount not exceeding USD 145 million or equivalent to THB 5,031 million. Consequently, BCPG's ownership stake increased from the initial 8.7% to a post-transaction ownership of 48.7% with the increased total installed capacity from 280 MW to 341 MW.
- BCPG: On August 22, 2023, BCPG announced its interim dividend payment for 1H/2023 at THB 0.10 per share, totaling THB 300 million. The dividend has been paid to the shareholders on September 15, 2023.
- BCP: On August 24, 2023, the company announced its interim dividend payment for 1H/2023 to the company’s shareholders at THB 0.50 per share, totaling THB 689 million. The dividend has been paid to the shareholders on September 19, 2023.
- BCP: On August 31, 2023, the company completed the transfer and acquisition of ordinary shares in BSRC from ExxonMobil Asia Holding Pte. Ltd., amounting to 2,283,750,000 ordinary shares representing 65.99% of the total issued and paid-up ordinary shares of BSRC, at the total amount of THB 22,605,926,000, or approximately THB 9.8986 per share. This results in BSRC becoming a subsidiary of the company.

September 2023

- BCP: On September 11, 2023, the Ministry of Finance (through the Bank of Thailand) granted the Treasury Center License to Bangchak Treasury Center Company Limited (“BCTC”), BCP’s subsidiary company, and the Revenue Department permitted BCTC to be an International Business Center. BCTC, with the registered capital of THB 10 million, now provides financial management services to its network companies. The objective of BCTC is to manage short-term liquidity with subsidiaries under the Bangchak Group in the form of intercompany loan in either Baht or other currencies as agreed.

October 2023

- BCP: On October 3, 2023, BCP incorporated new subsidiary company, Refinery Optimization and Synergy Enterprise Company Limited (“ROSE”) with a registered capital of THB 1 million. BCP holds 50% of the



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issued share while BSRC holds another 50%. The objective of ROSE is to provide planning, including management services to the refinery business of BCP and BSRC to achieve the most efficient operation, minimize cost, and maximize profit with fairness and transparency to all stakeholders.

- BCP: On October 4, 2023, the company opened the first-ever Liquefied Natural Gas (LNG) refueling station in Thailand, located in Bangchak Map lang service station, Sriracha, Chonburi Province. The station is operated by BTSG Company Limited (“BTSG”), a joint venture between BCP and Thai Special Gas Company Limited.
- BCPG: On October 12, 2023, BCPG USA Inc, the wholly owned subsidiary of BCPG, established a subsidiary BCPG Holdings LLC (“BCHL”) with an initial registered capital of USD 141.9 million engaging in investment business. On October 31, 2023, BCPG fulfilled conditions under the Share Purchase and Sale Agreement to acquire an additional 40% of total shares in CCE, BCHL therefore transferred the purchase price in exchange for the ownership in CCE. Subsequently, BCPG has the post-transaction ownership of 48.7% and total installed proportion capacity of 341 MW.
- BCP: On October 16, 2023, BCP officially completed the Tender Offer for the securities of BSRC. Shareholders tendered 358,407,198 shares, equivalent to 10.36% of all issued and paid-up ordinary shares. After the completion of the Tender Offer, BCP holds 2,642,157,198 shares or equivalent to 76.34% of all issued and paid-up ordinary shares.
- BBGI: On October 18, 2023, the Board of Director’s Meeting passed the resolution to approve the establishment of BBGI Fermbox Bio Company Limited, a joint venture company with FermBox Bio Private Limited to establish the contract development and manufacturing organization (CDMO) platform for synthetic biology products with Precision Fermentation technology, with an Initial registered capital of THB 4 million.
- OKEA: On October 26, 2023, OKEA announced the dividend payment for Q3/2023 at the rate of NOK 1.00 per share or approximately NOK 104 million. The dividend was paid on December 15, 2023.
- BCP: On October 30, 2023, BCP offered the “Bangchak Digital Debenture” through the “Paotang” application. Bangchak digital debenture is a specific-name bearer, unsubordinated, unsecured debenture which has a debenture holders’ representative, worth THB 3,000 million with 3-year investment period provided with a fixed annual interest rate of 3.45%.

November 2023

- BCP: On November 3, 2023, Winnonie Company Limited (a direct subsidiary of BCP as BCP holds 55.49% of total shares) entered into a joint investment agreement with BTS Group Holding Company Limited, in Smart EV Bike Company Limited (“Smart EV Bike”), with a stake of shareholding of 33.3% of the total shares. Smart EV Bike has a registered capital of THB 20 million with objectives to operate the hire purchase business of EV-bikes for the registered motorbike taxi drivers near BTS SkyTrain Stations, and other businesses related to the EV-bikes hire purchase.



Other Important Events in 2023 until Present

- BSRC: On November 15, 2023, the resolutions of the Extraordinary General Meeting of Shareholders No. 1/2023 resolved to approve the amendment to the company's name to Bangchak Sriracha Public Company Limited ("BSRC"). Also, the abbreviation of the company's securities will change from ESSO to BSRC. The change shall take effect in accordance with the rules of the Stock Exchange of Thailand from November 20, 2023.
- BCPG: On September 15, 2023, entered into Share Sale and Purchase Agreement with Green Tech Venture Public Company Limited ("GTV") in accordance with the investment in solar power project with total installed capacity of 12.95 MW, total value of THB 477.07 million by purchasing 100% of shares in BS Solar Energy Company Limited, Parabolic Solar Power Company Limited and a newly setup subsidiary, which is set to acquire relevant assets of GTV's solar power plant.

December 2023

- BCPG: Board of Directors' Meeting No. 10/2023 held on October 17, 2023, passed a resolution to approve the divestment of all investments in 9 solar power plant projects in Japan with a total installed capacity of 116.96 MW through the consummation of the following transactions: (1) Sales of common shares in BCPG Japan Corporation K.K. ("BCPGJ"), BCPG's subsidiary offering operation and maintenance service to the solar power plants in Japan and owner of TK investment in 1 solar power plant (2) Sale of TK investment in 7 solar power plant projects ("TK Interests") and (3) Sale of common shares in Huang Ming Japan K.K. ("HMJ"), BCPG's subsidiary and owner of TK investment in 1 solar power plant. On December 1, 2023, BCPG entered into Purchase and Sales Agreements with Obton A/S group of companies for a total purchase consideration of JPY 28,712 million or THB 6,935 million equivalent. The transaction is expected to be completed in Q1/2024.
- BCP: On December 26, 2023, the company entered into a joint investment agreement with Thanachok Vegetable Oil (2012) Company Limited ("TVO"), by subscription of newly issued ordinary shares. TVO is a supplier of Used Cooking Oil, which will be used as raw material for the BCP's Sustainable Aviation Fuel production. After the capital increase, TVO will have a registered capital of THB 60 million, and BCP will hold 45% of the shares. Thus, TVO becomes an associate company of BCP.
- OKEA: On December 29, 2023, the transaction in relation to the acquisition of 28% working interest in Statfjord area was completed. This transaction has boosted OKEA's production from 20-25 to nearly 35-40 kboepd in 2024.

January 2024

- BCP: On January 12, 2024, Winnonie launched "Pinto" EV bikes by Smart EV Bike Company Limited, a joint venture between Winnonie and BTS Group. This was a significant milestone in the business development of EV bikes hire-purchase services for motorcycle taxi drivers along BTS stations, coupled with Winnonie's automated battery swapping network spanning the Bangkok Metropolitan Region.



Other Important Events in 2023 until Present

February 2024

- BCP: At the Board of Directors' meeting, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2023 dividend payment at the rate of THB 2.00 per share of which THB 0.50 per share was paid as an interim dividend. Thus, the remaining dividend will be at the rate of THB 1.50 per share payable to the shareholders entitled to receive dividends. This dividend is subject to the approval of the Shareholders at the Annual General Meeting to be held on April 11, 2024.
- BSRC: At the Board of Directors' meeting, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2023 dividend payment at the rate of THB 0.25 per share. This dividend is subject to the approval of the Shareholders at the Annual General Meeting to be held on April 10, 2024.
- BCPG: At the Board of Directors' meeting, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2023 dividend payment at the rate of THB 0.25 per share of which THB 0.10 per share was paid as an interim dividend. Thus, the remaining dividend will be at the rate of THB 0.15 per share payable to the shareholders entitled to receive dividends. This dividend is subject to the approval of the Shareholders at the Annual General Meeting to be held on April 9, 2024.
- BBGI: At the Board of Directors' meeting, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2023 dividend payment at the rate of THB 0.05 per share. This dividend is subject to the approval of the Shareholders at the Annual General Meeting to be held on April 5, 2024.

Statement of Income

Statement of Income

Unit: THB Million	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Revenue from sale and services	142,922	94,528	51%	85,900	66%	385,853	328,017	18%
Gain (loss) from derivatives	1,266	(415)	>100%	1,146	10%	2,287	(5,136)	>100%
Accounting EBITDA	10,247	13,813	-26%	6,951	47%	41,680	44,724	-7%
Gain (loss) on foreign exchange	(22)	(107)	79%	242	<-100%	401	1	>100%
Gain from sale of investment	-	-	N/A	-	N/A	-	2,031	N/A
Reversal of (loss) from impairment of assets*	(6,190)	(1,928)	<-100%	(786)	<-100%	(9,497)	(2,433)	<-100%
Finance costs	(1,634)	(1,315)	24%	(1,005)	63%	(4,980)	(3,977)	25%
Tax expense	(1,193)	(2,478)	-52%	(1,410)	-15%	(8,766)	(12,852)	-32%
Profit (loss) for the period	(3,365)	11,195	<-100%	1,252	<-100%	11,908	15,152	-21%
Owners of the parent	(977)	11,011	<-100%	472	<-100%	13,233	12,575	5%
Non-controlling interests	(2,388)	184	<-100%	780	<-100%	(1,325)	2,577	<-100%
Basic earnings per share (Baht)	(0.82)	7.91		0.25		9.27	8.89	
Core Profit (excluding extraordinary items)	1,347	3,504	-62%	2,281	-41%	8,856	11,547	-23%
Extraordinary items (before tax)	(6,414)	6,480	<-100%	(2,779)	<-100%	(2,127)	43	<-100%
<i>Main item as follows:</i>								
Inventory Gain (loss) (including reversal of / loss on NRV)	(993)	3,598	<-100%	(4,003)	75%	(347)	1,708	<-100%
Gain (loss) from unrealized of derivatives	719	(559)	>100%	1,775	-59%	1,597	(992)	>100%
Gain (loss) on foreign exchange	(22)	(107)	79%	242	<-100%	401	1	>100%
Gain from sale of investment	-	-	N/A	-	N/A	-	2,031	-100%
Gain on bargain purchase	-	7,389	-100%	-	N/A	7,389	-	N/A
Expenses related to the acquisition of BSRC	-	(453)	100%	-	N/A	(453)	-	N/A
Reversal of (loss) from impairment of assets*	(6,190)	(1,928)	<-100%	(786)	<-100%	(9,497)	(2,433)	<-100%
- based on the shareholding ratio (after tax)*	(2,185)	(428)	<-100%	(1)	<-100%	(2,907)	(738)	<-100%

Performance in 2023 compared to 2022

Total revenue from sales and services was THB 385,853 million, increased by 18% YoY, mainly driven by an improved revenue from petroleum-related businesses, together with the 4-month revenue recognition from Bangchak Sriracha Business in 2023, starting from September 1, 2023, and full-year performance recognition from OKEA's new petroleum field acquired from Wintershall Dea.

Accounting EBITDA of THB 41,680 million, declined by 7% YoY, due mainly to the lower contributions from the Refinery and Oil Trading Business Group as Operating GRM plummeted YoY driven by lower crack spreads across all product. The decline was further exacerbated by weakened global oil demand, partially offset by a decrease in crude premium. In addition, for the Natural Resources Business, the average selling price of oil (Liquid Price) plummeted YoY as the global economy has yet to regain full momentum, whereas the oil supply became less constrained than



Statement of Income

in 2022 when the Russian-Ukraine war broke out. However, the company recorded a gain from derivatives of THB 2,287 million from the forward contracts of crude oil and oil products (including fair value measurement per the accounting standards), owing to the lower crack spread of the products. Selling and administrative expenses increased by 21% YoY, mainly from employee related expenses, marketing, and the acquisition of BSRC.

Extraordinary items

- **Inventory Loss (including reversal of/loss on NRV)** of THB 346 million for the Bangchak Group, as the global crude oil prices dropped YoY.
- **Gain from unrealized derivatives** surged to THB 1,597 million, as crack spread tends to decline YoY.
- **Gain on foreign exchange** rose to THB 401 million, thanks to the strengthen Thai Baht in 2023. The gain on foreign exchange was mainly from assets denominated in US dollars held by the Refinery and Oil Trading Business Group and Clean Power Business Group. The increase was partly offset a loss on foreign exchange from the Natural Resources Business Group due to the depreciation of Norwegian Krone.
- **No gain from sale of investment** in 2023. While the company recorded the disposal of whole investment in Star Energy Group Holdings Pte. Ltd. (“SEGHPL”) in 2022 resulting in THB 2,031 million of gain from sale of investment.
- **Gain on bargain purchase** resulted from the fair value assessment of assets (PPA) of BSRC, amounting to THB 7,389 million.
- **Expenses related to the acquisition of BSRC** of THB 453 million, mostly consultant fees.
- **Loss on impairment of assets** totaling THB 9,497 million was mainly from the impairment of OKEA’s assets. The company recorded losses from impairment of assets, after tax and based on the shareholding ratio, totaling THB 456 million for Yme field and THB 2,040 million for Statfjord field in 2023.

Tax expense of THB 8,766 million, declined by 32% YoY. The decrease was attributed to the lower operating profits contributions from petroleum-related businesses and Natural Resources Business. The effective tax rate was 42.4%.

Net profit attributable to the owners of the parent was THB 13,233 million, an increase of 5% YoY, representing the earnings per share of THB 9.27.

Net profit from normal operations (excluding extraordinary items) was THB 8,856 million, a drop of 24% YoY.

Performance of Q4/2023 compared to Q4/2022

Total revenue from sales and services was THB 142,922 million, surged by 51% QoQ, mainly driven by an improved sales volume of oil products, together with the full quarter revenue recognition from BSRC.

Accounting EBITDA of THB 10,247 million, dipped by 6% QoQ. This decline was primarily attributed to the reduction in Operating GRM, influenced by lower crack spreads observed across all products, with a notable impact on diesel, which experienced a significant decline in crack spread. Furthermore, an Inventory Loss of THB 993 million (including reversal of loss on NRV), was recorded in Q4/2023 resulting from a decrease in oil prices in the late 2023, in contrast to US\$3.29/BBL of Inventory Gain in Q3/2023. Nonetheless, the company recorded gain from derivatives of THB 1,266



Statement of Income

million from the forward contracts of crude oil and oil products in accordance with accounting standards, owing to the lower crack spread, which totally offset the impact of Inventory Loss. Selling and administrative expenses usually increase in the fourth quarter of the year, rose by 48% QoQ, attributed to expenses associated with marketing activities aligned with the concurrent growth in revenue.

Extraordinary items

- **Inventory Loss (including reversal of /loss on NRV)** of THB 993 million, as the global crude oil prices decreased.
- **Gain from unrealized derivatives** of THB 719 million, as crack spread tends to drop from the previous quarter. While, there was gain on fair value from the forward contracts of foreign exchange from the Strengthening of Thai Baht.
- **Absence of gains on bargain purchase** in Q4/2023, whereas in Q3/2023, there was a gain resulting from the fair value assessment of assets (PPA) of BSRC, amounting to THB 7,389 million.
- **No Expenses related to the acquisition of BSRC** in Q4/2023 while there were expenses recognition in Q3/2023 amounting to THB 453 million.
- **Loss on impairment of assets** totaling THB 6,190 million was mainly from the impairment of OKEA's assets. The company recorded after-tax losses from impairment of assets, based on the shareholding portion, totaling THB 2,209 million in Q4/2023 (THB 169 million for Yme field and THB 2,040 million for Statfjord field). Whereas in Q3/2023 recorded THB 159 million of loss on impairment.

Tax expense of THB 1,193 million, declined by 52% QoQ. The decrease was attributed to the lower operating profits contributions from petroleum-related businesses and Natural Resources Business. The effective tax rate was 54.9% in Q4/2023.

Net loss attributable to the owners of the parent dropped <100% QoQ to THB 977 million, representing the loss per share of THB 0.80.

Net profit from normal operations (excluding extraordinary items) decreased by 62% QoQ to THB 1,347 million.



Performance by Business Group



1) Refinery and Oil Trading Business Group

Crude Oil and Crack Spread Situation

Crude Oil Price (US\$/BBL)	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Dubai (DB)	83.55	86.74	(3.19)	84.82	(1.27)	82.10	96.32	(14.23)
Dated Brent (DTD)	84.05	86.76	(2.71)	88.71	(4.66)	82.62	101.19	(18.57)
DTD-DB	0.50	0.02	0.48	3.88	(3.39)	0.52	4.86	(4.34)
Crack Spread (US\$/BBL)	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
UNL95-DB	12.55	18.91	(6.36)	9.40	3.15	16.67	18.85	(2.18)
IK-DB	23.64	26.05	(2.41)	33.47	(9.83)	22.53	30.31	(7.78)
GO-DB	21.13	26.90	(5.77)	39.33	(18.20)	21.94	34.30	(12.35)
LSFO-DB	8.01	3.02	4.99	8.28	(0.27)	5.72	15.08	(9.36)

The average Dubai crude oil price in Q4/2023 plummeted by \$3.19/BBL compared to Q3/2023. The decline was attributed to downward pressures from a slowdown in global oil demand, whereas the global crude oil supply became less tightened thanks to increasing oil outputs from non-OPEC+ refiners—particularly major producers like the US. Meanwhile, the market remained skeptical whether the OPEC+ members could effectively reduce oil outputs to support global oil prices as intended, thus resulting in uncertainties over the global oil supply. Nonetheless, crude oil prices faced upward pressure from the Israel-Hamas conflict, which broke out in early October 2023 over the Gaza Strip and rapidly expanded to the Red Sea—one of the world's major maritime trade routes. This heightened concerns that the intense war might escalate and severely disrupt the crude oil supply in the Middle East. On a yearly basis, the average Dubai crude oil price in 2023 plummeted by \$14.23/BBL compared to 2022. The decline was attributed to weak global oil demand, particularly from the US and China, and the Federal Reserve (Fed) rate hikes to tame inflation—all of which adversely affected the economy and oil demand. Meanwhile, China's economy has suffered a slower-than-expected growth owing to fragile domestic consumption and the real estate crisis, despite the government's multiple efforts to revive the industry.

The average Dated Brent-Dubai spread (DTD-DB) in Q4/2023 rose by \$0.48/BBL compared to Q3/2023. The Dated Brent saw an uptick from uncertain crude oil supply, triggered by the conflicts in the Middle East and the Red Sea. Nonetheless, the Dubai crude oil price still faced upward pressures from market concerns over tighter supply of heavy crude oil, with Saudi Arabia extending its voluntary crude oil production cuts of 1 million barrels per day until the end of 2023. On a yearly basis, the average Dated Brent-Dubai spread (DTD-DB) in 2023 ebbed by \$4.34/BBL compared to 2022. The Dated Brent was pressured by a fragile European economy and a surplus of crude oil supply in Europe, driven by continuous US exports in 2023. Meanwhile, the Dubai crude oil price gained momentum due to supply constraints of heavy crude oil.



Performance by Business Group

The spread between finished products and Dubai Price

- **Gasoline and Dubai crack spread (UNL95-DB)** in Q4/2023, on average, dipped from Q3/2023 owing to higher US gasoline inventory levels after peak driving seasons ended. Meanwhile, Asian oil demand remained stable and pressured by high retail prices. On a yearly basis, the average Gasoline and Dubai crack spread (UNL95-DB) narrowed in 2023 compared to 2022, attributed to rising gasoline exports from China and elevated retail prices that hampered the US gasoline demand during driving seasons.
- **Jet (Kerosene) and Dubai crack spread (IK-DB)** in Q4/2023, on average, plummeted from Q3/2023. The narrowed crack spread was attributed to higher jet fuel exports from China and higher jet (Kerosene) outputs among Asian refineries—driven by refining margins. On a yearly basis, the average Jet (Kerosene) and Dubai crack spread (IK-DB) ebbed in 2023 compared to 2022, owing to a subdued and slow-than-expected recovery in air travel demand, particularly in China, which faced an economic deceleration.
- **Diesel and Dubai crack spread (GO-DB)** in Q4/2023, on average, receded from Q3/2023 primarily due to a widening arbitrage that accelerated the rise in diesel exports from Asia to Europe—where a warmer winter held back demand for heating fuels. On a yearly basis, the average Diesel and Dubai crack spread (GO-DB) in 2023 declined from 2022. The decline was driven by downward pressure on demand as a result of stagnant economic conditions, particularly exacerbated by rampant inflation in Europe and subdued rebound in China.
- **Low-sulfur fuel oil and Dubai crack spread (LSFO-DB)** in Q4/2023, on average, widened from Q3/2023 as concerns over regional oversupply subsided after the Kuwait refinery ‘Al Zour’ halted Low-sulfur fuel oil exports in Q4/2023. On a yearly basis, the average Low-sulfur fuel oil and Dubai crack spread (LSFO-DB) narrowed in 2023 compared to 2022 since overall supply remained high thanks to exports from the Kuwait refinery during 9M/2023.

Refinery and Oil Trading Business Group Performance

Refinery and Oil Trading Business Group Performance	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Revenue (THB Million)	95,907	69,274	38%	75,981	26%	289,484	286,083	1%
EBITDA (THB Million)	3,086	6,306	-51%	2,206	40%	14,794	17,864	-17%
Average Crude Run (KBD)	120.8	116.4	4%	122.6	-1%	120.1	122.6	-2%
Utilization Rate (%)	101%	97%		102%		100%	102%	
Average FX (THB/USD)	35.82	35.32		36.54		34.97	35.24	
(Unit: US\$/BBL)								
Operating GRM	7.27	14.67	(7.40)	14.68	(7.41)	9.50	14.33	(4.83)
Oil Hedging	0.83	(0.69)	1.52	1.22	(0.39)	1.28	(3.49)	4.77
Inventory Gain/ (Loss) ^{1/}	(0.71)	3.29	(4.00)	(9.26)	8.55	(0.97)	1.03	(1.99)
Total GRM	7.38	17.27	(9.89)	6.64	0.74	9.81	11.87	(2.05)



Performance by Business Group

Product Yield (%)	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
LPG	2%	2%	-0.2%	2%	0.0%	2%	2%	0.1%
Gasoline	19%	19%	-0.4%	19%	-0.8%	19%	20%	-0.6%
Jet (Kerosene)	11%	12%	-1.0%	7%	6.5%	11%	5%	6.1%
Diesel	52%	52%	0.9%	52%	0.8%	52%	53%	-0.7%
Non-Transportation fuels	0.0%	0.1%	-0.1%	0.2%	-0.2%	0.1%	0.2%	-0.1%
Unconverted Oil (UO)	8%	8%	-0.3%	10%	-2.5%	9%	11%	-2.3%
Fuel Oil	8%	7%	1.6%	10%	-2.7%	8%	9%	-1.7%
Total Sales Volume by Market ^{2/} (Million Liters)						2023	2022	YoY
Marketing Business	1,727	1,571	10%	1,713	1%	6,490	5,977	9%
Petroleum traders in accordance with section 7	275	172	60%	170	62%	756	662	14%
Export	295	265	11%	362	-19%	1,152	1,650	-30%
Total Sales Volume	2,297	2,008	14%	1,903	21%	8,397	8,288	1%

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

For the year 2023, the Refinery and Oil Trading Business Group recorded a total revenue of THB 289,484 million, an increase of 1% YoY. The EBITDA of THB 14,794 million, a decrease of 17% YoY, as a result of the following factors.

EBITDA -17% YoY

(-) Operating GRM was at US\$9.50/BBL, dropped by US\$4.83/BBL. The decline primarily stemmed from lower crack spreads observed across all product categories as global oil demand weakened in line with an economic slowdown and persistently high inflation. Notably, the crack spreads of diesel products significantly widened in 2022, owing to the tight oil supply triggered by the Russia-Ukraine war and the gas-to-oil fuel switch in the energy sector.

(-) Recognized an inventory loss of US\$0.97/BBL (or equivalent to THB 1,480 million), attributed to diminishing crude oil prices as global crude oil supply became less tightened. In contrast, the year 2022 recorded an inventory gain of US\$1.03/BBL (or equivalent to THB 1,620 million) due to escalating oil price volatility as the Russia-Ukraine war tightened the global oil supply.

(+) Recognition of gains from the forward contracts of crude oil and oil products (including fair value measurement per the accounting standards) totaling US\$1.28/BBL (or equivalent to THB 1,956 million). This stood in contrast to the US\$3.49/BBL loss incurred in 2022.

In addition, BCPT's total trade of crude oil and refined oil products increased by 16.2 million barrels (+49% YoY) to 49.4 million barrels. The growth was mainly driven by crude procurement for Bangchak Phra Khanong Refinery and Bangchak Sriracha Refinery, alongside the expansion of overseas trading business (Out-Out), which exhibited robust growth at 59% YoY. Furthermore, BCPT has consistently broadened the Out-Out trading network for crude oil and crude products to facilitate business expansion and diversification through an array of diverse sales channels.



Performance by Business Group

In Q4/2023, the Refinery and Oil Trading Business Group recorded a total revenue of THB 95,907 million, an increase of 38% QoQ and 28% YoY. The EBITDA of THB 3,086 million, a decrease of 51% QoQ but an increase of 40% YoY, as a result of the following factors:

EBITDA -51% QoQ	EBITDA +40% YoY
<p>(-) Operating GRM plunged to US\$7.27/BBL, owing to narrowing crack spreads of major products in line with the global market conditions. The operating GRM was also pressured by higher crude cost as the Red Sea conflict has heightened freight rates around the world.</p> <p>(-) Recognized an inventory loss of US\$0.71/BBL or equivalent to THB 282 million (including NRV). This was attributed to lower global crude oil prices as market concerns over the Israel-Hamas war subsided, while the slowdown in global oil demand continued to hamper oil prices.</p> <p>(-) Recorded higher selling and administrative expenses, a typical occurrence in the 4th quarter, due to increasing expenses related to employees.</p> <p>(+) Recognized a gain from the forward contracts of crude oil and oil products (including fair value measurement per the accounting standards) totaling US\$0.83/BBL as crack spreads of contracted products trended downward.</p> <p>(+) In Q4/2023, Phra Khanong Refinery was back on stream after some production units underwent maintenance in the previous quarter for equipment installation and integration to improve oil quality in accordance with the Euro 5 standards. Hence, the QoQ average crude run rose to 120.8 KBD.</p>	<p>(+) Recorded a lower Inventory Loss compared to Q4/2022, attributed to a slower decline in oil prices. Q4/2022 recognized an Inventory Loss of US\$9.26/BBL (equivalent to THB 3,818 million) as global oil prices saw a sharp drop due to a resurgence of the COVID-19 pandemic as indicated by rising cases in China.</p> <p>(-) Operating GRM receded by US\$7.41/BBL as crack spreads of middle distillate products narrowed compared to Q4/2022.</p> <p>(-) Recognized a lower gain from the forward contracts of crude oil and oil products (including fair value measurement per the accounting standards) as crack spreads shrank.</p> <p>(-) Average crude run tumbled by 2% YoY as some production units went offline in July 2023.</p>



Performance by Business Group



2) Marketing Business Group

Marketing Business Group Performance

Unit: Sites	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Service Stations	1,389	1,370	19	1,343	46	1,389	1,343	46
EV Chargers	265	223	42	179	86	265	179	86
Inthanin Coffee Shop	1,020	1,026	-6	1,002	18	1,020	1,002	18
Marketing Business Performance								
Revenue (THB Million)	49,353	46,718	6%	53,892	-8%	190,725	184,938	3%
EBITDA (THB Million)	556	1,312	-58%	120	>100%	3,157	2,909	9%
Marketing Margin (Baht / liter)	0.97	0.84	15%	0.81	20%	0.92	0.93	-1%
Net Marketing Margin (Baht / liter) ^{1/}	0.93	1.29	-28%	0.68	37%	0.94	0.94	0%
Sales Volume (Million Liters)								
Retail (via Service Stations)	1,244	1,161	7%	1,248	0%	4,773	4,636	3%
Industrial	483	410	18%	464	4%	1,717	1,340	28%
Total	1,727	1,571	10%	1,713	1%	6,490	5,977	9%
Sales Volume by Product (Million liters)								
LPG	27	29	-7%	34	-21%	120	116	3%
Gasoline	12	5	>100%	11	9%	37	29	28%
Gasohol	466	441	6%	453	3%	1,764	1,690	4%
Jet Fuel	206	204	1%	146	41%	779	403	93%
Diesel	974	846	15%	1,025	-5%	3,598	3,546	1%
Fuel Oil and Others	43	46	-7%	43	0%	192	194	-1%
Total	1,727	1,571	10%	1,713	1%	6,490	5,977	9%

Note: 1/ Net Marketing Margin (including Inventory gain/(loss) and NRV)

For the year 2023, the Marketing Business Group recorded a total revenue of THB 190,725 million, an increase of 3% YoY and EBITDA of THB 3,157 million, an increase of 9% YoY, as a result of the following factors:

EBITDA +9% YoY

(+) Total sales volume rose to the record high of 6,490 million liter (+9% YoY), mainly driven by a rebound in the aviation fuel market as global tourism started to gain traction. Another impetus came from a rising oil demand backed by the resumption of domestic economic activities. Furthermore, the company has continued to broaden our sales channels with new trade partners and launched marketing campaigns to bolster sales volume at service stations.

(+) Besides oil products, we strive to develop our lubricant products whose sales volume increased to 75 million liter (3% YoY) in 2023 with 10.9% local market share (10.1% in 2022). We also emphasized enriching retail experiences, which resulted in increased sales of Inthanin coffee shop by 4% YoY.

(+) Recognized a higher inventory gain, backed by a significantly higher oil price in Q3/2023, whereas the oil price trended downward in 2H/2022.

(0) Marketing margin was mostly unchanged from 2022.



Performance by Business Group

In Q4/2023, the Marketing Business Group recorded a total revenue of THB 49,353 million (increased by 6% QoQ but declined by 8% YoY) and EBITDA of THB 556 million (decreased by 58% QoQ but increased by >100% YoY), as a result of the following factors:

EBITDA -58% QoQ	EBITDA >100% YoY
<p>(-) Recognized an inventory loss due to lower oil prices in Q4/2023, in contrast to an Inventory Gain in Q3/2023.</p> <p>(-) Recorded higher selling and administrative expenses, a typical occurrence in the 4th quarter, due to increasing expenses related to employees and marketing promotion corresponding to higher sales volume.</p> <p>(+) Total sales volume rose to 1,727 million liter (+10% QoQ), buoyed by expanding retail sales at service stations and sales volume in the industrial segment. Thanks to a resumption of domestic economic activities and tourism, total sales volume surged to a record high in Q4/2023.</p> <p>(+) Marketing margin improved by 16% QoQ to 0.97 THB/liter as lower refined product prices prompted the company to properly adjust retail prices to reflect actual costs.</p>	<p>(+) Marketing margin expanded by 20% YoY as the refined product prices trended downward, as explained above. In Q4/2022, the refined product prices ebbed in line with the subdued global market conditions.</p> <p>(+) Sales volume rose slightly by 1% YoY, mainly attributed to higher sales in the industrial segment. In particular, Thailand’s aviation sector showed signs of a steady rebound, leading to a 41% upsurge in jet fuel sales volume.</p> <p>(+) Recognized an inventory loss as oil prices plummeted at a slower rate compared to Q4/2022.</p>

The company strives to deliver the finest quality of oil products and elevate the retail experience through an in-depth understanding of our customers, steered by the concept of **‘Your Greenovative Destination.’** Bangchak strongly emphasizes offering diverse products at service stations and serving as the destination that caters to the needs of every customer segment with premium services. This quarter, we launched 19 new stations, making a total of 1,389 service stations as of Q4/2023—87 of which are ‘Bangchak Unique Design’ stations, and over 265 are fully equipped with electric vehicle (EV) chargers. With service stations operated under Bangchak Sriracha Public Company Limited included, Bangchak Group now oversees a total of 2,219 service stations under its wing. Apart from that, Bangchak stations also aim to enrich retail experiences by broadening services offered at shops, restaurants, coffee shops, and car maintenance services. In 2023, Bangchak received the prestigious ‘Superbrands Thailand’ for the sixth consecutive year, while BCR’s Inthanin Coffee brand was honored with the ‘Superbrands Thailand’ for 3 years in a row. These recognitions underscore Bangchak’s steadfast commitment to enhancing our products and services to deliver distinctive experiences to every customer, with an ultimate goal to become the **“Greenovative Destination for Intergeneration.”**



Performance by Business Group

3) Bangchak Sriracha Business Group

Bangchak Sriracha Business Group Performance

Bangchak Sriracha Business Group Performance	Q4/2023	Q3/2023 ^{1/}	4M/2023
Revenue (THB Million)	59,458	16,781	76,239
EBITDA (THB Million)	(284)	1,281	997
Average Crude Run (KBD)	119.3	48.2	101.9
Utilization Rate (%)	69%	28%	59%
(Unit: US\$/BBL)			
Operating GRM	1.96	5.31	2.14
Inventory gain/ (Loss)	(1.37)	32.12	2.24
Total GRM	0.59	37.43	4.38
Product Yield (%)			
LPG	6%	7%	7%
Gasoline	33%	37%	37%
Jet Fuel	6%	9%	9%
Diesel	43%	44%	44%
Fuel Oil	9%	3%	9%
Asphalt	3%	0.1%	3%
Total Sales Volume (Million Liters)			
Marketing Business	839	265	1,104
Commercial Business	844	176	1,020
Petroleum traders in accordance with section 7	354	-	354
Export	108	-	108
Total Sales Volume	2,145	441	2,586
Sales Volume by Product (Million Liters)			
LPG	115	22	137
Gasoline	686	124	810
Naphtha	5	-	5
Jet Fuel / Kerosene	111	13	124
Diesel	1,051	257	1,308
Fuel Oil	128	15	143
Asphalt	34	6	40
Other	15	4	19
Total	2,145	441	2,586
Unit: Sites			
Service Stations	830	833	830

Note: 1/ Business of Bangchak Sriracha Plc. (formerly Esso Thailand Plc.), consolidated since 1 September 2023



Performance by Business Group

For the year 2023, the company successfully acquired 76.34% stakes in Bangchak Sriracha Public Company Limited (BSRC), establishing BSRC as a subsidiary and the consolidation of BSRC starting from September 1, 2023 (4-month performance recognition in 2023) has strengthened the Bangchak Group. The company recognized an inventory gain of THB 999 million (including NRV) in 2023, despite the slowdown in global oil demand pressured by economic slowdown and elevated inflation which resulted in a declined Operating GRM in the late 2023. The company strives to enhance its businesses by building synergy within the group and developing Platforms for Growth to ensure sustainable growth.

In Q4/2023, the company recorded a full-quarter contribution of BSRC. Although the Sriracha Refinery went shut down for maintenance in September – October 2023 for 40 days and recommenced operations in mid-October 2023, the refinery was able to systematically increase its production capacity and reached 143.8 KBD in December 2023. The average production rate for the Sriracha Refinery in Q4/2023 was 119.3 KBD. However, due to the slowdown in global oil demand as mentioned earlier, Bangchak Sriracha Business recognized an inventory loss of THB 637 million (including NRV), calculated using weighted average inventory method, in combination with the higher expenses, resulted in a lower performance in Q4/2023. Nonetheless, the elevation in the total sales volume of oil products to 2,145 million liters was due to the recognition of the operating results for the entire quarter.



4) Clean Power Business Group

Clean Power Business	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Performance (THB Million)								
Revenue from sales and rendering of services	1,318	1,603	-18%	1,266	4%	5,031	5,405	-7%
EBITDA	1,048	1,330	-21%	1,004	4%	4,219	6,400	-34%
Share of profit (loss) from associated companies ^{1/}	60	172	-65%	14	>100%	252	130	94%
BCPG Group's Contracted Capacity (Equity MW)								
Solar Power Plant - Thailand	175.9	175.8	0%	173.7	1%	175.9	173.7	1%
Wind Power Plant - Thailand	9.0	9.0	0%	9.0	0%	9.0	9.0	0%
Solar Power Plant - Japan	79.7	79.7	0%	79.7	0%	79.7	79.7	0%
Hydropower Plant - Lao PDR	114.0	114.0	0%	114.0	0%	114.0	114.0	0%
Wind Power Plant – Philippines	14.4	14.4	0%	14.4	0%	14.4	14.4	0%
Natural Gas Power Plants - USA	857.0	577.0	49%	-	N/A	857.0	-	N/A
Total	1,249.9	969.9	29%	390.8	>100%	1,249.9	390.7	>100%
Electricity Sales (GWh)								
Solar Power Plant - Thailand	82.2	76.7	7%	81.6	1%	327.5	327.4	0%
Wind Power Plant - Thailand	2.7	4.0	-33%	2.2	23%	12.0	10.7	12%
Solar Power Plant - Japan	23.3	36.9	-37%	21.5	8%	120.4	105.1	15%
Hydropower Plant - Lao PDR	142.7	182.9	-22%	118.4	21%	350.1	504.7	-31%
Wind Power Plant – Philippines	8.4	9.1	-8%	9.4	-11%	35.4	32.3	10%
Natural Gas Power Plants - USA	1,441.0	1,109.5	30%	-	N/A	2,899.4	-	N/A
Total	1,700.2	1,419.0	20%	233.2	>100%	3,744.8	980.2	>100%



Performance by Business Group

Clean Power Business	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Terminal and Pipeline throughput Capacity (Million Liters)								
Volume Through Oil Tank Terminal	707.2	693.0	2%	-	N/A	701.6	-	N/A
Volume Through Pipeline	318.9	232.9	37%	-	N/A	242.9	-	N/A

Note: 1/ In March 2022, BCPG disposed the whole investment in SEGHPL, which invests in geothermal projects in Indonesia.

For the year 2023, the Clean Power Business Group's revenue was THB 5,031 million, a decrease of 7% YoY.

The EBITDA was at THB 4,219 million, a decrease of 34% YoY, with factors affecting operations as follows:

EBITDA -34% YoY

(-) The electricity sales volume of hydropower plants in Lao PDR dropped 31% YoY due to the temporary halt to facilitate the preparation and transmission to Vietnam Electricity (EVN) since December 2022. However, the projects commenced commercial operation and distributed electricity to the Socialist Republic of Vietnam according to the Power Purchase Agreement with EVN on June 15, 2023.

(-) The electricity sales volume of solar power plants in Thailand was mostly unchanged from the previous year, yet total revenue declined due to the impact of the expiration of the adder scheme of 72 MW solar power plants since July and October 2022, and March and April 2023. However, the impact was mitigated by the increase in the Ft rate.

(+) Share of profit from investments in the associated company of THB 258 million, an increase from THB 130 million in 2022. This was mainly from recognition of profit sharing from the natural gas power plants in the U.S. with total installed capacity of 857 MW at the end of 2023 (151 MW from Carrol County & South Field in March 2023, 426 MW from Hamilton Liberty and Patriot in July 2023, and additional 280 MW from Carrol County project acquired in October 2023).

(+) The electricity sales volume of solar power plants in Japan increased 15% YoY driven by the full year revenue recognition of Komagane project (COD on 29 March 2022) and Yabuki project (COD on 15 April 2022).

(+) The electricity sales volume of wind power plants in Thailand increased 12% YoY due to higher wind speeds at the project.

(+) Recognition of operating revenue from oil terminal and seaport project in Thailand which started realizing the contribution in June 2023.

In Q4/2023, the Clean Power Business Group's revenue was THB 1,318 million, a decrease of 18% QoQ but an increase of 4% YoY. The EBITDA was THB 1,048 million, a decrease of 21% QoQ but an increase of 4% YoY, with factors affecting operations as follows:



Performance by Business Group

EBITDA -21% QoQ	EBITDA +4% YoY
<p>(-) The hydropower plants in Lao PDR experienced a decline in electricity sales volume by 22% QoQ from the seasonal factor—low season in Q4.</p> <p>(-) The electricity sales volume of solar power plants in Japan decreased by 37% QoQ due to lower irradiation in winter season.</p> <p>(-) The electricity sales volume of wind power plants in Thailand dropped 33% QoQ driven by lower wind speeds as the monsoon season has ended.</p> <p>(-) The share of profit from investments in the associated company of THB 55 million, declined QoQ. These were mainly driven by the lower contributions from natural gas power plants in the U.S., resulting from the planned shutdown in the quarter and the lower margin spread in the PJM market, together with the lower share of profit from wind power business in the Philippines influenced by seasonal factor (low season).</p> <p>(+) The electricity sales volume of solar power plants in Thailand increased due to higher irradiation and the commencement of solar panel improvement started in November 2023.</p> <p>(+) Increasing revenue from oil terminal and seaport project in Thailand, driven by increased demand for oil transportation services from customers.</p>	<p>(+) The share of profit from investments in the associated company of THB 55 million mainly from 4 natural gas power plants in the U.S. as stated earlier,</p> <p>(+) The electricity sales volume of hydropower plants in Lao PDR surged by 21% YoY from the full-quarter revenue recognition compared to Q4/2022 as there was an operational shutdown in December 2022.</p> <p>(+) Recognition of revenue from oil terminal and seaport project in Thailand started from June 2023.</p> <p>(+) The electricity sales volume of solar power plants in Japan increased 12% YoY due to higher irradiation.</p> <p>(+) The electricity sales volume of wind power plants in Thailand increased 21% YoY due to higher wind speed.</p> <p>(-) Total revenue of solar power plants in Thailand experienced a decline resulting from the gradual expiration of the adder scheme.</p>



5) Bio-Based Product Business Group

Bio-Based Products Business	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Performance (THB Million)								
Sales Revenue	4,240	3,526	20%	3,269	30%	13,757	13,373	3%
EBITDA	253	169	50%	146	73%	667	617	8%
BBGI Performance								
Gross Profit/(loss)	193	116	66%	112	72%	441	464	-5%
Selling and Administrative expenses	(73)	(72)	1%	(85)	-15%	(349)	(310)	13%



Performance by Business Group

Bio-Based Products Business	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Sales Volume (Million Liters)								
Ethanol	50.1	40.6	23%	37.6	33%	144.6	141.2	2%
Biodiesel	77.8	66.9	16%	63.9	22%	277.3	208.5	33%

For the year 2023, the Bio-Based Product Business Group recorded revenue of THB 13,757 million, an increase of 3% YoY. EBITDA was recorded at THB 667 million, an increase of 8% YoY. These were resulted from the following factors:

EBITDA +8% YoY

(+) Biodiesel business (B100) witnessed an increase in gross profit due to rising biodiesel sales volume following the announcement of increasing the biodiesel blending in high-speed diesel from B5 to B7 since October 10, 2022., together with an increased demand from BSRC.

(-) Ethanol business reported lower gross profit attributed to the decreased sales volume at the beginning of the year due to the initiative to promote gasohol E20 as primary gasoline by reducing the subsidy of gasohol E85 through the Oil Fuel Fund starting from Q4/2022, which resulted in a decrease in demand for ethanol. As well as the rising costs of raw materials, such as cassava and molasses, as well as low sugarcane production in the country, impacted by the effects of El Niño.

In Q4/2023, the Bio-Based Product Business Group recorded revenue of THB 4,240 million, an increase of 20% QoQ and 30% YoY. EBITDA was recorded at THB 253 million, an increase of 50% QoQ and 73% YoY. These were resulted from the following factors:

EBITDA +50% QoQ

(+) Biodiesel business (B100) witnessed an increase in gross profit owing to an increase in sales volume. The uplift in sales performance was mainly from ramped up volume sold to BSRC, together with increasing demand during the traveling season and harvest season.

(+) Ethanol business reported higher gross profit attributed to an increase in sales volume, in alignment with the company's strategic sales management plan to maximize benefits, paralleled by an increase in product selling prices.

EBITDA +73% YoY

(+) For biodiesel business (B100), experienced an increase in gross profit due to the rise in biodiesel sales volume as mentioned earlier.

(+) Lower selling and administrative expenses were recorded in this quarter thanks to an effective cost control.

(-) Ethanol business recorded saw an increase in sales volume by 33% YoY. Yet, the rising cost of raw materials resulted in lower gross profit.



Performance by Business Group



6) Natural Resources Business Group

Natural Resources Business (THB Million)	Q4/2023	Q3/2023	QoQ	Q4/2022	YoY	2023	2022	YoY
Revenue	6,711	7,146	-6%	5,486	22%	28,848	23,583	22%
EBITDA	5,684	4,873	17%	3,769	51%	19,671	17,625	12%
OKEA Performance								
Revenue from crude oil and gas sales	6,710	7,146	-6%	5,408	24%	28,847	23,349	24%
EBITDA	5,761	4,892	18%	4,044	42%	19,778	17,951	10%
Production volume – Net to OKEA (kboepd)	30.08	23.71	27%	19.89	51%	24.59	16.74	47%
Sales volume – Net to OKEA (kboepd)	25.64	26.69	-4%	16.32	57%	28.22	16.25	74%
Realized liquids price (US\$/BBL)	83.4	89.0	-6%	95.2	-12%	80.1	98.4	-19%
Realized gas price (US\$/BBL)	74.6	61.9	21%	112.6	-34%	82.2	138.5	-41%

For the year 2023, Natural Resources Business Group's revenue was THB 28,848 million, increased by 22% YoY. The EBITDA was THB 19,671 million, an increase of 12% YoY. The factors impacting the performance are as follows.

EBITDA +12% YoY

(+) Sales volume of OKEA saw a remarkable 74% YoY increase, mainly driven by higher sales volume of oil and natural gas liquids, as the total sales volume in Q1/2023 surpassed the contracted production capacity. Furthermore, performance recognition from the new petroleum field acquired from Wintershall Dea in Q4/2022 significantly contributed to a full performance recognition in 2023.

(-) Average selling price of oil (Liquid Price) plummeted by 19% YoY, while the selling price of natural gas (Gas Price) declined by 41% YoY. The global economy has yet to regain full momentum, whereas the oil supply became less constrained than in 2022 when the Russian-Ukraine war broke out. Moreover, gas inventories across Europe and the UK remained high due to lower demand from warmer weather conditions compared to the previous year.

In Q4/2023, Natural Resources Business Group's revenue was THB 6,711 million, a decline of 6% QoQ but an increase of 22% YoY. The EBITDA was THB 5,684 million, an increase of 17% QoQ and 51% YoY. The factors impacting the performance are as follows:

EBITDA +17% QoQ

(+) Selling price of natural gas (Gas Price) rose by 21% QoQ, buoyed by heightened demand for natural gas during the winter season.

EBITDA +51% YoY

(+) Sales volume of OKEA increased by 57% YoY, mainly driven by higher sales volume of oil thanks to a performance recognition of the new petroleum field acquired from Wintershall Dea in Q4/2022, as well as continuously increased production capacity at Yme field.



Performance by Business Group

EBITDA +17% QoQ	EBITDA +51% YoY
<p>(+) OKEA's production capacity surged to its record high of 30.08 kboepd. The increase was driven by OKEA's operated assets, Draugen and Brage. A successful development of Hasselmus at Draugen field, whose production increased by 46.9% to 24.59 kboepd, was a key achievement in this quarter.</p> <p>(-) Sales volume of OKEA ebbed by 4% QoQ, due mainly to lower sales volume than contracted production capacity (Underlift) in the Brage and Ivar Arsen fields in Q4/2023.</p> <p>(-) Average selling price of oil (Liquid Price) plummeted by 6% QoQ as crude oil prices trended downward in line with global market prices. Global oil demand has been stagnant, pressured by economic slowdown and elevated inflation.</p>	<p>(-) Liquid price shrank by 12% YoY, and the Gas price weakened by 34% YoY, owing to market concerns over the global economic deceleration and warm weather. In contrast, Q4/2022 witnessed a tight supply fueled by the Russia-Ukraine war.</p>

Furthermore, OKEA continued to expand its investment in the Statfjord's petroleum field in the Norwegian Continental Shelf. OKEA currently holds a 28% working interest, as announced in March 2023, and the transaction was recently completed on 29 December 2023. This led to a notable increase in OKEA's production capacity, expected to reach 40 kboepd in 2024. Nonetheless, Q4/2023 recorded a special entry due to lower-than-anticipated petroleum reserves in the Statfjord field. This resulted in NOK 619 million (or equivalent to THB 2,040 million) of losses from impairment of assets, after tax and based on the shareholding ratio. As well as NOK 138 million (or equivalent to THB 455 million) of loss from impairment of Yme field, which were recognized in the financial statement for Q4/2023.



Statement of Financial Position, Statement of Cash Flows, and Financial Ratios

As of December 31, 2023, Bangchak Group recorded total assets in the amount of THB 340,429 million, an increase of THB 98,084 million compared to the end of 2022, primarily from the increase in PPE and Investment in subsidiaries and associates in relation to the acquisition of Bangchak Sriracha Public Company Limited. Meanwhile, total liabilities increased by THB 81,431 million to THB 240,397 million due to the increase in long-term loans and debentures, as well as decommissioning, account payable and other current account payable, and corporate income tax payable. Bangchak Group's total equity amounted to THB 100,032 million, an increase of THB 16,654 million compared to the end of 2022, representing the book value per share of THB 45.28.

Bangchak Groups had cash and cash equivalents in the amount of THB 36,754 million, reflecting a decline primarily attributable to the investment in Bangchak Sriracha Public Company Limited. Net Interest-bearing Debt to Equity was at 0.91 times. On August 31, 2023, TRIS Rating affirmed the company rating on Bangchak Corporation Public Company Limited and the ratings on its outstanding senior unsecured debentures at "A" with "stable" rating outlook.

Statement of Financial Positions

(Unit : THB Million)	2023	% to total assets	2022	% to total assets	% change
Cash and cash equivalents	36,754	11%	45,932	19%	-20%
Inventories	47,840	14%	29,533	12%	62%
Other current assets	37,287	11%	35,885	15%	4%
PPE	119,374	35%	73,018	30%	63%
Investments in associates and joint ventures	28,349	8%	1,852	1%	>100%
Other non-current assets	70,825	21%	56,124	23%	26%
Total assets	340,429		242,344		40%
AP and Other AP	41,287	12%	28,948	12%	43%
L/T loans and debentures (included current portion of L/T loans and debentures)	31,905	9%	20,901	9%	53%
Decommissioning	128,268	38%	81,239	34%	58%
Other liabilities	38,937	11%	27,878	12%	40%
Equity	100,032	29%	83,378	34%	20%
Total liabilities and equity	340,429		242,344		40%

Statement of Cash Flows

(Unit : THB Million)	2023	2022	change
Profit for the period	11,908	15,152	(3,244)
Adjustment for depreciation and amortization expenses	14,370	10,004	4,366
Other adjustments	8,317	9,456	(1,139)
Changes in operating assets and liabilities	10,909	(15,169)	26,078
Net cash receipts (payments) from operating activities	45,504	19,443	26,061
Net cash receipts (payments) in investing activities	(72,900)	(962)	(71,938)
Net cash receipts (payments) for financing activities	18,755	(5,146)	23,900
Net increase (decrease) in cash and cash equivalent	(8,641)	13,335	(21,976)
Cash and cash equivalents – opening balance (1 January 2023)	45,932	32,022	13,910
Exchange gain (loss) on cash and cash equivalents	(537)	575	(1,112)
Cash and cash equivalents (net bank overdraft) – closing balance	36,754	45,932	(9,178)



Statement of Financial Position, Statement of Cash Flows, and Financial Ratios

Financial Ratio

	Q4/2023	Q3/2023	Q4/2022	2023	2022
Profitability Ratios (%)					
Gross Profit Margin	5.61%	13.84%	7.71%	9.01%	14.82%
EBITDA Margin	7.44%	15.48%	8.22%	11.13%	14.33%
Net Profit Margin	-2.46%	12.55%	1.48%	3.18%	4.85%
Return of Equity (ROE)	19.63%	21.28%	21.65%	19.63%	21.65%
Efficiency Ratio (%)					
Return on Assets (ROA)	8.80%	10.73%	14.40%	8.80%	14.40%

	31 Dec 23	30 Sep 23	31 Dec 22
Liquidity Ratios (Times)			
Current Ratio	1.39	1.53	2.33
Quick Ratio	0.79	0.74	1.45
AR Turnover	20.10	23.08	27.42
Collection Period (days)	18	16	13
AP Turnover	17.02	13.79	19.21
Payment Period (days)	21	26	19
Leverage Ratios (Times)			
Net Interest-bearing Debt to Equity	0.91	0.79	0.41

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

Efficiency Ratio

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

Liquidity Ratios

- Current Ratio (Times) = $\text{Current asset} / \text{Current liabilities}$
- Quick Ratio (Times) = $\frac{\text{Cash \& Equivalents} + \text{Short-term investments} + \text{Trade and other account receivable}}{\text{Current liabilities}}$
- Accounts Receivable Turnover (Times) = $\frac{\text{Revenue from sale of goods and rendering of services}}{\text{Accounts receivable before doubtful debt (Average)}}$
- Collection Period (Days) = $365 / \text{Account receivable turnover}$
- Accounts Payable Turnover (Times) = $\frac{\text{Cost of sale of goods and rendering of services}}{\text{Accounts payable (Average)}}$



Statement of Financial Position, Statement of Cash Flows, and Financial Ratios

- Payment Period (Days) = 365 / Accounts Payable Turnover

Leverage Ratios

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

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)



Sustainability Performance in 2023

The company has undertaken a comprehensive sustainability assessment across 3 critical dimensions—Environmental, Social, and Governance—alongside prioritizing robust economic performance. In doing so, we aim to achieve corporate sustainability in alignment with the criteria of the Stock Exchange of Thailand and the S&P Global Corporate Sustainability Assessment (S&P Global CSA). Apart from that, Bangchak Group has undergone the Morgan Stanley Capital International (MSCI) ESG Ratings, administered by MSCI ESG Research, an international organization with expertise and credibility in ESG indices. This assessment evaluates the company's resilience to environmental, social, and governance risks (ESG Risks) pertinent to its respective business operations. Results from ESG assessments are explained below:

- **Stock Exchange of Thailand's Assessment**

- The company has been selected as a member of Thailand Sustainability Investment (THSI) by the Stock Exchange of Thailand for the ninth consecutive year (2015-2023). In the SET ESG Ratings 2023 announcement, Bangchak Group received a SET ESG Rating of "AAA" (total score 90-100), the highest rating in Thailand for the Resources Group.
- The company was awarded the Sustainability Awards of Honor, the highest recognition in the Sustainability Excellence category, for 4 years in a row (the award is reserved for organizations receiving the Best Sustainability Awards for at least three consecutive years). In 2023, Bangchak was granted the Best Sustainability Awards for the seventh consecutive year.
- The company received the Best Investor Relations Award for a listed company with a market capitalization ranging between 30,001 million to 100,000 million THB for outstanding performance in organizing various investor relations activities. These include domestic and international roadshows and conferences, accurate and transparent disclosure of information, timely responses to market developments, and effective communication channels.

- **International ESG Assessments**

- The company received the MSCI ESG Rating of "AA," placing it as the ESG Leader for the fifth consecutive year. The AA rating is the highest level attained by Thai corporates in the Oil & Gas Refining, Marketing, Transportation & Storage industries.
- The company underwent the evaluation from S&P Global Corporate Sustainability Assessment (S&P Global CSA), the evaluator of Dow Jones Sustainability Indices (DJSI). In the latest assessment announced in the S&P Global Sustainability Yearbook 2024, Bangchak Group achieved the "Top 5% S&P Global Sustainability Assessment Score 2023," ranking 2nd globally in the Oil & Gas Refinery and Marketing industry.



The company places great emphasis on overseeing ESG risks within its business operations as follows:

Risks from economic uncertainties and volatile energy prices

The escalating geopolitical tensions between Russia and Ukraine have exacerbated the supply chain disruption. Meanwhile, rising energy and commodity prices kept inflation persistently high in many countries, particularly major economies. Government efforts to maintain domestic retail fuel prices could trigger a fluctuation in refining margins and stock balances (gain/loss), thus preventing the company from adjusting retail prices at service stations. To address these complexities, Bangchak Group has put in place the following risk management strategies:

- Closely monitor the oil price volatility, employ partial oil price hedging, and ensure ample funding for oil procurement.
- Develop niche refinery products by producing unconverted oil (UO) from the hydrocracking unit and extend the turnaround maintenance cycle from every 3 years to every 4 years.
- Enhance service quality and secure the second-largest market share (Source: Department of Energy Business) by introducing unique design and Bangchak's brand identity at each service station; emphasize upgrading service standards to maximize customer satisfaction through initiatives centered on customer empathy, relationship management, and service improvement; and leverage digitization to deliver the best customer experiences.
- Develop high-quality oil products, including Bangchak HI Premium 97 (the highest-octane gasoline available in the Thai market), Bangchak HI Premium Diesel S (featuring the highest cetane rating among diesel products), and Bangchak E20 S EVO (a premium-grade E20 fuel)—all of which are certified by the Euro 5 standards, ensuring environmentally friendly qualities and lower pollutant level.

Risks from changes in digital technology and cyber threats

The dynamic landscape of digital technology and cyber threats presents complex and rapidly evolving challenges. The company has implemented strategic preparations to anticipate potential developments and adapt to changes. Furthermore, we consistently evaluate technology risks that may disrupt current business operations through a series of proactive measures:

- Establish the Digital Technology Center tasked with planning, monitoring, and providing digital technologies to prepare for rapid technological transformation.
- Establish the Cybersecurity Department to proactively plan, monitor, assess, and provide tools against escalating cyber threats. Bangchak's Risk Management Committee prioritizes vigilant risk monitoring and management to ensure readiness in the event of disruptions caused by cyber-attacks. This is achieved through the acquisition of tools, comprehensive system vulnerability assessment, and consistent risk monitoring.
- Continue the Refinery Cyber Security System project. The company is certified by ISO/IEC 27001 (Information Security Management) for the distributed control system of the refinery.



- Consistently monitor market developments and share information with employees to raise awareness regarding the importance of IT security. Bangchak mandates quarterly cyber threat awareness tests for all employees to reinforce their knowledge and preparedness.

Risks from climate change, environmental degradation, and greenhouse gas mitigation measures

Recognizing the potential adverse impacts of our business activities on climate change, Bangchak Group has implemented strategies aimed at mitigating energy consumption and greenhouse gas emissions, as follows:

- Demonstrate a commitment to operating a low-carbon business and pioneering the energy transition by increasing the proportion of green businesses to tackle carbon emissions. The company also established the Carbon Markets Club with an aim to create low-carbon society, which currently boasts a membership of 165 organizations and 607 individuals.

- Target achieving Carbon Neutrality by 2030 and Zero GHG Emission by 2050, steered by the BCP 316 NET concept comprising 4 pillars, namely: B = Breakthrough Performance by emphasizing efficiency and process improvement, low carbon emissions, and environmentally friendly values; C = Conserving Nature and Society by supporting ecological balance through natural carbon sequestration; P = Proactive Business Growth and Transition by harnessing green technology and embracing the clean energy transition in pursuit of sustainable growth; and NET = building an inclusive ecosystem to achieve the Net Zero goal.

- Utilize natural gas for electricity and steam production through a cogeneration power plant. Replace fuel oil with natural gas as the primary fuel in the refining process in order to increase the refinery's energy efficiency and minimize carbon emissions.

- Optimize resource utilization through the 3R strategy—Reduce, Reuse, and Recycle. The strategy emphasizes implementing environmentally sustainable business practices, such as setting up plastic bottle collection points at service stations, recycling engine oil containers to manufacture new ones, and promoting a circular economy to maximize environmental, social, and community benefits.

- Minimize plastic usage in non-oil businesses by replacing straws with sip-through lids, switching to bio-degradable cups (Bio-Cup), encouraging customers to collect their used plastic cups in exchange for discounts, and donating over 1 million bio-cups to the Royal Forest Department as part of the “Kaew Por Klar” initiative.

- BSGF’s “Fry to Fly” (Tod Mai Ting) campaign, advocating for “proper disposal” of used cooking oil to mitigate environmental pollution and “no reusing” cooking oil to avoid health hazards. The campaign encourages people to sell their used cooking oil at designated Bangchak service stations or collection points, where the collected oil will then be recycled into Sustainable Aviation Fuel (SAF)—all aligning with the Bio-Circular-Green (BCG) Economy Model.

- “Orphan Waste” campaign to promote waste management based upon the circular economy concept. The campaign encourages a reduction of waste at its origin and proper waste management practices to alleviate adverse impacts on society from extensive waste accumulation in open dumps and air pollution from landfills. The company also set up orphan waste pick-up points at designated service stations to facilitate proper disposal efforts.



Risks from flooding and water scarcity

The company acknowledges the importance of managing the production process to minimize water consumption and implements the following measures to address the issues:

- Monitor climate change risks. During drought seasons, the company closely monitored water situation updates from the Metropolitan Waterworks Authority on a daily basis in order to examine risks of water scarcity, which could disrupt production. The company sought emergency water reserves to ensure uninterrupted production in the event of water shortages, while implementing measures to address risks associated with low water levels in the Chao Phraya River, which may affect marine transportation.
- The Safety, Health, Environment, and Energy Management (SHEEM) Committee and the Safety, Health, Environment, and Energy Promotion (SHEEP) Committee are tasked with setting targets and overseeing water usage and circulation within the refinery. Both committees also organize educational activities on reducing water consumption in production processes and office facilities.
- 3R strategy: This includes Reducing water consumption through micro-filtration system and reverse osmosis system to improve the quality of tap water, Reusing condensate water and stripped water in the production process—resulting in the reuse of approximately 90,000 cubic meters of water, and Recycling an additional 180,000 cubic meters of water by the reverse osmosis system. The combined water savings achieved through the 3R strategy equated to the water consumption of 3,865 households.
- Start the newly upgraded 2 cooling units at the refinery to improve efficiency and reduce water loss from the cooling system, resulting in a reduction of tap water usage by 5 cubic meters per hour (equivalent to 5% of total tap water use)
- Encourage affiliated companies to integrate the 3R strategy into their production processes. Aside from that, the company has initiated a project to drill raw water wells to secure additional water reserves for the factory areas.



Economy and Crude Oil Price Outlook

Economic Outlook

The global economy in 2024 is on track to recover from the COVID-19 pandemic and the energy crisis triggered by the Russia-Ukraine war. The International Monetary Fund (IMF) has upgraded its economic growth forecast from 2.9% in October 2023 to 3.1%, citing robust growth in the US and advanced economies that outperformed previous estimations. Apart from that, fiscal stimulus in China to bolster domestic demand and lower energy and commodity prices are factors contributing to an improved economic outlook. Meanwhile, inflation has subsided thanks to the contractionary monetary policy. Still, the escalating geopolitical tensions and Red Sea disruption are the short-term headwinds.

In 2024, Thailand's economic growth will likely lose pace, dragged by a downturn in exports and the manufacturing sector, as weakened global demand and uncertainties over China's sluggish rebound continue to hamper Thai exports. In contrast, private consumption and the tourism sector have stayed upbeat and will likely serve as key economic drivers in the short term. Inflation also remained low. However, the impact of the ongoing conflicts in the Middle East on energy prices, the impact of climate change on agricultural commodity prices, and cost-of-living support package announced by the government are important factors that need to be closely monitored.

Summary of Thai Economic Projections

(Unit: %)	2022	2023*	2024
Economic growth rate	2.6	2.4	2.5-3.0*
Inflation rate	6.1	1.3	1.0

Source: Bank of Thailand (*News Announcement on February 7, 2024)

Oil Price Outlook

The International Energy Agency (IEA) anticipates a slowdown in global oil demand from 2.3 million barrels per day in 2023 to 1.1 million barrels per day in 2024, owing to the fragile global economy. Non-OPEC+ producers—including the US, Canada, and Brazil—will likely become significant drivers of global crude oil supply this year. Hence, the IEA expects the global crude oil supply in 2024 to expand to 1.2 million barrels per day. However, the ongoing oil output cuts by the OPEC+ to support oil prices remain a critical factor that warrants closed monitoring.

Based on our assessment, the average Dubai crude oil price in 2024 will likely move between US\$75-85/BBL, reflecting a waning momentum in global crude oil demand from 2023. In contrast, global oil supply witnessed a steady increase driven by outputs from non-OPEC+ refiners. Nonetheless, global crude oil prices continue to face upward pressures from geopolitical conflicts in many regions, which has threatened the global crude oil supply.

The Dated Brent-Dubai (DTD-DB) spread in 2024 will likely settle between US\$0.5-1.5/BBL. The Dated Brent remains pressured by weak European crude oil demand due to sluggish economic conditions. In contrast, the regional supply in Europe is expected to remain robust, buoyed by crude oil exports from the US.

In 2024, we expect the refining margin of cracking refineries in Singapore to decline from 2023, given downward pressures from a slowdown in demand amidst subdued economic conditions and elevated inflation worldwide. In particular, a rebound in oil demand from China is likely to be lower than anticipated due to the ongoing real estate crisis. Nevertheless, the refining margin will gain impetus from market concerns as the Middle East conflict might constrain the global oil supply.

