



*รังสรรค์โลกยั่งยืนด้วยนวัตกรรมสีเขียว*  
**Crafting a Sustainable World**  
*with Evolving Greenovation*

Annual Registration Statement / Annual Report 2022  
(Form 56-1 One Report)

**Bangchak Corporation Public Company Limited**

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Attachment

In case this Annual Registration Statement / Annual Report (Form 56-1 One Report) references information disclosed on the Company's website, the disclosed information shall be deemed to be part of Form 56-1 One Report. The Board of Directors certifies the correctness and completeness of disclosed information and annual information disclosure in Form 56-1 One Report.

# Message from the Chairman of the Board of Directors

**In 2022, the world and Thailand was focused on economic and business recuperation from the COVID-19 pandemic that showed signs of improving. Bangchak Group not only rebounded back to strength but managed to achieve the best-ever performance for the second consecutive year further accentuating the success from expansion, balanced business diversification, organization restructuring for added agility and strength, risk diversification to mitigate fluctuations in revenue and profits, and an efficient liquidity management, enabling the organization to be able to promptly tackle and control any situation.**

2022 was a record-breaking year for Bangchak Group, with the highest performance since the establishment of the company. Revenue from sales and services recorded at 312,202 million Baht, up 57% from 2021, EBITDA was 44,724 million Baht, up 73% from 2021, and contributed to the net profit of the parent company by 12,575 million Baht, up 65% from 2021 and is a profit of 8.89 Baht per share.

All five business groups were able to make a prompt turnaround resulting in sustained growth. The Natural Resources Business Group, through upstream petroleum investment in Norway, registered more revenue from crude oil and natural gas sales by 134% from 2021 that helped uplift performance outcome and strengthen financial status of Bangchak Group together with a forecasted uptrend of petroleum reserves by an additional 30–40% as a result of the transfer of three additional Norwegian petroleum assets, reflecting the high priority Bangchak has granted to energy security with consideration to the concurrent equilibrium between access to energy and the sustainability of resources and the environment.

The Refinery and Oil Trading Business Group benefitted from a significant windfall of crude and refined oil prices in the international market following a rise in oil demand which crept significantly higher in accordance with economic activities after the COVID-19 crisis coupled with the tightening demand for oil resulting from the sustained conflict between Russia and Ukraine that rendered Bangchak Refinery to record the highest-ever output of 122,600 barrels per day (as against the average production rate of 99,000 barrels per day in 2021). Furthermore, Bangkok Fuel Pipeline and Logistics Co., Ltd. (BFPL) was set up to operate the oil transportation pipeline and logistics business and another company, BSGF Co.,Ltd. was established to produce Sustainable Aviation Fuel (SAF) from used cooking oil – being the one and only operator of this business in Thailand – to address the demands of the international aviation industry.

The Marketing Business Group achieved the highest ever sales from service stations in December 2022 for a record-breaking 452 million liters with 1,343 service stations nation-wide, to provide our customers with a choice experience in line with the concept of “Your Greenovative Destination”. The Non-Oil Business also recorded a continued growth in the retail food and drink business with the Inthanin Coffee growing by more than 1,000 locations and the EV charging stations

that grew by 179 locations, to fittingly address the needs of various customer groups.

The Power Plant Business Group, Bio-based Business, and other new businesses, also achieved continual investment; for instance, BCPG Plc. began commercial operation of the Solar Power Plants in Japan as envisioned, additional investment in the Solar Power Plants in Taiwan, construction of Wind Farms in the People’s Democratic Republic of Laos, while BBGI Plc. began trading their shares in the Stock Exchange of Thailand and further uplifted its business of biofuels towards high value bio-based products. Winnonie, also expanded its network of the electrical motorcycles platform service to cover 100 locations with plans for continual expansions and investments in new technologies, and at the same time giving priority to the transformation towards becoming a digital organization and utilizing technology to facilitate work to be faster and abreast of business dynamics.

These achievements collectively made 2022 another year of resounding success for Bangchak Group as a leader in energy transition, operating business in a prudent and steadfast manner covering upstream to downstream businesses and ever in search of opportunities for perpetual business expansion. This was proved through trust from investors in the two sessions of debenture offering for a combined total value of 13,000 million Baht which was overwhelmingly well received by the public and investors whether it be debentures for institutional investors of 10,000 million Baht or the digital debentures open for reservation via application of 3,000 million Baht that also recorded the fastest ever sell-out in 3 minutes 18 seconds. Additionally, Bangchak Group also received an organization credit rating upgrade from “A –” to “A” from TRIS Rating following the significant financial status uplift post-COVID-19 pandemic.

These achievements clearly reflect the path for growth for the Bangchak Group, that is flourishing and growing on a foundation of financial stability and strength, recognized and accredited for excellence in a multitude of facets domestically and internationally. With a clear strategic plan for business expansion based on responsibility to all stakeholder groups with adherence to the contexts of the environment, society, and governance by the directors, executives, and employees, the Group has also established targets to achieve Carbon Neutrality by 2030 and

Net Zero GHG Emissions by 2050 with the explicit and tangible plan of BCP 316 NET, to achieve all these goals as envisioned.

Lastly, on behalf of the Bangchak Group, I would like to take this opportunity to express our profound and sincere thanks to our shareholders, business partners, trading partners, all related governmental, societal, and communal entities, for your unwavering support to our businesses and endeavors. With this stout support from all parties that have united to drive our vision of “Crafting a Sustainable World with Evolving Greenovation” reflected in the new corporate logo, I am confident that, together, we shall generate sustainable growth for the company, Thai society, and the global community, and deliver a better future into the hands of the next generations.

*(Signed) Pichai Chunhavajira*

**(Mr. Pichai Chunhavajira)**

Chairman of the Board of Directors





## Financial Highlights

Consolidated Financial Statements	2022	2021	2020
<b>Statement of Income (Million Baht)</b>			
Sales and service revenue	312,202	199,417	136,450
Gross profit (loss)	46,269	23,673	4,328
EBITDA <sup>1/</sup>	44,724	25,818	4,104
Gain (loss) from derivative	(5,136)	(1,274)	17
Gain (loss) from foreign exchange	1	251	732
Net profit <sup>2/</sup>	12,575	7,624	(6,967)
<b>Statement of Financial Position (Million Baht)</b>			
Total assets	242,344	201,785	148,323
Total liabilities	158,966	132,226	90,006
Shareholders' equity	83,378	69,559	58,316
Share capital			
– Registered share capital	1,377	1,377	1,377
– Issued & fully paid-up share capital	1,377	1,377	1,377
<b>Financial Ratios (%)</b>			
EBITDA / sales and service revenue	14.33	12.95	3.01
Net profit / sales and service revenue	4.85	4.94	(4.23)
Rate of return on assets	14.40	9.51	(3.90)
Debt to Equity ratio : D/E	1.91	1.90	1.54
Net IBD to Equity	0.41	0.69	0.71
<b>Operating Outcomes (Baht per share)</b>			
Net earnings per share <sup>2/</sup>	8.89	5.25	(5.50)
Book value per share <sup>3/</sup>	38.86	32.06	26.83

Note: <sup>1/</sup> EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization, gain/loss on foreign exchange, loss from impairment of assets

<sup>2/</sup> Net profit (loss) of the owners of the parent

<sup>3/</sup> Only the equity of the Company

Part




Business Operations  
and Performance

# 1. Bangchak Group Structure and Operation

## 1.1 Policy and Business Overview


### 1.1.1 Vision, Mission, Objectives, Goals


**Vision**  *สร้างสรรค์โลกซึ่งยั่งยืนด้วยนวัตกรรมสีเขียว*  
**Crafting a Sustainable World**  
*with Evolving Greenovation*

**Mission**  We commit to accelerate sustainable energy transition, while balancing energy security. We are energizing lives through greenovative solution and promoting ESG for all.

**Core Values**

<b>i</b>	<b>am</b>	<b>b</b>	<b>c</b>	<b>p</b>
<b>INNOVATION</b>	<b>AGILITY &amp; MOBILITY</b>	<b>BOLDNESS</b>	<b>CUSTOMER EMPATHY</b>	<b>PASSION &amp; OWNERSHIP</b>
สร้างสรรค์	ปรับได้	กล้า	เข้าใจ	ทุ่มเท
				

**Business Culture**  Develop sustainable innovative business in harmony with environment and society

**Employee Culture**  To be virtuous, knowledgeable, and contributive to others

## Objectives and goals

Bangchak Corporation Plc. is committed to being a Thai energy company that conducts business in parallel with stewardship of the environment and society while striving for the right balance between value and virtue together with quality of life improvement for Thai society.

Valuing sustainable corporate growth, Bangchak strives to internationalize its management excellence while applying the Sufficiency Economy to business management for adequate profits, nurturing of growth and sustainability by promoting and developing innovation and technology with due regard for conscientious consumption of natural resources. Bangchak pursues the Crafting a Sustainable World with Evolving Greenovation Vision as well as business, social, and environmental goals. Below are the highlights.

### 1) Business Goals

#### 1.1 Refinery and Oil Trading Business Group

Bangchak constantly increases competitiveness through crude refining efficiency improvement and optimizing refining reliability while relentlessly reducing greenhouse gas (GHG) emissions under the Crafting a Sustainable World with Evolving Greenovation Vision with state of the art green technology and an environment-friendly refinery. Leveraging the FAST+ development concept, Bangchak continuously increases the values of its products, decreases energy consumption throughout the production processes, maximizes the efficiency of transport and delivery of raw materials, feedstock, and products, and constantly maintains capacity at 120 KBD. Bangchak has reviewed turnaround maintenance cycles from a three-year to a four-year cycle.

In addition, Bangchak is aggressively developing high value specialty products, including unconverted oil (UO) from a dedicated hydrocracking unit. UO is known to be feedstock for lube base oil and paraffin wax for the candle industry, paper coating industry and adhesive industry. The hydrocracking unit was modified to be capable of producing up to 75 million liters of UO per month. Calibration helps control the production of a solvent known as “BCP White Spirit 3040”, essential feedstock for production of paint, thinner, and resin.

As for the trading business, Singapore-based BCP Trading Pte. Ltd. (BCPT) plans to grow distribution volumes through the company by focusing on growing the proportions of out-out trading of crude oil (procuring crude oil from overseas traders for overseas sale). A proactive move is to secure crude oil direct from producers and penetrate the market of distributors of specialty products. The trading market has been continually expanded to new business partners, including emerging countries. Plans are in place for novel activities and services to extend existing products and services, including the logistics side (acquiring and administering crude tankers), derivative trading, and biofuels.

In addition, the Company has plans to produce new products that are low carbon, namely Sustainable Aviation Fuel (SAF). Therefore, Bangchak has formed BSGF Co., Ltd., as a joint venture with BBGI Plc. and Thanachok Oil Light Co., Ltd., to engage in the business of raw-material procurement, production, and distribution SAF derived from used cooking oil. The initial registered capital is Baht 1 million, to be increased later. Bangchak, BBGI, and Thanachok Oil Light will hold 51%, 20%, and 29% equity in BSGF. It is planning to install a SAF production unit in the Bangchak refinery area and is expected to start selling in 2024.





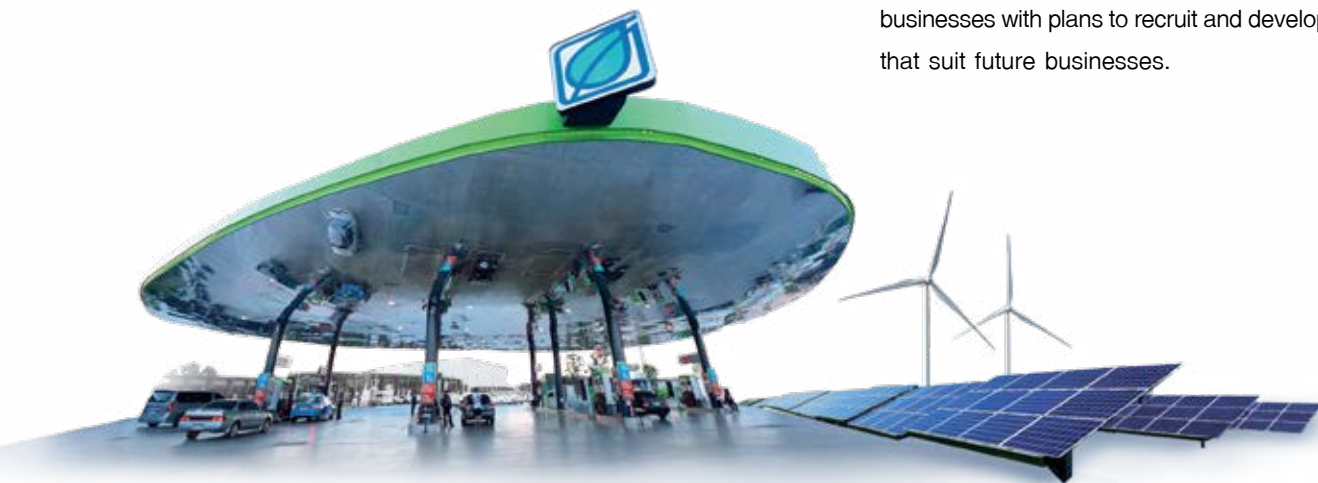
## 1.2 Marketing Business Group

Bangchak pushes sales through various channels, and the company's market share was ranked second in the past year with a cumulative market share across all channels from January to December is 10.9% (all products included) and is a leader in the distribution of 3 types of Euro 5 certified fuel products, namely Gasohol E20 S EVO, Hi-Premium Diesel S and Hi-Premium Gasohol 97. Bangchak aim to develop high-quality fuel and lubricant products that are environmentally friendly and high-standard and a higher standard of service for maximum customer satisfaction. Moreover, Bangchak was rated as number 1 on the Net Promoter Score (NPS) on customer relationship management and service improvement. Under the Your Greenovation Destination concept, Bangchak introduced digitalization to provide extraordinary service experiences with unique design service stations while increasing non-oil retail alliances, all intended to provide better services to meet modern lifestyles of Thai customers, enabling all to live happily while looking after the environment in line with the sustainable development goal. Bangchak consistently strengthens the business of Inthanin Coffee, moving to become number 3 in the domestic coffee retail industry with additional expansion from 1,002 branches in 2022 toward the target more than 1,250 branches in 2023.

## 1.3 Power Plant Business Group

Our goal is to become a leader in the clean-energy power business in Asia-Pacific, expanding businesses worldwide to foster steady growth by leveraging five strategic pillars:

- Aggressive business growth through organic and inorganic growth, meaning acquiring sizeable brownfield businesses or greenfield businesses by focusing investment growth on domestic investment and expansion to neighboring countries with due regard for cost-effective returns and risks along with investment portfolio balance.
- Constant efficiency improvement of current projects through engineering, technical, and financial improvement embracing Bangchak's own assets and its jointly owned assets.
- More powerful strides for digital and innovation businesses to shape new income channels under the digital energy and infrastructural businesses.
- Efficient management of capital and balance sheets together with identification of suitable capital sources and financial ratios to enable Bangchak to achieve goals.
- Enhancement of personnel competency and internal restructuring in line with Bangchak's future growth businesses with plans to recruit and develop personnel that suit future businesses.



At the year-end, BCPG Plc., a subsidiary, commanded 390.5 MW in capacity, with additional power plants under project development. The emphasis is on high-potential projects with long-term power purchase agreements (PPAs), including a solar farm project in the Republic of China (Taiwan), where BCPG holds a long-term PPA at constant tariffs with Taiwan Power Company, a state enterprise controlling power generation and distribution there. To this end, BCPG has sold all its investment or 33.33% in Star Energy Group Holdings Pte. Ltd. (SEGHPL) to Springhead Holdings Pte. Ltd. for USD 440 million (Baht 14.55132 billion), booking Baht 1.6446 billion from the sale. SEGHPL invested in three geothermal projects in Indonesia, namely Wayang Windu, Salak, and Darajat.



## 1.4 Bio-Based Products Business Group

Bangchak continuously increases its production capacity of bio-based ethanol as well as consistent upgrade of biodiesel and ethanol. BBGI Plc. kicked off a process to produce pure glycerine with a capacity of 80 tons per day and related products, including pharmaceutical-grade hand sanitizer alcohol to grow the company's product value. These programs maintained the status of Bangchak as the largest bio-based fuel oil producer and distributor in Thailand. To pursue high-value bio-based development, BBGI invested via Manus Bio Inc., a worldwide reputable company in high-value bio-based technology, particularly leveraging advanced bio-fermentation with products and patented recipes of sweetness nutrient Neotame, as an official distributor in Thailand and ASEAN. We also signed a joint-venture agreement with BIOM Co., Ltd., the first biotechnological research and development company of Chulalongkorn University to scale up research value in response to the supply chain of high-value bio-based products.

BBGI Plc. engaged in an initial public offering (IPO) to mobilize funds for business growth, future project investment, loan repayment, and working capital. It also sold additional food supplements derived from ASTA-IMMU (an antioxidant for skin nourishment), namely Calcium-LT Plus, Moreday Alternative Milk, and Probiotic under the B Nature Plus brand.

## 1.5 Natural Resource Business

To development businesses of petroleum exploration and production and natural resources, we engaged in:

- Petroleum exploration and production: Bangchak's goal is to increase investment to in turn grow capacity in high-potential fields in the future. OKEA ASA currently holds several licenses in oil and gas fields offshore Norway. In November this year, investment was put into Wintershall Dea Norge AS. OKEA ASA is committed to its search for business growth through mergers and acquisitions (M&As) of other assets.
- Alternative natural resources: BCP Innovation Pte. Ltd. (BCPI) has been tasked to pursue businesses and investments related to lithium and various startups. BCPI currently holds a Lithium Purchase Agreement with Lithium Americas Corp. to buy up to 6,000 metric tons per year of lithium from the Cauchari-Olaroz project. BCPI has been investing in several startups on several projects.

## 1.6 Organization Development, Corporate Management, and Innovation

Bangchak increases competitiveness in corporate management and organization development to become an employer of choice with human resource excellence, encouraging employee engagement toward the development of innovation of work processes, new products, or alternative business models in alignment with the corporate vision. Under the core value of "i am bcp" and sustainable development framework defined by S&P Global Corporate Sustainability Assessment (S&P Global CSA), Bangchak has adopted a transformation program to improve the organization in economic, environmental, and social aspects under a good governance code to ensure customers' confidence in its capability to generate profitable and sustainable performance. Under the leadership of Bangchak Initiative and Innovation Center (BiiC), the Ecosystem and Incubation Division has continuously organized activities under "The Intrapreneur – Turning Our Members into Entrepreneurs" program with forums for employees to participate in innovation development through brainstorming on value creation from existing businesses or from alternative business models to cope with ongoing changes in business landscape, particularly post-COVID-19.

In 2021 Bangchak launched "Krating", Thailand's first digital fuel dispenser, to boost the quality of life in rural communities, thus introducing innovation; Bangchak also facilitated rural people's financial service. This year the number of fuel dispensers grew to 110 through business incubation for commercial expansion.

The same platform can support development of growth of local startups, connect with other R&D institutes with various activities under the coordination of BiiC. Bangchak successfully kicked off the internal startup "Winnonie" (debt-free motorcycle-taxi stand), which applies Greenovative Energy to motorcycles and upgrades the quality of life for public chauffeurs. It also invested in a startup that develops hydrogen production.

## 1.7 Being open, transparent, and accountable

Bangchak engages in open, transparent, and accountable business conduct, whether information disclosure of transparent business conduct under corporate governance or other applicable rules.

## 2) Environmental and social goals

### 2.1 To advance Bangchak Group's GHG emission reduction to the level that can critically drive the Group to become a Carbon Neutrality Organization by 2030 and a Net Zero GHG Emissions company by 2050.

Eyeing the carbon-neutrality and net zero GHG emissions targets, Bangchak formed a special taskforce with representatives from all business units within the Group to become fully aligned on a genuine understanding of the targets, the appropriate approaches directed to achieve them, with a focus on energy and resource efficiency, reforestation, effective development and project review of green innovation businesses, and others.

### 2.2 Development of business, the environment, and society collectively

Bangchak's BCP 316 NET plans for the achievement of Carbon Neutrality by 2030 and that of Net Zero GHG Emissions by 2050, which call for a reform of CSR activities to activities congruent with the development of natural sources to capture and store carbon dioxide, both land ecology and marine ecology (C: Conserving Nature and Society); such carbon dioxide would amount to 10% of corporate GHG emissions. Bangchak Group therefore began a study and initiated Green & Blue Carbon plans in various formats that can connect to community and social development work together with stakeholders (customers, communities, government agencies, academia, and NGOs) in concurrent support of people's improved quality of life. These projects include Your Tree for Our World, which links cumulative volumes of avoided carbon dioxide from refueling and extend them to land ecology (Green Carbon); reforestation and forest conservation; and marine ecology development (Blue Carbon) in four distinctive formats. Goals vary with target groups and work formats of given areas For instance, community forest conservation and forest fire reduction in Chiang Mai, promotion of sustainable tourism communities (Low-Carbon Destinations), and a suitable format for using seagrass sources to capture carbon dioxide on Koh Mak, Trat.

Bangchak plays a role in promoting learning sharing on carbon credit management and trading of carbon credit in Thailand's market via the Carbon Markets Club, which attracted 53 entities and 162 individuals (including the founding partners). This year the club supported trading of 259,909 units through TVERs and certificates for serving as a digital renewables power producer to lower GHG, totaling 836.703 RECs or 678,260 tons of carbon dioxide equivalent.

Pursuing a sustainable future in tandem with the mobilization of a low-carbon society, Bangchak is building on activities under the BCG Economy Model, which stresses conscientious resource consumption. We develop projects that benefit society as a whole to address stakeholders' needs and support SDG 13 (Climate Action) and SDG 12 (Responsible Consumption and Production). Demonstrating our leadership in energy transition, Bangchak formed BSGF Co., Ltd., to engage in the sale of SAF, derived from used cooking oil through the Thod Mai Thing Project, designed to gather used cooking oil and produce fuels that are instantly usable by airlines worldwide. Bangchak, in conjunction with several partners, urged Thais to continually cut down on upstream garbage by leveraging space on the premises of Bangchak service stations in Bangkok and Chon Buri to collect "orphan garbage" to lower the waste volumes that go to landfills and instead feed such waste to methodical sorting and treatment. This year we collected over 80 tons of such garbage from offices and the interested public. Finally, Bangchak was among the 14 allies that built on the Green Shelter Project, in which the public was solicited to send used UHT beverage cartons to make Eco Roofs, Eco Door Frames, Eco Wood, and Eco Bricks for the Friends of Pa Foundation, Thai Red Cross Society.

## 1.1.2 Business Strategies

To achieve its short-term and long-term goals, Bangchak relies on the 4S Strategy.



### Security (S1)

Upstream energy represents Bangchak's core businesses strengthening national energy security. Bangchak carries out this strategy jointly through its Refinery and Oil Trading, Marketing, Natural Resource, and Bio-based Products Businesses by supplying, producing, and distributing refined products and biofuels to meet the demand of the business sector and the public in line with the overall trend of energy demand. Though EVs command a healthy growth outlook, today Bangchak still considers our businesses as a necessity to cope with rising national energy demand.

### Synergy (S2)

Bangchak focuses on engaging in businesses that align with Group proficiency as well as its core business (S1), including the fuel transport and logistics business, public utility and energy infrastructure, food and drinks, and mining. All these provide revenue and shared values of Bangchak's portfolio. This year we formed Bangkok Fuel Pipeline and Logistics Co., Ltd., to engage in and grow businesses to accommodate comprehensive fuel transport.

### Sustainability (S3)

To cope with the dynamic work environment and modern technologies and to accommodate challenges posed by global climate change, Bangchak continuously develops and leverages its core business toward sustainable growth. Bangchak accelerates its investment growth in clean and green businesses that aim for Carbon Neutrality/Net Zero GHG Emissions. Examples include investment and development of the lithium battery business in preparation for EVs and development of high-value bio-based specialties with our investment in Manus Bio Inc., a reputed global company with leading bio-innovative technology on advanced bio-fermentation. BiiC is a dedicated institute under Bangchak in charge of promoting innovations for the environment and society through investment in startups and partnering with external R&D organizations to relentlessly advance Bangchak's green businesses and development of bio-based specialties for domestic and international markets.

This year Bangchak established BSGF, a joint venture with BBGI and Thanachok Oil Light Co., Ltd., to engage in the procurement of raw materials/feedstock, production, and distribution of SAF, derived from used cooking oil.

### Scalability (S4)

To sustain long-term growth, Bangchak focuses on reforming its revenue stream that leverages New S-Curve businesses that produce extensive benefit for the corporation. At the same time, Bangchak is poised to deal with technological transformation, emerging risks, and market volatility.

To frame its businesses and investment for sustainability, Bangchak leverages its **4 GREEN (4G)** strategy:



### 1) Green Business

Bangchak focuses on investment in businesses that foster sustainable values. Besides growing revenue from new undertakings, this strategy represents green initiatives applied to businesses, including high-value bio-based products derived from agricultural produce via biotechnological innovation extended from biofuel production and sales. The company also values green power businesses and energy management, among others, involving BiIC, which incubates startups to further Bangchak's businesses in the future.

### 2) Green Production

Bangchak focuses on environmentally friendly and safe operations with optimal utilization efficiency of water and energy resources. To achieve these goals, Bangchak has adopted the operating systems certified by ISO 14001, ISO 50001, and Green Industry (Green Network) Level 5 of the Ministry of Industry standards in addition to Eco Factory from the Federation of Thai Industries, the occupational health and safety standard of ISO 45001, and advanced operating systems under Process Safety Management (PSM).

### 3) Your Greenovative Destination

Bangchak strives to be a creative and sustainable destination of all age groups, focusing on leadership in developing green innovations through assorted goods and services and non-oil businesses at its service stations, which serve as a destination that fulfills customers' needs while pursuing sustainable business development. To this end, we leverage our core competencies: fulfilling customers' and stakeholders' needs and expectations; procuring, developing, and creating innovations in oil and non-oil products as well as services to enable us to promptly respond to changes; and operating businesses in conjunction with exercising sustainable stewardship of the environment and society. Below are our key strategies:

- **Greenovative Products:** Bangchak strives for leadership in offering premium fuels in response to customers' demand and benefiting the environment through meeting EURO 5 standards. We currently produce and distribute EURO 4 quality fuels as required by the public sector plus three types of EURO 5 low-sulfur fuels (E20 S EVO Gasohol, Hi-Premium Diesel S, and Hi-Premium E10 Gasohol).
- **Network Management:** We strive to grow and develop service station formats to meet customers' needs with a focus on areas of booming fuel demand and establish lucrative returns for partners' investment—through innovative service stations, surroundings, non-oil businesses, and unique design service stations—to meet the various requirements of consumers. Our six designs are called Modern, Innovation, Eastern, Western, Fantasy and Thai-inspired. We also advocate standard improvement and service station image—both station structure and services—to be ready for competition. In short, catering to customers' needs and expectations is another key goal of the Marketing Business Group.





- Non-Oil Offerings:** We strive to develop new business models by joining leading food franchises at our stations, including Extra Midnight Chicken Rice, GON EXPRESS, Gateaux House, and Haw Giao shops, as well as 6 leading Michelin-branded restaurants, including Khua Kling Pak Sod, Elvis Suki & Seafood, Nara Thai Cuisine, Jae Dang Sam Yan Somtum, Pad Thai Fai Talu and Nai Uan Yentafo to enrich consumers' experience of our service stations and generate extra income for business operators. We relentlessly grow non-oil businesses for customers' convenience, including Inthanin Coffee, DAKASI pearly milk tea (for which Bangchak Retail has the right to expand business and manage branches in service stations nationwide) in addition to business partners like Tops Daily, Familymart, Mini Big C, Lawson, Khai Dee and Minimart Brand. Finally, space at service stations has been managed to complete the service circuit, like the car care business under Wash Pro, FURIO Care, Green Wash, and Tyre Care. Bangchak also grows brands of partners like B-Quick and AutoClick, food outlets, laundry outlets, merchandise transport and automatic vending machines.
- Digital Experience:** We apply technology to service and create new experiences for customers while relentlessly developing systems for convenience. We also connect to ecosystems in line with the requirements of today's lifestyles. Cases in point are the application of digital payment and accrue loyalty points at the stations, all Inthanin Coffee branches, and convenience stores at the stations. To this end, customers simply scan QR Codes to pay through all bank applications, thus minimizing physical contact with cash and keeping the distance between customers and service providers, in turn boosting service station patrons' confidence. The improved digital card system allows customers to accrue points simply by giving their phone numbers at service stations, Inthanin Coffee, and businesses affiliated with Bangchak and then redeem such points through the Bangchak application without using cards. Finally, Bangchak grows its customer base and give members more choices through cooperation with partners, including transferring Bangchak points to AIS points, using Bangchak Paypoint to convert points into money at Thung Ngoen shops, transferring Bangchak points to MAAI points, and converting points into mutual fund payment.
- Green Sustainability:** Fostering steady business growth along with society and the environment, Bangchak constantly drives projects supporting social development participation in conjunction with customers and stakeholders through a variety of projects, including a refueling project where agricultural produce or farmers' and SME entrepreneurs' innovative goods, or both, are given to refueling motorists, a project where organic vegetables grown on service station premises are handed out to employees to lower their food bills and also given to station patrons. A byproduct is the know-how for growing garden vegetables, which is shared with communities and schools around our service stations.



### 4) Green Society

Green Society is one of the key strategies Bangchak is strictly adhered to, although Bangchak has set environmental goals for carbon dioxide emission and commands a clear BCP 316 NET plan. We reiterate Bangchak’s role in the transition from fossil fuels to clean energy through our 12<sup>th</sup> annual seminar on Energy Security and Carbon Sequestration to foster public awareness and our clear stance on the environment. Nevertheless, the transition of the corporation and the world calls for time, capital, technology, and tax measures to establish investment value to suitably cut down on carbon emission.



During this crucial transition, Bangchak keeps up its work to address social requirements. We have integrated our socio-environmental activities and connect them to stakeholders in a more diverse way. For instance, during the COVID-19 epidemic, we applied the capability and Group products to address the situation and eased the hardship of the public and various professions that bore the brunt of the epidemic. Bangchak donated alcohol products in support of medical personnel and staff as well as vulnerable groups in communities and schools and provided space at its service stations in Bangkok and periphery as well as in the provinces

to organize a Musical Sharing of Happiness Project in conjunction with the Musical Association of Thailand under the Royal Patronage, designed to support vocalists and musicians who found themselves out of jobs so that they could support their families. Also, Bangchak bought community goods and services for its own use, in addition to its purchase of agricultural produce facing market oversupply as well as depressed prices so that it may process them into giveaways for patrons. Two examples are dried longans and Buai Nuan Jai (plums or cherry doi); Bangchak was pleased to ease farmers’ hardship. As for the communities around Bangchak Refinery, we still maintained their trust. To illustrate our friendship, helpfulness, and confidence in safety, we staged activities on eight aspects of engagement and quality of life. This year our community engagement score was 89%. Our work was also expanded to the formulation of a process to also look after communities around various Bangchak service stations. To elaborate, we devised a criterion for selecting key communities along with four aspects of implementation strategies that echo a model service station that is safe, quality and exemplary in aspects of the environment and assistance to society. Monitoring and assessment of outcomes are in place for monthly reports.

As for educational work, Bangchak actively promoted activities under the Happiness Sharing Foundation (Bai Mai Pun Suk). Educational activities are developed by the foundation in conjunction with partners. Three key projects this year were reading and writing for children, Rak Pun Suk Junior, and Solar Pun Suk, which stress sustainability foundation—youth development in education and the environment, aligning with UN SDG 4 (Quality Education) and driven toward SDG 13 (Climate Action). These activities cultivate awareness and good behavior on t–he environment in line with the national policy’s BCG Economy Model for sustainability. The activities this year involved some 15,000 youths from nearly 200 schools in 52 provinces nationwide.



## 1.1.3 Transitions and development milestones in 2022

### March

- Subsidiary BBGI offered its first IPO by issuing 433.20 million common shares on SET at the price of Baht 10.50 per share (valued at Baht 2.50 per share) for a total of Baht 4.549 billion. After this sale, Bangchak's equity in BBGI dropped from 60% to 42.02%. Later, Bangchak acquired additional BBGI shares, making its equity 43.96% as of March 31, 2022.
- Bangchak notified SET about its acquisition of shares in Oamsuk Social Enterprise Co., Ltd., which in 2022 planned to raise its registered capital from Baht 10 million to Baht 126 million. Bangchak therefore invested about Baht 62.5 million, resulting in its 50.4% equity from originally 40.5%. Such capital is to be used in the Kheha Suk Pracha Project of the National Housing Authority, which is seen as aligning with Bangchak's and Oamsuk Social Enterprise's strategic direction of social stewardship.
- On March 3, BCPG Group disposed of all its investment accounting for 33.33% in Star Energy Group Holdings Pte. Ltd. (SEGHPL) to Springhead Holdings Pte. Ltd. for USD440 million (Baht 14.55132 billion based on Baht 33.06 per USD). BCPG's proceeds from such disposal would enhance its investment capability for future renewable-energy projects.
- On March 29, the Komakane solar farm project in Japan under BCPG Group went on commercial production as planned. This project lies in Nakano Prefecture and holds 25 MW capacity in the PPA with Chubu Electric Power Company. The Feed-in-Tariff (FIT) is JPY36 per kWh, and the purchase period is 20 years.



### April

- The 2022 AGM approved dividend payment for the second half of 2021 at Baht 1.0 per share, worth about Baht 1.357 billion, which was paid out on April 22. Combined with the interim payment for the first half of the year of Baht 1.0 per share (paid out on September 21, 2021), this payment brought the year's dividends to Baht 2.0 per share.
- On April 1, the rooftop solar power project at Chiang Mai University under the CMU Smart City Project Phase 2, totaling 1.3 MW, located in Amphoe Suan Dok, began commercial power generation and distribution, operated by Thai Digital Energy Co., Ltd., a 75%-owned BCPG subsidiary. The project currently commands a total contractual capacity of 9.8 MW in operation.
- On April 15, BCPG Group's Yabuki solar farm project in Japan went on commercial production as planned. This project lies in Fukushima Prefecture and holds 20.0 MW capacity in the PPA with Tohoku Electric Power Company. The Feed-in-Tariff (FIT) is JPY36 per kWh, and the purchase period is 20 years. BCPG Group's current solar farm projects in Japan now command commercial distribution of 79.7 MW, with 10 additional MW under the development stage.

## June

- Bangchak notified SET about its sale of shares in a subsidiary, recapitalization of registered capital, and company renaming. This concerned the Bangchak Board of Directors' approval of a joint investment in the land credit business and sale on consignment to scale up its project to add liquidity for those suffering from COVID-19 and resolve informal debts. To this end, Bangchak agreed with the Government Savings Bank (GSB) and Dhipaya Group Holdings Plc. (TIPH), its joint-venture partners, as follows:
  - o BCV Biobase Co., Ltd. (BCVB, a wholly owned subsidiary of Bangchak with Baht 20 million in registered capital) a joint venture registering a name change to Mee Tee Mee Ngerm Co., Ltd.
  - o Bangchak sold its BCVB shares to the two entities, after which Bangchak will hold 20%, GSB 49%, and TIPH 31%. Then BCVB raised its registered capital to Baht 1 billion, with corresponding equity rises. As a result, this new company would become Bangchak's associated company. The registration was expected to be completed by Q3/2022.
- Bangchak notified SET about its investment, whereby its Board of Directors had approved a Digital Business Transformation plan, under which digital technology would be applied for business growth. Bangchak therefore negotiated with business partner MFEC Plc.. and reached a mutual agreement as follows:
  - o Bangchak would invest in Data Café Co., Ltd. (DC). After recapitalization, DC would command Baht 12,307,700 in registered capital and would become an associated company of Bangchak with the participation of MFEC. It would engage in the consultancy business, notably data analysis and provision of technological and information manpower to business entities.
  - o Such a transaction would give Bangchak 35% equity in DC, making it an associated company.



## August

- Bangchak announced an interim dividend payment for the first half of 2022 at Baht 1.25 per share for a total of about Baht 1.697 billion. This payment was made in September 2022.
- Bangchak issued bonds with specified holders' names, unsubordinated, unsecured, and with bondholders' representatives for institutional investors and/or high net-worth investors, worth Baht 10 billion. These bonds fall into three tranches (three years at 2.84%, five years at 3.26%, and 10 years at 4.00% interest rate per year).
- Bangchak notified SET about the formation of BSGF Co., Ltd. (a joint venture with its subsidiary BBGI Plc. and Thanachok Oil Light Co., Ltd.) to engage in the business of procuring raw materials, production, and distribution of Sustainable Aviation Fuel (SAF) from used cooking oil. The initial registered capital was Baht 1 million, to be later recapitalized. Bangchak held 51%, BBGI 20%, and Thanachok Oil Light 29% in the company.



**October**

- Bangchak issued its first digital bonds through the Pao Tang (wallet) application of Krungthai Bank Plc. Worth Baht 3 billion and with maturity of four years, these bonds bear specified holders’ names and are unsubordinated, unsecured, and with bondholders’ representatives. They commanded a fixed interest rate of 3.60% per year.
- On October 19, Bangchak raised its investment by 100 million shares in BCV Energy Co., Ltd., at Baht 10 per share for a total of Baht 1 billion, to invest in the potash mining business.
- Bangchak earned corporate rating improvement by TRIS Rating from A- to A along with its perpetual bond rating from BBB to BBB+, with effect from October 27, 2022. At the same time, subsidiary BCPG and BBGI, core subsidiaries, earned credit rating improvement from A- to A and from BBB+ to A- respectively. For all these companies, their credit outlook remained Stable.



**November**

- Effective from November 1, OKEA took business transfer of Wintershall Dea Norge AS and assumed operatorship of the Brage field with 35.2% equity. It also acquired 6.5% shares in the Ivar Aasen field and 6% shares in the Nova field, worth over 1.1 billion Norwegian Krone (about Baht 4 billion). As a result, OKEA’s total production capacity in 2023–2024 would be 25,000–27,000 barrels of oil equivalent per day.



- On 23 November 2022, the company changed the Corporate Logo to align with vision and strategy of the company. The new logo is composed of 4 main colours representing the vision of **“Crafting a Sustainable World with Evolving Greenovation”**
  - Green (Evolving) – energy of continuous development.
  - Lime Green (Sustainability) – sustainability for all.
  - Orange (Innovation) – innovation and readiness to create and transform.
  - Grey (Balance) – creating balance between “values” and “profits”.





# Each award

further strengthens our commitment to develop and improve.

Each award, each ranking, is a mark of trust at the national, regional, and global level.

Corporate Governance and Sustainability – 6 Awards | Leadership and Management – 10 Awards |

Innovation – 5 Awards | Corporate Image and Branding – 3 Awards |

Environmental and CSR – 2 Awards | Finance and Investor Relations – 1 Award |

Human Resource Management – 2 Awards | Quality, Safety and Other – 5 Awards | 5 Certificates

- 1 Her Royal Highness Princess Maha Chakri Sirindhorn's Trophy for Sustainable Development Excellence at the Thailand Corporate Excellence Awards 2022
- 2 UN Women 2022 Thailand WEPs Awards – The First Runner-Up in the Transparency and Reporting Category
- 3 Sustainability Awards of Honor at SET Awards 2022
- 4 South East Asia MIKE Award (The Most Innovative Knowledge Enterprise) – Gold Level
- 5 HR Asia Best Companies to Work for in Asia 2022 – Thailand Region
- 6 Best Environmental Responsibility
- 7 Foundation for Thai Society Thai Awards – Organization of Excellence 2022
- 8 Thailand Top CEO of the Year for the Energy and Utilities Industry
- 9 Asia's Best CEO (Investor Relations) – Chaiwat Kovavisarach, Group Chief Executive Officer and President, Bangchak Corporation Public Company Limited
- 10 Asia's Best CFO (Investor Relations) – Surachai Kositsareewong, Senior Executive Advisor
- 11 Foundation for Thai Society Thai Awards – Best Practice Awards 2022
- 12 Superbrands Thailand 2022
- 13 Asia's Best CSR
- 14 Best Investor Relations Company



### 1.1.4 Awards and Recognition of 2022

#### Corporate Governance and Sustainability Category (6 Awards)

#### Her Royal Highness Princess Maha Chakri Sirindhorn’s Trophy for Sustainable Development Excellence at the Thailand Corporate Excellence Awards 2022



Her Royal Highness Princess Maha Chakri Sirindhorn’s Trophy for Sustainable Development Excellence at the Thailand Corporate Excellence Awards 2022 organized by the Thailand Management Association (TMA) and Sasin School of Management honoring model organizations for others to learn from, in order to apply the knowledge to develop other organizations. The Her Royal Highness Princess Maha Chakri Sirindhorn’s Trophy is presented to organizations to recognize corporate excellence in various categories.

#### Sustainability Awards of Honor (3<sup>rd</sup> Consecutive Year) at SET Awards 2022



The Sustainability Excellence Awards for the 6<sup>th</sup> consecutive year, and the Sustainability Awards of Honor for the 3<sup>rd</sup> consecutive year, operating business as the Leader in Energy Transition according to sustainable development approaches, as an exemplary role model for organizational sustainability excellence.

#### Thailand Sustainability Investment (THSI) Index 2022 (8<sup>th</sup> Year)



Selected as a Thailand Sustainability Investment (THSI) List in 2022 for 8 consecutive years, since the Stock Exchange of Thailand began the list in 2015, as a listed company with sustainable ESG performance (Environmental, Social and Governance or ESG) providing an alternative for investors interested in Responsible Investment.

## S&P Global Sustainability Award 2022 – Silver Class, Top 3 in the Oil & Gas Refining and Marketing Industry

### Sustainability Award Silver Class 2022

**S&P Global**

S&P Global Sustainability Award 2022 – Silver Class from the Environmental, Social, Governance & Economic (ESG) assessment scores by S&P Global, an organization specializing in sustainable investments and the assessor of the Dow Jones Sustainability Indices (DJSI), placing Bangchak among the Top 3 companies globally from a total of 56 leading companies in the Oil & Gas Refining and Marketing Industry, and selected for the internationally acclaimed Sustainability Yearbook 2022.

### Outstanding Low Carbon and Sustainable Business Award from TGO (2<sup>nd</sup> Consecutive Year)

The Outstanding Low Carbon and Sustainable Business Award for the 2<sup>nd</sup> consecutive year from Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) as a role model of low-carbon business operations, advancing sustainability, committed to greenhouse gas emissions reduction and prioritizing all dimensions of sustainability, namely the economy environment and society.

### Sustainability Disclosure Award 2022 from Thaipat Institute (3<sup>rd</sup> Consecutive Year)

The Sustainability Disclosure Award for the 3<sup>rd</sup> consecutive year from Thaipat Institute in recognition of transparent sustainability performance disclosure in accordance with international practices to stakeholders, taking into consideration 3 Ceres-ACCA criteria, consisting of Completeness, Credibility and Communication of Content.

## Leadership and Management Category (10 Awards)



### Thailand Top CEO of The Year 2022 Award for the Energy and Utilities Industry

The “Thailand Top CEO of The Year 2022” Award for the “Energy and Utilities” Industry presented to Chaiwat Kovavisarach, Group Chief Executive Officer and President, Bangchak Corporation Public Company Limited, organized by Business+ Magazine in collaboration with the Faculty of Commerce and Accountancy, Thammasat University. The award honors success for executives, in terms of vision, leadership, and managerial strategy that strengthens an organization by integrating environmental, community and social considerations.

### Distinguished Awards (Leadership Excellence) at the Thailand Corporate Excellence Awards 2022

Distinguished Awards (Leadership Excellence) at the Thailand Corporate Excellence Awards 2022, organized by the Thailand Management Association (TMA) and Sasin School of Management honoring model organizations for others to learn from, in order to apply the knowledge to develop other organizations.

### 12<sup>th</sup> Asian Excellence Award 2022 - Asia’s Best CEO (Investor Relations) and Asia’s Best CFO (Investor Relations)



- **Asia’s Best CEO (Investor Relations) (7<sup>th</sup> Consecutive Year)** presented to Chaiwat Kovavisarach, Group Chief Executive Officer and President, Bangchak Corporation Public Company Limited for exemplary visionary leadership, and outstanding organization performance.
- **Asia’s Best CFO (Investor Relations) (4<sup>th</sup> Consecutive Year)** presented to Surachai Kositsareewong, Senior Executive Advisor, Accounting and Finance, for exemplary contributions to financial management and transparent and equitable disclosure to investors and stakeholders.

The Asian Excellence Awards, organized by Corporate Governance Asia since 2011, honors leaders and organization with excellence in organizational management, corporate governance, financial management and investor relations.

### UN Women 2022 Thailand WEPs Awards – The First Runner-Up in the Transparency and Reporting Category



UN Women 2022 Thailand Women’s Empowerment Principles (WEPs) Awards – The First Runner-Up in the Transparency and Reporting Category at the UN Women 2022 Thailand WEPs Awards. The awards honor organizations committed to sustainable business development through gender equality, aligned with the Sustainable Development Goals (SDGs) on Gender Equality and the Empowerment of Women and Girls to provide equitable access to information for all stakeholders.

### Outstanding Sustainability Model Organization in the Thai Capital Market Award for Empowerment of Persons with Disabilities 2022

The Outstanding Sustainability Model Organization in the Thai Capital Market Award for Empowerment of Persons with Disabilities 2022 organized by The Securities and Exchange Commission, Thailand (SEC) and the Ministry of Labor, Department of Skill Development, Department of Employment, Department of Empowerment of Persons with Disabilities, Thai Listed Companies Association, and Disabilities Thailand. The award honors Bangchak’s commitment to supporting and promoting the employment of persons with disabilities for more than 5 consecutive years and playing a role in improving quality of life, creating equal opportunities and engaging persons with disabilities, fostering a capital market for sustainability, in line with the 20-year National Development Plan, and Sustainable Development Goals (SDGs), adopting the procurement standards and policies based on the 2007 Persons with Disabilities Empowerment and Development Act, Section 35, for more than 1 year.





**10<sup>th</sup> NACC Integrity Awards**

The Consolation NACC Integrity Awards at the 10<sup>th</sup> National Anti-Corruption Commission (NACC) Integrity Awards presentation organized by the Office of the National Anti-Corruption Commission recognizing the continued commitment and dedication of executives and employees in the development of systematic anti-corruption measures and the fostering of transparent organizational culture upholding universal ethical practices.

**Foundation for Thai Society Thai Awards – Organization of Excellence 2022**

Foundation for Thai Society Thai Awards – Organization of Excellence 2022 for contributions to society and the nation through various social and environmental programs, and other activities with tangible and renown results.

**Foundation for Thai Society Thai Awards – Best Practice Awards 2022**

Foundation for Thai Society Thai Awards – Best Practice Awards 2022 for contributions to society and the nation through the “Pun Suk” program during the COVID-19 pandemic in Thailand, including supporting public health and economic operations with other agencies.



**Foundation for Thai Society Thai Awards – Role Model Woman of the Year 2022**

Presented to Gloyta Nathalang, Executive Vice President, Corporate Branding, Communication and Sustainability Activation, selected from women across the country who are successful professionally, who participated in, or are dedicated to social and community development, as well as being a role model for others who aspire to continue to develop the nation.

**Innovation Category (5 Awards)**



**South East Asia MIKE Award 2022 (The Most Innovative Knowledge Management Enterprise) – Gold Level**

The Most Innovative Knowledge Enterprise (MIKE) Award 2022 – Gold Level recognizes the importance Bangchak gives to ongoing promotion of new organization knowledge and innovation, integration with product and service development, as well as holistically prioritizing personnel and technology, and adapting knowledge management to strategy execution, fostering an innovative organization environment.



### National Innovation Award – The Second Runner-Up for the Social and Environmental Contribution Category for Winnonie

National Innovation Award 2022 – The Second Runner-Up for the Social and Environmental Contribution Category for Winnonie Company Limited, organized by the National Innovation Agency (Public Organization) for outstanding innovation with tangible contributions to the nation in various dimensions and enhancing Thailand’s image towards becoming an innovative nation.

### Prime Minister Award: National Startup 2022 – Best Brotherhood of the Year

Prime Minister Award: National Startup 2022 – Best Brotherhood of the Year as 1 of the 11 corporations fostering and supporting the growth and development of the Thai startup ecosystem internationally, integrating innovation in crisis resolution, greatly benefitting the nation and the world aligned with the national economic stimulus and recovery policy through various innovation projects.



### Gold Medal from the International Convention on QC Circles 2022 (ICQCC 2022)

Gold Medal from the International Convention on Quality Control Circles 2022 (ICQCC 2022) for integrating AI technology and innovation to improve work processes through QC Tools organized by the Union of Japanese Scientists and Engineers and member states in Jakarta, Indonesia.



### “Excellent” Award from the International Quality & Productivity Convention 2022 (IQPC 2022)

“Excellent” Award from the International Quality & Productivity Convention 2022 (IQPC 2022) organized by the Indonesian Quality & Productivity Management Association in Bali, Indonesia.

## Corporate Image and Branding Category (3 Awards)



### Superbrands Thailand 2022

Superbrands Thailand 2022, among 27 leading branding in Thailand recognizing excellence in Branding for products and services, compiled from organizations with the highest scores from a market survey through Thailand of 15,000 customers, marketers, PR agencies, brand builders and independent Superbrands Council.

- Bangchak named Superbrands Thailand 2022 (5<sup>th</sup> Year)
- Inthanin Coffee named Superbrands Thailand 2022 (2<sup>nd</sup> Year)





**Thai Media Fund (TMF) Award for Safe and Creative Media for the “Sustainable Happiness, Sustainable Return” Commercial**

The Thai Media Fund (TMF) Award for Safe and Creative Media for the commercial/public relations piece titled “Sustainable Happiness, Sustainable Return” organized by the Thai Media Fund to promote a positive media ecosystem in an approach to monitor unsafe and unconstructive media.

Scan to watch  
“Sustainable Happiness,  
Sustainable Return”



**Environmental and Corporate Social Responsibility Category (2 Awards)**

**12<sup>th</sup> Asian Excellence Award 2022 - Asia’s Best CSR (2<sup>nd</sup> Year)**

12<sup>th</sup> Asian Excellence Award 2022 – Asia’s Best CSR (2<sup>nd</sup>Year) as an organization with outstanding corporate social responsibility in Asia.

**12<sup>th</sup> Asian Excellence Award 2022 - Best Environmental Responsibility (6<sup>th</sup> Year)**

12<sup>th</sup> Asian Excellence Award 2022 – Best Environmental Responsibility (6<sup>th</sup> Year) as an organization with outstanding environmental responsibility in Asia.

The Asian Excellence Awards, organized by Corporate Governance Asia since 2011, honors excellence in financial management, social and environmental responsibility, and investor relations.



**Finance and Investor Relations Category (1 Award)**

**12<sup>th</sup> Asian Excellence Awards 2022 - Best Investor Relations Company (8<sup>th</sup> Year)**

12<sup>th</sup> Asian Excellence Awards 2022 – Best Investor Relations Company (8<sup>th</sup> Year) for outstanding investor relations.

### Human Resource Management Category (2 Awards)



#### HR Asia Best Companies to Work for in Asia 2022 – Thailand

The HR Asia Best Companies to Work for in Asia 2022 – Thailand, an international award that measures Diversity, Equality, and Inclusion. Bangchak was chosen to receive the award from its 100XHappiness approach to deliver 100 times the happiness to employees and committed to becoming a sustainable beyond 100 years organization or Bangchak 100X.

#### Thailand HR Innovation Award 2022 – Silver Award

Thailand HR Innovation Award 2022 – Silver Award organized by the Thailand Productivity Institute (FTPI), the Graduate School of Human Resource Development: National Institute of Development Administration (NIDA), and the Personnel Management Association of Thailand (PMAT) for the “BCP Digital Driven for 100X Citizen Developer”, a Digital Skill development campaign to mold personnel into Citizen Developers, to enrich Non-IT Background personnel with the knowledge and skills to develop Low Code Platform Applications such as PowerApps, Power BI, and RPA, able to generate innovation that improves work processes.

### Quality, Safety and Other Category (5 Awards)

#### Eco Factory Award from the Federation of Thai Industries

The Eco Factory Award from the Federation of Thai Industries to acknowledge Bangchak Refinery’s operations in compliance to Eco Factory standards, which prioritizes the development of the 5 industrial sector dimensions, namely, physical, economic, social, environmental and management.



#### Occupational Safety, Health and Workplace Environment Award – Diamond Level (6<sup>th</sup> Year)

The Occupational Safety, Health and Workplace Environment Award – Diamond Level for the 6<sup>th</sup> consecutive year presented to Bangchak refinery at the Thailand Labor Management Excellence Awards 2022 to honor organizations with labor management excellence according to international standards, committed to delivering tangible results, and prioritizing the quality of life workers and raising awareness of the social responsibility towards workers in all dimensions.

#### Robinhood Academy Awards 2022 - Merchant Popular Award– “Most Popular Coffee Shop”

Merchant Popular Award– “Most Popular Coffee Shop” from Robinhood Academy Awards 2022 awarded to Inthanin Coffee voted by a panel of specialist and sales volume on the 2<sup>nd</sup> anniversary of Robinhood Delivery.

## Prime Minister Award: Thailand Cybersecurity Excellence Award 2022 – Energy and Utilities



The Prime Minister Award: Thailand Cybersecurity Excellence Award 2022 for the Energy and Utilities category organized by the National Cyber Security Agency (NCSA) to promote the implementation and supervision for the critical information infrastructure units, the government and private agencies, and other agencies to enhance their ability to prevent, deal with, and reduce the risk of cyber threats in compliance with the Cybersecurity Act B.E. 2562 [2019] and the international standards.

## Golden Heart Award 2021

The Golden Heart Award 2021 organized by the Health and Elderly Establishment Confederation (HEC) recognizing the tangible and continuous assistance extended to the public during the COVID-19 crisis throughout 2021, especially the elderly, underprivileged children, those with dependency or in need, assistance in providing relief to the public affected by COVID-19, assisting those infected with COVID-19, and support for various campaigns relating to COVID-19 relief and prevention.

### Certificates (5 Items)

Zero Accident Campaign 2022 – Silver Class (2<sup>nd</sup> year) for 4,990,859 safety hours from the Thailand Institute of Occupational Safety and Health (Public Organization) (T-OSH), Ministry of Labor.

5- Star “Excellent” Rating for the Corporate Governance Report (CGR) 2022, among the high scoring listed companies in Thailand, organized by the Thai Institute of Directors (IOD), supported from the Stock Exchange of Thailand (SET).

ASEAN Corporate Governance Scorecard (ACGS) in the ASEAN Asset Class and ASEAN Top 20 organized by the Thai Institute of Directors (IOD), the Securities and Exchange Commission and the Stock Exchange of Thailand.



Membership renewal for the Collection Action Against Corruption (CAC) or the 3<sup>rd</sup> consecutive term.

Brooch of the Thai Chamber of Commerce Business Ethics Club at the Thai Chamber of Commerce Best Awards 2022 for accepted and respected ethical business practices.

## 1.1.5 Fund spending objectives

### Spending from the sale offer of BCP19PA in 2019

Spending	Approx. amount spent (Baht million)	Approx. spending period	Details / update of spending / reasons and measures for not spending under the objectives
1. Loan repayment from debt instrument issuance	3,000	By August 2020	To repay Bangchak Plc's bonds No. 1/2018, tranche 1, due for maturity in 2020 (BCP208A), with 2.13% interest rate, due for maturity on August 10, 2020
2. Loan repayment	400	By 2020	To repay loans to other financial institutions that have no relationship with the bond issuers as financial advisers or bond distribution managers, in the best interests of the bond issuers
3. Working capital in businesses and for business investment	2,600 – 6,600	By 2020	Spent as working capital as envisaged

### Spending from the sale offer of BCP225PA, BCP275A, and BCP305A in 2020

Spending	Approx. amount spent (Baht million)	Approx. spending period	Details / update of spending / reasons and measures for not spending under the objectives
Investment, general working capital, or loan repayment, or all of these	8,000	By May 8, 2021	<ul style="list-style-type: none"> <li>- To repay Bangchak Plc's bonds No. 1/2014, tranche 3, due for maturity in 2021 (BCP214A), with 4.81% interest rate, due for maturity on April 11, 2021, for a ceiling of Baht 2.5 billion</li> <li>- Spent as working capital</li> </ul>



### Spending from the sale offer of BCP23NA, BCP26NA, BCP29NA, BCP31NA in 2021

Spending	Approx. amount spent (Baht million)	Approx. spending period	Details / update of spending / reasons and measures for not spending under the objectives
Loan repayment from debt instrument issuance	4,000	By May 2022	<ul style="list-style-type: none"> <li>- To repay Bangchak Plc's bonds No.1/2012, tranche 2 (BCP224A), due for maturity in 2022, with 5.35% interest rate and due for maturity on April 30, 2022, for a total value of Baht 1 billion</li> <li>- To repay Bangchak Plc's bonds No.1/2020, tranche 1 (BCP225A), due for maturity in 2022, with 2.6% interest rate and due for maturity on May 8, 2022, for a total value of Baht 3 billion</li> </ul>
Working capital	3,000	By 2022	Spent as working capital as envisaged

### Spending from the sale offer of BCP258B, BCP278A, BCP328A, BCP260A in 2022

Spending	Approx. amount spent (Baht million)	Approx. spending period	Details / update of spending / reasons and measures for not spending under the objectives
Working capital	13,000	By 2022	Spent as working capital as envisaged

Note that the terms of reference for the enforced rights and laws are to be enforced and interpreted by Thai law.





## 1.2 Business Description

Bangchak Corporation Public Company Limited is a Thai energy company that operates in tandem with socio–environmental responsibility. Its core business is petroleum refining to produce high–standard products from domestic and international sources. With a capacity of 120,000 barrels per day (120 KBD), Bangchak produces and distributes its products through 1,343 service stations nationwide. It has expanded its businesses to oil trading, green power, bio–based products, natural resources and business development. Its goal is to enhance national energy security and expand new investments so that its businesses may be sustained.



### Refinery and Oil Trading Business Group

(Capacity of 120,000 barrels per day)



### Marketing Business Group

(1,343 service stations)



### Power Plant Business Group



### Bio Based Products Business Group



### Natural Resource Business and Business Development Group





# Refinery and Oil Trading Business Group

Bangchak refinery is a modern complex refinery with a daily capacity of 120,000 barrels. Refinery yields are mostly premium products in the gasoline and diesel groups and are of the government-required EURO 4 standard. The refinery also produces oils that are used for other purposes other than fuel, such as White Spirit 3040 (solvent), Unconverted Oil (UO, a precursor of lube base oil), liquified petroleum gas (paint conductors in spray paint). Bangchak was the first in Asia to produce Gasohol E20 S EVO and Hi Premium Diesel S with EURO 5 standards, an environment-friendly fuel with less than 10 ppm (parts per million) of sulfur content, down by five times from EURO 4 specifications.

Bangchak will strive further to raise process energy efficiency by using electricity and steam from its own cogeneration power plant, where environment-friendly natural gas is used in place of fuel oil. The FAST + project was launched to further raise Bangchak's refinery process to maximum capacity for maximum benefits. As a result of the ongoing volatility of the oil industry, Bangchak has achieved the following to cope with the situation:

- Raising business potential and expanding business opportunities while reducing costs and expenses ranging from crude procurement, production processes, oil storage tanks, oil intake/offtake pipelines, to oil cargo vessels to ensure refining efficiency. The daily average production this year was recorded at 122.6 KBD.
- Drawing up a crude procurement and order-placement plans to obtain appropriate GRM, while using roll-month derivatives to save crude procurement costs, resulting in the year's average GRM of USD 14.33 per barrel.
- Continuously developing the international oil trading business through BCP Trading Pte. Ltd. (BCPT) with emphasis on expanding out-out trading (procuring and trading oil with companies other than Bangchak) for key products such as crude, gasoline, diesel, fuel oil and naphtha products, of which new business partners have been reached in new countries including Republic of Gabon, Qatar, and the UAE. BCPT, moreover, has proactively procured crude oil directly from national oil companies, increasing cooperative development with low-sulfur fuel oil partners, and finding new income opportunities in the biofuels market. Cordial relationships with partners and favorable market conditions have raised trading volumes for BCPT.





## Marketing Business Group

In 2022, over 70% (as of 31 December 2022) of refined products were sold directly to consumers through Bangchak's retail network of 1,343 stations across the country. Of the number, 724 are standard service stations and 619 are community stations (as of 31 December 2022) and sold to the industrial, transport, aviation, marine, and construction sectors together with agricultural customers. Most newly launched stations in 2022 were large-scale ones bearing a modern and unique design with non-oil businesses and various services offered. This includes the improvement of the service station image through Unique Design Service Stations, creating a difference through the design of service stations to be uniquely beautiful and memorable to customers and to be seen as a "must visit" destination, allowing Bangchak to have the second rank in the market share. At its service stations, emphasis has been placed upon the sale of high-performance and environment-friendly renewable fuels in both gasoline and diesel groups. In 2022, the latest product, Hi Premium Gasohol 97, was launched featuring the highest-octane number for gasohol (E10) in Thailand and is the only product in the premium gasohol group that meets the international EURO 5 standard. The product is suitable for premium car users who require extra high-octane fuel as well as users of other vehicles that want to increase vehicle performance and extend engine life. Bangchak stations are also readily equipped with non-oil businesses and various

services, including convenience stores, coffee shops, oil-changing services, and carwash service, to attract more customers.

In 2022, Bangchak developed a new non-oil business model, collaborating with leading restaurant brands to open for service in service stations as a franchise with a total of 11 brands, such as Extra Midnight Chicken Rice Shop, GON EXPRESS, Gateaux House, and Haw Giao shops, as well as 6 leading Michelin-branded restaurants, including Khua Kling Pak Sod, Elvis Suki & Seafood, Nara Thai Cuisine, Jae Dang Sam Yan Somtum, Pad Thai Fai Talu and Nai Uan Yentafo. This was done to enhance consumer experience in service stations and increase revenue for entrepreneurs and business partners. Bangchak has also developed EV Chargers at selected service stations along main roads to accommodate the increasing number of electric vehicles (EVs). A total of 179 branches (as of 31 December 2022), were service stations that provide the Quick EV Charger (DC) service, covering every region in Thailand, as a companion for EV users on every route.

As of December 31, 2022, Bangchak recorded a total number of 1,002 branches of Inthanin Coffee shop, managed by Bangchak Retail Co., Ltd. (BCR). In addition to locations at Bangchak stations, Inthanin Coffee has its presence outside



them, such as in shopping malls, office buildings, government offices, hospitals, leading educational institutes, and city electric train stations.

Regarding non-oil businesses, more products and services have been added to Bangchak stations. BCR secured the rights to expand and manage the Dakasi pearly milk tea business at Bangchak service stations and 51 Dakasi branches (as of 31 December 2022) had been launched. Leading convenience store brands that are Bangchak’s business allies have now opened their outlets at Bangchak stations, comprising 15 Tops Daily, 17 Family Marts, and 133 Mini Big Cs and 1 Lawson branches (30 November 2022). Bangchak continuously expanded the car care business under



‘Wash Pro’, ‘FURIO Care’, ‘Green Wash’, and ‘Tyre Care’ brands while launching more outlets with a business ally. Other offerings regarding non-oil businesses include Fast Fit business, restaurants, laundry service outlets, goods delivery points, and vending machines.

Bangchak’s community station business, which started in 1990 under the ‘rice for oil’ initiative, has continuously grown and entered its 32<sup>st</sup> year of business operations in collaboration with community organizations. Bangchak has a policy to further develop community stations for sustainability by upgrading both the station and service to the required standard so that these stations may become a mechanism

to drive the community’s sustainable economy. In 2022, support for community stations was carried on through the COOP Bonding project, which focuses on community station improvement, offering of more product variety to high-potential cooperatives, and the project to boost its sales volume in response to the vision to grow the business on a participative and sustainable path.

Bangchak pays attention to managing a sustainable business by adopting the 4R process—Renewable, Recycle, Reuse, and Reduce. This includes installation of solar rooftop panels for power generation at service stations, installation of EV chargers, use of materials derived from processes that save energy and resources for station construction and increase in green space at service stations. For Inthanin coffee shops, the business is run under the concept of ‘Inthanin Nature Cup’. Not only is the coffee brewed from 100% arabica coffee beans delicately roasted for customers, but it is also responsible consumption. Inthanin is the leader in using bio-packaging items made from PLA (Polylactic Acid), a degradable plastic, to reduce the use of plastics in business operations.



Apart from fuel products, Bangchak produces and sells lubricants and specialty products like transmission fluids, brake fluids, grease, and others under the BCP Lubricants brand. Also, there are premium lubricants under the FURIO brand that save on fuels, prevents engine wear, and protects engines. Bangchak sold the products to domestic markets via its service stations, outlets, industrial works, original equipment manufacturer (OEM) markets, as well as exporting them.



# Power Plant Business Group

Bangchak invests in the green power business through BCPG Plc. (a Bangchak subsidiary) particularly established for production and distribution of electricity generated from renewables and new forms of clean energy in Thailand and abroad. As of 2022, BCPG generated a total of 390.5 MW of electricity, classified by energy type and country as follows:

## Solar Power Plant (Solar Farms)

- Solar farms in Thailand, with 173.5 MW produced (operating solar rooftops included) located in 11 provinces in Thailand.
- Solar farms in Japan, with 79.7 MW in operation (equity capacity), consisting of projects S1 (Natkatsugawa) with 0.7 MW, S11 (Takamori) with 1.0 MW, S19 (Nojiri) with 0.9 MW, Tarumizu with 8.1 MW, Gotemba with 4.0 MW, Komagane with 25 MW, Yabuki with 20 MW, and Chiba 1 with 20 MW.

## Wind Power Plant

- Lom Ligor Wind Power Plant in Nakhon Si Thammarat, with 9.0 MW in operation.
- A wind farm in the Philippines, with 14.4 MW in operation.

## Hydro Power Plant

- Hydro power plan in Laos, with 114 MW in operation, consisting of projects Nam San 3A with 69 MW and Nam San 3B with 45 MW.

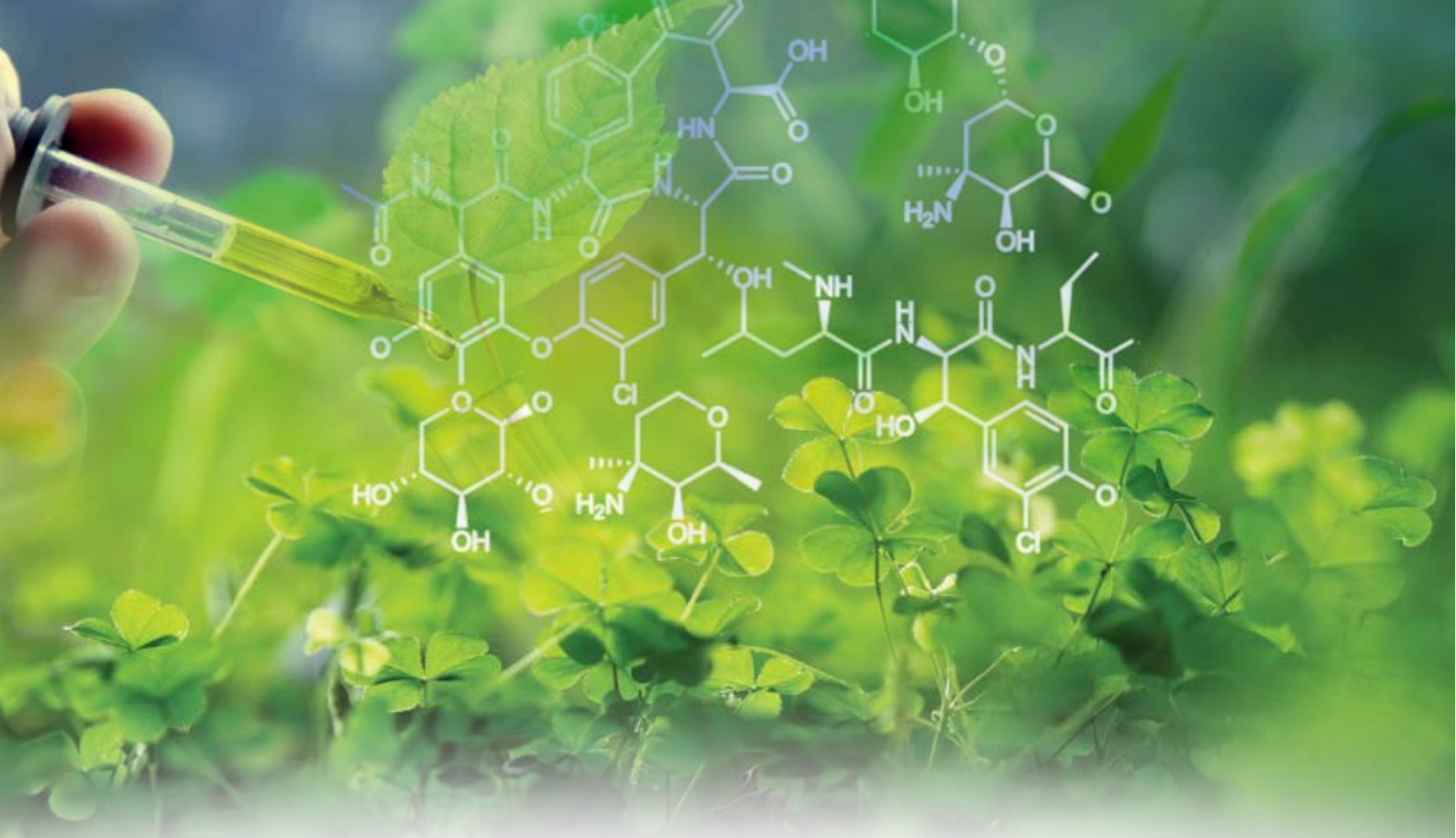
Projects under development include:

- Solar farms in Thailand, with a capacity of 3.7 MW
- Solar farms in Japan, projects Chiba 2 with 10.0 MW
- Solar farms in Taiwan, with a capacity of 469.0 MW, consisting of projects Yunlin with 205 MW, Chiayi–Tainan with 149 MW and Khaohsiung – Pintung with 115 MW
- Wind farm in the Philippines, with a capacity of 5.3 MW
- Wind farm in Laos, with a capacity of 230 MW
- Electricity transmission system project in Lao PDR to support businesses that sell electricity from Laos to Vietnam, with a capacity of 220 kV.

In addition, Bangchak has invested in convertible bonds of VRB Energy Co., Ltd., a producer and distributor of utility-scale energy storage systems (Vanadium Redox Flow battery) worth USD 24 million. A 25-year contract with Vietnam Electricity was also signed to produce 600 MW of electricity on the Laos–Vietnam border.







## Bio-Based Products Business Group

Bangchak engages in the bio-based product business, including ethanol and biodiesel, as it recognizes the value of renewable energy. The goal is to lower trade deficits due to fuel imports, contribute to national energy security, support farmers, and preserve the environment. It has long advocated the blending of ethanol with gasoline and biodiesel with diesel to yield gasohol 91, gasohol 95, gasohol E20, gasohol E85, and Hi Diesel.

Toward the end of 2017, Bangchak merged BBP Holdings Co., Ltd. (one of its subsidiaries) with KSL Green Innovation Plc. (a subsidiary of Khon Kaen Sugar Industry Plc.) to establish BBGI Co., Ltd., which was converted into BBGI Plc. (BBGI) in April 2018 with Bangchak holding 60%. BBGI is the country's largest business entity engaging in the production and sale of biofuels with a combined production of 1,600,000 liters per day from its subsidiaries and affiliates. Its total production comprises 600,000 liters of ethanol and 1,000,000 liters of biodiesel. Later in 2020, Bangchak's investment in bio-based products was expanded by having BBGI buy shares in Manus Bio Inc., a world-scale leader in premium bio-based product business, while entering a joint venture to establish WIN Ingredients Co., Ltd. to run a biotechnology business.

In March 2022, BBGI made an initial public offering (IPO) of common shares by issuing 433.20 million new common shares into SET, with the offered price of Baht 10.50 per share (at Baht 2.50 per share), totaling to Baht 4,549 million. After this, Bangchak's shareholding in BBGI was diluted from 60% to 42.02%. During this period, Bangchak purchased additional common shares of BBGI, later holding 45% of BBGI's shares. In addition, it established BSGF Co., Ltd. (BSGF), a joint venture with BBGI and Thanachok Oil Light Co., Ltd., to operate the business of sourcing raw materials, producing and distributing Sustainable Aviation Fuel (SAF) from used cooking oil. BSGF initially registered capital of Baht 1 million, with a future increase. Bangchak, BBGI, and Thanachok Oil Light Co., Ltd. will hold 51%, 20%, and 29% of BSGF shares respectively. BBGI has subsidiaries and associated companies as follows:



- **BBGI Biodiesel Co., Ltd. (BBGI-BI):** Located in Amphoe Bang Pa-In, Phra Nakhon Si Ayutthaya, the biodiesel business mainly uses crude palm oil with a capacity of 1,000,000 liters/day. It can also produce crude glycerine as a byproduct. Currently, a project has been implemented to improve the quality of biodiesel oil to new standards as specified by the Department of Energy Business for use in the production of biodiesel B7, B10, and B20, as well as producing pure glycerine with a capacity of 80 tons per day to increase the value of Bangchak's products.
- **BBGI Bioethanol (Chachoengsao) Co., Ltd. (BBGI-PS):** Located in Amphoe Phanom Sarakham, Chachoengsao, the company engages in ethanol production mainly from fresh cassava, cassava chips, sugar, and molasses with a capacity of 150,000 liters/day.
- **BBGI Bioethanol Co., Ltd. (BBGI-NP/BP):** It boasts a total capacity of 450,000 liters per day, consisting of two ethanol plants that mainly use molasses: (1) Nam Phong Branch, located at Amphoe Nam Phong, Khon Kaen, with a capacity of 150,000 liters/day or about 49.50 million liters/year. The plant is currently being renovated to hike its capacity to 200,000 liters/day, (2) Bo Phloi Branch, located in Amphoe Bo Phloi, Kanchanaburi, with a capacity of 300,000 liters/day or an equivalent of 99 million liters/year, making the group's total capacity 148.50 million liters/year.
- **BBGI Utilities and Power Co., LTD. (BUP):** This company produces and distributes bio-based energy, electricity, and utilities.
- **WIN Ingredients Co., Ltd.:** WIN produces, distributes, imports, and exports various bio-based products and chemicals. The company's sweeteners, Neotame and Reb-M, have won food recipe certificates for distribution in Thailand and ASEAN.
- **BIOM Co., Ltd.:** BIOM researches and develops experiments on biotechnology, especially research on bio-based products that use synthetic biology. BBGI was the first to win the rights to commercialize BIOM's research results.



Other investments are in **Ubon Bio Ethanol Plc. (UBE):** Located in Amphoe Na Yia, Ubon Ratchathani, UBE engages in ethanol production with a capacity of 400,000 liters per day from fresh cassava, cassava chips, and molasses. UBE also produces tapioca starch with a capacity of 700 tons per day, while generating power from the effluents of ethanol and tapioca starch processes.



# Natural Resource Business and Business Development Group

**Petroleum exploration and production:** Through investment in OKEA ASA, Bangchak established BCPR Pte. Ltd. in Singapore for oil and gas production from oil fields named Draugen, Gjoa, Ivar Aasen, Yme, Brage, and Nova. BCPR is also developing or holding rights in several oil and gas fields together with petroleum concessions in Norway. OKEA ASA is the operator of various oil fields and is continually expanding its business along with M&As.

As of year-end 2022, OKEA ASA has produced 16,734 barrels of oil per day, with the proportion of 61% liquid, 31% gas, and 8% Natural Gasoline (NGL). OKEA ASA operates and co-invests in the production from six sources of oil and natural gas as follows:

- The Draugen field, located in the southern part of the Norwegian Sea, started production in 1993. Since 2018, OKEA ASA took over as the operator and improved operational efficiency. This has increased the Draugen field's reserve potential, resulting in higher production stability. By the end of 2022, the Draugen field had produced a net equivalent of 6,765 barrels of oil per day.
- The Gjoa field started production in 2010, operated by Neptune Energy Norge AS. By the end of 2022, the Gjoa field had produced a net equivalent of 6,931 barrels of oil per day.
- The Ivar Aasen field started production in 2016, operated by Aker BP ASA. By the end of 2022, the Ivar Aasen field had produced a net equivalent of 1,086 barrels of oil per day.
- The Yme field started production in 1996, operated by Neptune Energy Norge AS. By the end of 2022, the Yme field produced a net equivalent of 1,430 barrels of oil per day.
- The Brage field, located in the norther part of the Norwegian sea, started production in 1993 and was acquired by OKEA ASA in 2022. By the end of 2022, the Brage field had produced a net equivalent of 383 barrels of oil per day.
- The Nova field started production in 2022, operated by Wintershall Dea. By the end of 2022, the Nova

field had produced a net equivalent of 139 barrels of oil per day.

Oil and natural gas projects under development include:

- The Hasselmus Project: OKEA ASA is currently developing the Hasselmus Project as an underwater gas field. Production is planned to begin in the fourth quarter of 2023, connecting with the Draugen production site for further processing and exporting. The project is also a key driver for the long-term development of the Draugen field. The expected production capacity of the Hasselmus project is a net equivalent of 4,400 barrels of oil per day.
- The Hamlet Project and the Aurora Project: Both projects are in the process of exploring and evaluating their potential. If there is sufficient potential, OKEA ASA will start investing by the end of 2022 and production is expected to start in 2025-2026.

OKEA ASA operates according to its vision as a leading mid-to-late-life operator with a focus on investing in low-risk projects and implementing effective cost control and capital management policies to maintain financial stability and deliver consistent returns to shareholders.

**Natural Resources and New Business Group:** Bangchak established BCP Innovation Pte. Ltd. (BCPI) in Singapore to run and invest in the lithium business and innovation businesses outside Thailand. BCPI currently holds right under a lithium purchase agreement with Lithium Americas Corp. to buy up to 6,000 tons per year from the Cauchari-Olaroz Project. BCPI has also invested in several other startups.



# Innovation Management

Bangchak established the Bangchak Initiative and Innovation Center (BiiC) to create a green ecosystem for driving various innovations with a focus on green energy and bio-based products to in turn grow its domestic and international businesses derived from Research & Development and corporate venture capital while engaging in business ecosystems and incubation. In short, Bangchak strives to be among Asia's leading green innovative companies.

## 1. Research & Development (R&D)

In the past year, the R&D group has operated production of astaxanthin from a prototype plant to produce various high-value products, including the development and improvement of production processes and testing the efficiency of astaxanthin. The R&D has collaborated with the Chulalongkorn University's Faculty of Pharmacy in studying the efficacy and toxicity of astaxanthin. Results from the study show that consuming astaxanthin can help nourish the eyes and skin without impacting the liver and kidneys and no irritations were found on the skin when applied topically. In addition, the R&D has developed new products to be tested in the market, such as nutritional supplements and cosmetic products, including the study and development of astaxanthin nanoparticles to increase product efficiency.

### Bangchak's Expenditures for R&D and Innovation

Year	Action	Amount (Baht)
2018	Production of astaxanthin from algae and selection of algae strains for treating effluents of bioethanol plants to obtain astaxanthin	5,400,000
2019	Production of astaxanthin from algae, production of bioplastics, production of bio-base oil, wastewater treatment	9,200,000
2020	<ul style="list-style-type: none"> <li>- Establishment of a microalgae nursery laboratory and construction of an astaxanthin pilot plant</li> </ul>	10,000,000
	<ul style="list-style-type: none"> <li>- Production of prototype bioplastics, plant-based protein substitutes, and treatment of wastewater from a gasoline service station</li> </ul>	5,450,000
2020	<ul style="list-style-type: none"> <li>- Construction and commissioning of a prototype astaxanthin plant and product efficiency testing</li> </ul>	7,400,000
	<ul style="list-style-type: none"> <li>- Production of prototype bioplastics and plant-based protein substitutes</li> </ul>	2,650,000
2022	Development and improvement to increase efficiency in various processes as follows: <ul style="list-style-type: none"> <li>- Algae cultivation process and astaxanthin production</li> <li>- Efficiency in the testing process of obtained substances</li> <li>- Development of new products</li> <li>- Preliminary market test</li> </ul>	5,800,000

Remarks: – In 2019, Bangchak won Baht 2.8 million in tax privileges from TISTR along with Baht 2.3 million in supporting research fund from the Thailand Research Fund (TRF).

– In 2020, Bangchak won about Baht 1 million in tax privileges from TISTR.

## 2. Corporate Venture Capital (CVC)

According to Bangchak's Group goal of being Carbon Neutrality Organization by 2030 and that of Net Zero GHG Emissions by 2050, and to have a net zero in greenhouse gas emissions in 2050, CVC has modified the scope of investment from the original to be more in line with Bangchak's Group goals. This includes learning of new technologies to apply and create business that will be the New-S Curve for Bangchak, focusing on four main topics:

- 1) Green Energy Technology
- 2) Energy Transition Technology
- 3) Bio Based & Wellness
- 4) Digital Technology and Others

This year, CVC has invested 58 % of its entire investment outlay, most of which focused on direct investment in startups, namely follow-on investment, and initial investment. One of the invested startups is Winnonie of Bangchak Group, which introduces a green energy innovation consumed by electric motorcycles to improve the quality of life of motorcycle-taxi chauffeurs. This includes investing in startups that develop hydrogen energy production and startups developing anode free solid-state batteries.

## 3. Ecosystem and Incubation (E&I)

Bangchak laid down a notion of employee stewardship under The Best Employer guidelines, with a goal to develop all employees to drive the company and sustain dynamic changes in the world. E&I under BiiC launched "The Intrapreneur" project as a forum for those wishing to participate in innovation development (involvement). Ideas were brainstormed among employees about extension of current businesses or choices of emerging businesses to pursue income. To this end, a presentation of business development projects by Bangchak and Bangchak Group employees was staged, leveraging the Design Thinking concept in designing products and services as well as supporting and improving components before entering the incubation process for greater commercial capability.

In 2021, Bangchak started to develop a smart coin-operated gas station project under the name of "Krating" with the objective of bringing innovation to communities located far from service stations. This includes providing services to facilitate financial convenience such as Wallet top-up and other future services related to lifestyle. In 2022, the number of smart oil vending machines has been expanded to 110 through the business incubation process for commercial expansion. In addition, E&I has prepared funding for the research project of the R&D department to expand production capacity to support the domestic market. The goal is to be a hub for cultivating and extracting high-value important substances from algae in South East Asia (SEA) market, which currently has products launched under the Asta.A brand, products made from important substances from red algae called Astaxanthin, an antioxidant that is 500 times more powerful than vitamin C. The products are in the form of food supplements and cosmetics and will be extended to be human food and animal feed.

Moreover, E&I plays a part in driving collaborative network to drive innovation and Thailand Synthetic Biology Consortium in collaboration with 17 agencies and is expanding collaboration with 22 agencies through the development of the Biosphere Project. The project aims to develop manpower and incubate entrepreneurs in biology to support the growth in the business sector while enhancing the industry to forge competitiveness to be in line with the National Strategic Plan on upgrading industrial development under the BCG Model, with the cooperation from a network of experts both domestically and internationally from the public and private sectors to drive the project.



## 1.2.1 Revenue Structure

Operated by	% share holding	2022		2021		2020	
		Revenue (million)	%	Revenue (million)	%	Revenue (million)	%
<b>Refinery Business Group<sup>1/</sup></b>							
Bangchak Corporation Plc.	-	151,191	47.8	136,786	67.5	71,983	52.3
BCP Trading Pte. Ltd.	100.00	107,500	34.0	24,998	12.3	39,139	28.4
Bangkok Fuel Pipeline and Logistics Co.,Ltd.	100.00	184	-	-	-	-	-
<b>Total</b>		<b>258,875</b>	<b>81.8</b>	<b>161,784</b>	<b>79.8</b>	<b>111,122</b>	<b>80.7</b>
<b>Marketing Business Group</b>							
Bangchak Corporation Plc.	-	9,293	2.9	7,295	3.6	6,896	5.0
Bangchak Green Net Co., Ltd.	49.00	795	0.3	811	0.4	895	0.7
Bangchak Retail Co., Ltd.	100.00	907	0.3	678	0.3	748	0.5
<b>Total</b>		<b>10,995</b>	<b>3.5</b>	<b>8,784</b>	<b>4.3</b>	<b>8,539</b>	<b>6.2</b>
<b>Power Plant Business Group</b>							
BCPG (Group)	57.19	5,405	1.7	4,668	2.3	4,230	3.1
<b>Total</b>		<b>5,405</b>	<b>1.7</b>	<b>4,668</b>	<b>2.3</b>	<b>4,230</b>	<b>3.1</b>
<b>Bio-Based Products Business Group</b>							
BBGI (Group)	45.00	13,325	4.2	14,085	7.0	12,558	9.1
<b>Total</b>		<b>13,325</b>	<b>4.2</b>	<b>14,085</b>	<b>7.0</b>	<b>12,558</b>	<b>9.1</b>
<b>Natural Resource Business Group and New Business Development</b>							
OKEA ASA	45.46	23,349	7.4	10,068	5.0	-	-
BTSG Co., Ltd.	51.00	234	0.1	24	-	-	-
<b>Total</b>		<b>23,583</b>	<b>7.5</b>	<b>10,093</b>	<b>5.0</b>	<b>-</b>	<b>-</b>
<b>Other</b>		<b>19</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>1</b>	<b>-</b>
<b>Total revenue from sales and services</b>		<b>312,202</b>	<b>98.7</b>	<b>199,417</b>	<b>99.1</b>	<b>136,450</b>	<b>99.1</b>
Other <sup>2/</sup> Bangchak and subsidiaries		4,084	1.3	3,306	1.6	1,281	0.9
<b>Total</b>		<b>316,286</b>	<b>100.0</b>	<b>202,723</b>	<b>100.0</b>	<b>137,731</b>	<b>100.0</b>

Remark : Revenues of Bangchak and its subsidiaries are net values derived from external parties.

<sup>1/</sup> Revenue from domestic fuel sales in 2022, 2021, and 2020 accounted for 66.2% , 68.5% and 81.2% respectively.

<sup>2/</sup> Other revenues include investment, profit from derivatives, foreign exchange profit, the share of profit from investments in associates and joint ventures using the equity method, gain on fair value adjustments of investments and profit from the disposal of investment.

## 1.2.2 Product Data

### (1) Products and Services

Bangchak sells four product groups, namely:

#### 1) Fuels: comprising of

##### 1.1) LPG

LPG is a mixture of hydrocarbons, that is, propane and butane, bottled in the form of liquid in high–pressured iron cylinders. LPG is mostly used as cooking gas in households and can also be used in the industrial sector, such as for refrigerator–paint heating, tobacco heating, glass cutting, iron welding, and iron sheet cutting. Besides, it is an optional fuel for modified gasoline–engine vehicles.

##### 1.2) Odorless LPG

Resembling LPG, this hydrocarbon compound also contains propane and butane (at over 80% in volumetric ratio) and is derived from the hydro–desulfurization cracking unit, ridding it of the LPG odor. This odorless LPG is used for producing aerosol.

##### 1.3) Gasoline

Gasoline is classified by the octane number indicating anti–knock properties. Gasoline has the MTBE (methyl tertiary butyl ether) additive that raises the octane number, whereas gasohol employs ethanol for the same purpose. Gasohol consumption benefits the public in various ways, including air pollution reduction, foreign exchange saving from importing MTBE, cushioning of impacts of high oil prices, improvement of agricultural produce prices, which implies investment decentralization and rural employment. Today Bangchak has developed gasohol formulas that fit GDIs (Gasoline Direct Injection Engine) and PFIs (Port Fuel Injection), known as **“Bangchak S EVO Family”**. In addition, the Company has developed the latest premium gasohol, Bangchak Hi Premium 97, which is an extra high octane fuel equally 97 and meets Euro 5 standards.

##### 1.4) Jet fuels

Catering to jet plans, Bangchak’s product is known as Jet A–1, suiting passenger plans or commercial plans in general. Bangchak’s crude oil and distillation process yields low–sulfur jet fuels for lower air pollution and environmental care.

##### 1.5) High–speed diesel

This fuel suits high–speed diesel engines of the Euro 4 standard of the Department of Energy Business for automobiles, trucks, fishing vessels, passenger boats, and tractors, among others. Bangchak has improve diesel formulas known as **“Hi Diesel S”**, **“Hi Premium Diesel S B7”**, **“Hi Diesel S B7”**, and **“Hi Diesel S B20”** as premium–grade diesel with special additives to raise combustion efficiency, add engine power, lower combustion pollution, and preserve the environment. Besides, Hi Premium Diesel S B7 contains low sulfur meeting the Euro 5 standard, so it suits new European car models.



**2) Lubricants:** Lubricants are used to coat engine surfaces to reduce friction so as to slow down the engine's wear and tear while helping in cooling, power transmitting, and cleaning of soot and metal dirt caused by friction. Bangchak sells three types of lubricant products:

**2.1) Auto lubes**

Bangchak sells “BCP Lubricants”, which include the GE SERIES for gasoline engines, D3 SERIES for diesel engines, lubes for motorcycles, transmission fluids, and brake fluids.

It also sells premium lubricants of the “FURiO” brand with Respoplex Technology, which contributes to molecules that coat engine parts, marked by power, anti-wear properties for heavy-duty engines, thus protecting engines under all conditions.

**2.2) Industrial lubricants**

Lubricants in this category include hydraulic oil, industrial gear oil, heat transfer oil, turbine oil, air compressor oil, and cutting fluid.

**2.3) Grease**

Grease products comprise of multi-purpose grease, heavy-duty and heat-resistant grease, and grease for food industry.

Bangchak lubricants meet American Petroleum Institute (API) standards, European standards, and standards set by major car manufacturers. In 2008, Bangchak was awarded ISO 9001: 2008 from The United Kingdom Accreditation Service (UKAS) and Thailand's National Accreditation Council (NAC) for its integrated lubricant business (ranging from procurement, product development, and marketing), and ISO/TS 16949: 2009 International Automotive Task Force (IATF) for its product development and for being the first in Thailand entrusted for producing lubricants for the automotive industry. In 2016, Bangchak successfully achieved ISO 9001:2015, and in 2017, its product was met new standard IATF16949:2016 International Automotive Task Force (IATF) with additional regard for stakeholders, including suppliers, communities, and consumers, with impacts on its processes for standard quality.



### 3) Feedstock for refineries and petrochemical plants: comprising

- 3.1) **Straight Run Fuel oil (Long Residue)** this is an intermediate raw material for feeding the refining process with a cracking unit.
- 3.2) **Unconverted Oil** means heavy oil whose molecules are not cracked at HCU, thus high-quality fuel oil with low sulfur and nitrogen contents. UO is a raw material for basic lube oil production.
- 3.3) **Reformate** Reformate is petrochemical feedstock. It is extracted to produce aromatics or gasoline.
- 3.4) **Isomerate** Isomerate is feedstock for petroleum refining processes in the production of gasoline.

### 4) By-product

- 4.1) **Sulphur**, which is naturally associated with oil, is considered a by-product. Sulphur can be extracted for several direct uses, such as for blending in the production of sulfuric acid, car tires, pesticides, bleaching, sugar, and shampoo, and for production of Sulphur compounds.
- 4.2) **Solvents** are hydrocarbon compounds derived from Bangchak's processes through a variety of processes as needed by the market. Bangchak began solvent production by the BCP White Spirit 3040 market name, with applications as a blending agent in oil-based paints and other paints, lacquer, and varnish, in cleaning greasy patches, in cleaning machinery and metallic parts, and in lowering asphalt viscosity.



[www.bangchaklubricants.com](http://www.bangchaklubricants.com)





## 1.2.3 Marketing and Competition

### World Economy 2022

The world economy in 2022 slowed down from the beginning of the year with the outbreak of COVID-19, notably the Omicron strain. As a result, many countries increased their measures to prevent the spread. China continuously implemented the Zero COVID policy and measures to prevent the spread of the epidemic throughout the year. In addition to the challenge, the situation of the Russo-Ukrainian conflict resulted in more serious supply chain disruptions from trade barriers, energy, and higher consumer goods prices. Inflation in many countries was high, especially in major economies. Uncertain relations between the USA and China remained strained. Other geopolitical factors and concerns about a possible regression also affected the overall economy. In 2022 the International Monetary Fund (IMF) forecast average economic growth at 3.2 percent, down from 2021's growth of 6.0 percent. To accommodate higher inflation than the target level, central banks in many countries continued tightening their monetary policies. The US Federal Reserve (FED) increased the policy rate from 0.25 percent to 4.5 percent, repeating the adjustment seven times throughout the year. Likewise, the European Central Bank (ECB) tightened its monetary policy with an increase in interest rates but continued asset purchases under the Pandemic Emergency Purchase Programmed (PEPP) measures. In contrast, the People's Bank of China (PBOC) loosened its monetary measures by continuously stimulating the economy.

In 2023, under heightened uncertainty, inflation would grow at a slower pace, but remain above the target range despite

slowdowns in major economies' inflation due to tighter monetary measures. IMF projected that the global economy would grow at a slower rate of 2.7 percent, thanks to public administration, the tourism sector, and new private investments which are likely to recover, including the Chinese economy with a gradual recovery. Despite the easing of the Zero-COVID measures, there are still negative factors from the prolonged conflict between Russia and Ukraine, high energy prices, high levels of public debts, and risks facing Eurozone economies due to tight monetary measures.

The economy of the Asia-Pacific region in 2022 was expected to grow at 4.0 percent, decelerating from the previous year's growth of 6.5 percent due to global economic uncertainty and high inflation. However, the economy in the Asia-Pacific region should improve, echoing economic recovery after many countries, except China, have made COVID-19 an endemic disease and International Monetary Fund (IMF) projected growth in the Asia-Pacific region to continue at 4.3 percent in 2023.

### Oil Market 2022

The average Dubai oil price in 2022 was USD 96.38 per barrel, rising USD 26.99 per barrel from the 2021 average price of USD 69.39 per barrel. In the first half of 2022, oil prices continued rising due to recovering demand from the easing of preventive measures against COVID-19. The lifting of travel restrictions in many countries around the world increased economic activities and travel. The conflict between Russia and Ukraine resulted in tight supply conditions and concerns about the effects of the war. This preceded Western nations discussing sanctions on



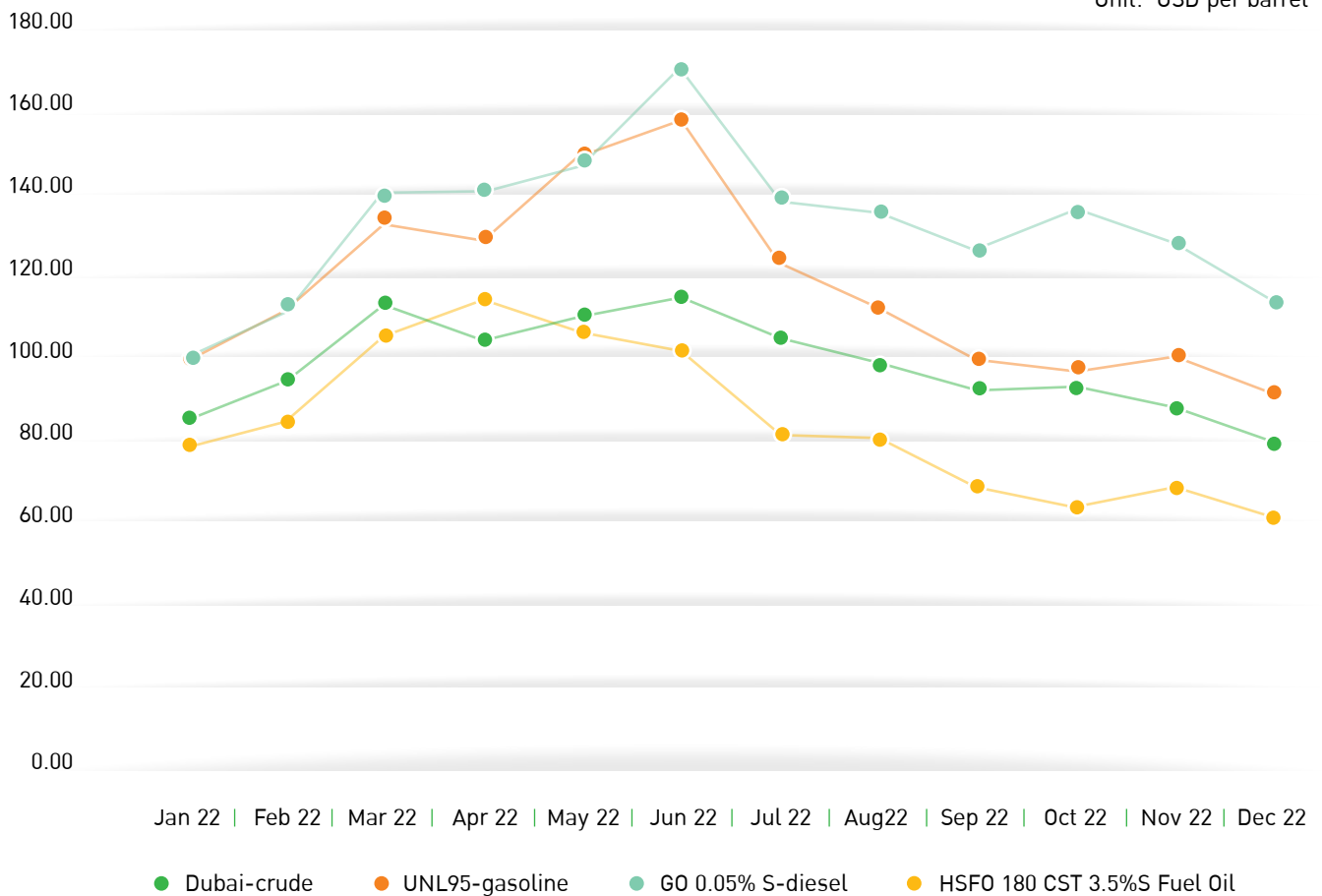
oil imports from Russia. In addition, the OPEC Plus was unable to increase oil production to meet the target. In the second half of 2022, oil prices continued declining due to concerns that the global economy might enter regression and China’s continued adoption of a Zero COVID policy, thus affecting oil demand. However, crude prices surged with OPEC Plus’s decision to cut the crude output by 2 million barrels per day from November 2022 onward to stabilize oil prices, the uncertain crude supply due to Western sanctions on imports, and a cap on Russian oil prices as a result of the Russo–Ukrainian war, while Russia threatened to cut crude production in retaliation.

Oil prices fluctuated throughout the year amid supply uncertainties due to Western sanctions on Russian crude, while

OPEC Plus was ready to change their oil production policy to improve oil prices. Meanwhile, one witnessed a global economic slowdown as central banks raised interest rates to cope with inflation as well as China’s weak economy depressing oil demand. However, in late 2022, crude prices improved as China suddenly loosened its measures to control COVID–19 in December and further announced a reopening of the country. Quarantine measures for travelers entering China will be lifted from 2023 onward, raising expectations that demand for oil from China is likely to rebound. In addition, the US inflation rate declined year–on–year, leading to expectations that the Federal Reserve will delay raising interest rates after increasing them steadily though the year.

### 2022 World Oil Price Movement

Unit: USD per barrel



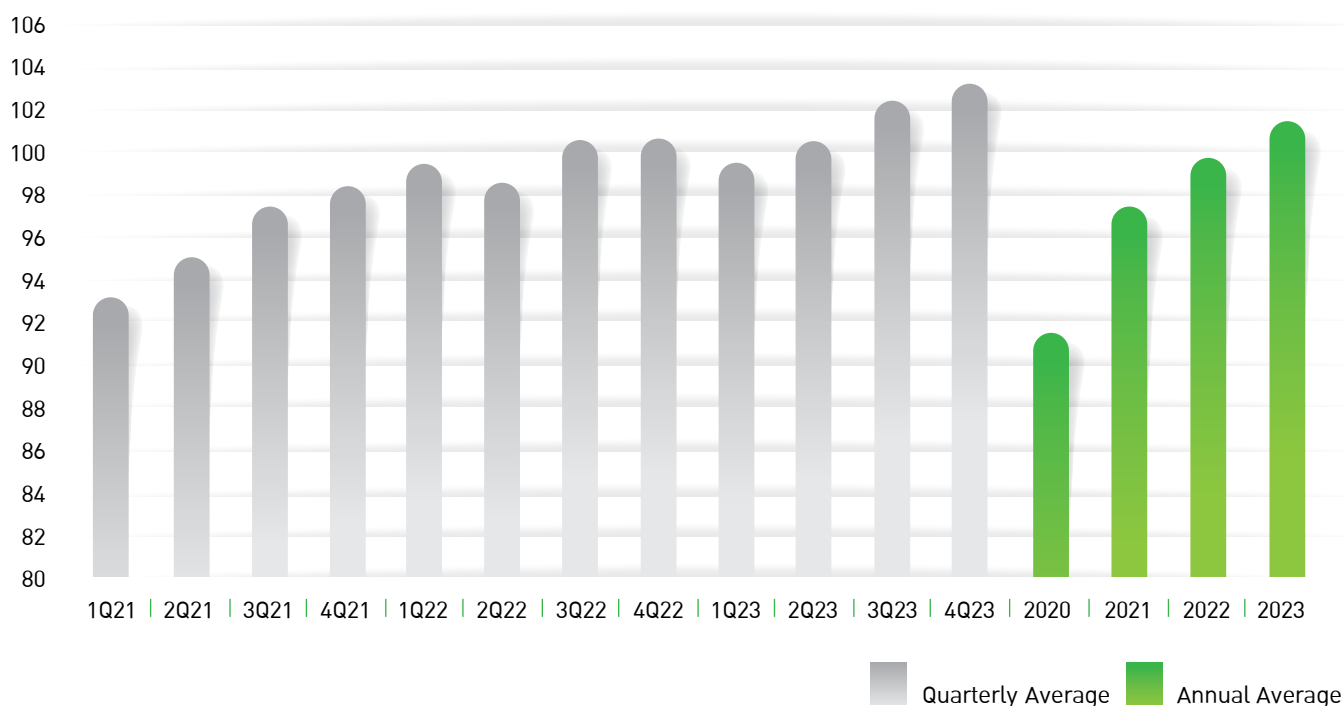
Unit : USD per barrel

Item	2021		2022		YoY %
	Avg.	High	Low	Avg.	
Dubai Crude Oil	69.39	113.24	77.20	96.38	+38.90
Gasoline 95 UNL	80.50	115.18	89.40	115.12	+43.01
Diesel GO	76.12	168.51	97.84	130.87	+71.93
Fuel oil HSFO	64.51	111.09	59.52	82.15	+27.34

## Oil Market Outlook 2023

### World Oil Demand

Unit: Million barrels per day



Source: IEA: International Energy Agency

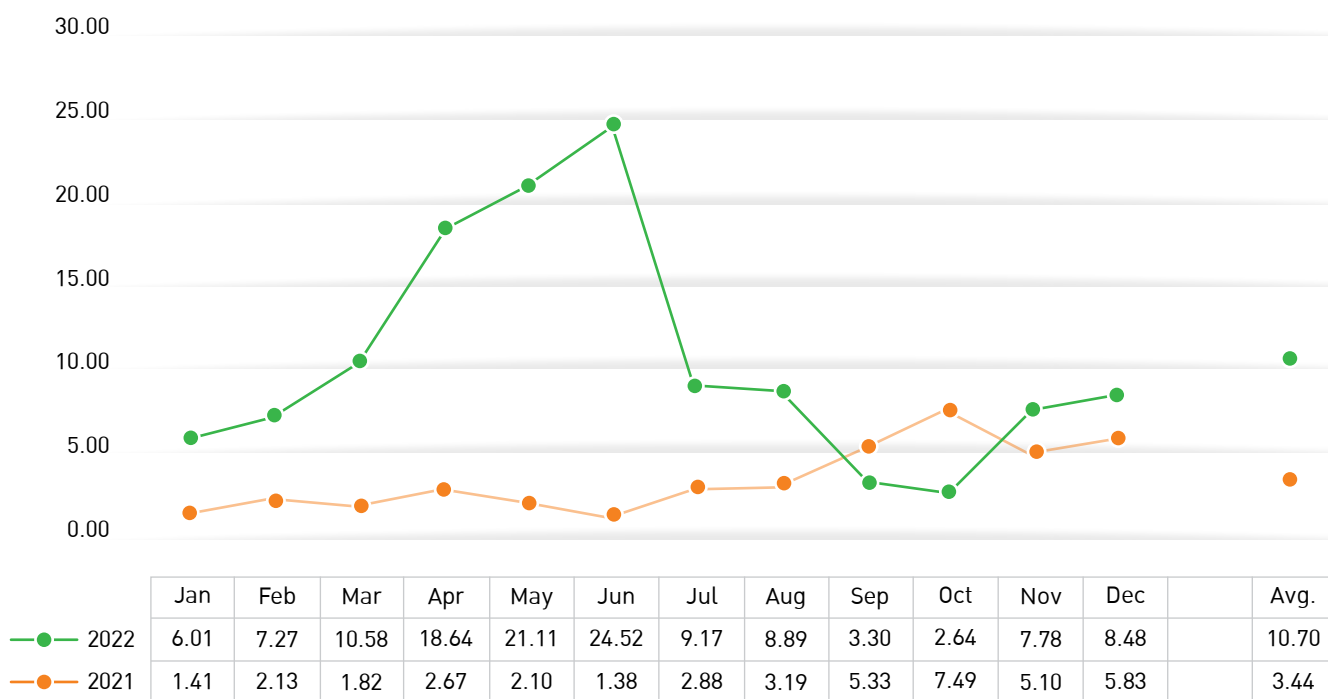
The International Energy Agency (IEA) projected that crude prices would rise in 2023 due to tight supply conditions in the market. IEA projected global oil demand to increase by 1.7 million barrels per day in 2023 to 101.6 million barrels per day with recovery in demand for oil by China. Meanwhile, Russian oil production would drop 14% to 9.6 million barrels per day at the end of the first quarter of 2023 as a result of European sanctions and oil price caps that have been effective since the end of 2022, along with the policy of OPEC Plus to adjust the oil production rate to prop up oil prices.

Based on estimates, the average Dubai crude price in December 2022 was USD 77.2 per barrel and is expected to move in the range of USD 75 – 85 per barrel in 2023 due to increasing demand for oil and China's plan to reopen the country. However, recovery may be delayed due to the increasing rate of COVID-19 infection in China and pressure from the weakened global economy.

## Refining Margin Overview 2022

## Dubai-based hydrocracking (BD HC) refining margin in Singapore, 2021 VS. 2022

Unit : USD per barrel



Source: Reuters

The refining margins of cracking refineries in Singapore averaged USD 10.7 per barrel in 2022, an increase from USD 3.44 per barrel in 2021, as demand for refined products recovered from the eased lockdown measures, resulting in global economic recovery. Tensions between Russia and Ukraine caused concerns about market supply because Russia is a major producer and exporter of oil. The margin between gasoline and Dubai crude prices improved with recovering demand from the easing of lockdown measures and the reopening of many countries. The margin between diesel and Dubai greatly widened due to concerns over the tight supply situation after Europe agreed to impose sanctions on the import of Russian refined oil. Russia is a major diesel exporter to Europe. This happened amid low global supply and high demand for diesel fuel to replace natural gas, which proved insufficient and attracted unusually high prices after the war. Meanwhile, demand recovered from economic activities, and steady aviation demand recovered from the reopening of domestic and international routes. However, the margins between fuel oil and Dubai prices were pressured by Russia's continued high-sulfur fuel oil exports to Asia following Western sanctions. This increased the supply of fuel oil in the region.

Unit: USD per barrel

Price Spread	2021	2022			YoY
	Avg.	High	Low	Avg.	%
UNL95 - DB	11.11	41.94	3.76	18.74	+68.68
GO - DB	6.73	55.27	14.38	34.49	+412.48
HSFO - DB	-4.88	8.30	-28.93	-14.23	-191.60



## Refining Margin Outlook 2023

It is expected that the 2023 refining margin of cracking refineries in Singapore is likely to decrease from that of 2022. The refining margin is pressured by an increase in refined oil supply in the group of middle distillates, as refineries maintain their high production rates with maximum production of middle distillates, including the opening of new refineries as planned amid uncertain demand due to concerns about economic regression that will pressure economic and industrial activities. However, the decline in refining margins has been constrained by uncertainty in supply due to European sanctions on Russian refined products. In addition, the margins of oil prices in the group of light distillates were improved by a recovery in China after its easing of lockdown measures and reopening of the country.

## Thai Economic Overview 2022

The Thai economy in 2022 expanded gradually, following the recovery of the tourism sector that proved better than the previous year. Private consumption continued expanding due to a rapid increase in demand after the easing of measures to control the spread of COVID-19. Private investment also recovered, and the labor market continued improving. Exports, which grew well in the first half of the year and drove economic growth, will likely not return to the same point as before the outbreak of COVID-19 due to the negative factors resulting from high levels of inflation, echoing energy and consumer goods prices, high household debts, and measures to control the spread of COVID-19 at the beginning of the year. The Bank of Thailand projected economic growth at 3.2 percent, up from 1.5 percent growth last year.

Thailand's inflation in 2022 breached the target level of 1 – 3 percent, with the Bank of Thailand forecasting headline inflation in 2023 at 6.3 percent, echoing high energy and consumer goods prices following world market prices. To accommodate the inflationary situation, the Bank of Thailand tightened the monetary policy by raising the policy rate three times from 0.5 percent to 1.25 percent at the end of 2022 and continued adjusting interest rates slower than other countries to stabilize the domestic economic recovery. As a result, the exchange rate of the baht against the US dollar depreciated. The inflation rate is believed to have peaked and will decrease in 2023.

The Thai economy in 2023 is expected to continue expanding, but not the same can be said about vulnerable business groups. It is expected that tourism will be the main business sector that drives the economy. The Bank of Thailand projected that the Thai economy will rebound to the same level as before the outbreak of COVID-19. However, there is still a risk of a slowdown in exports, similar to the end of 2022, in line with the global economic slowdown and high energy prices.

Thailand's Economics Projection			
Thailand's Economics Projection	2021	2022*	2023*
Economics growth	1.5	3.2	3.7
General inflation	1.2	6.3	3.0

Source: Bank of Thailand

\* Estimated

## Domestic Oil Industry Competition

The country's fuel consumption demand in 2022 (January – December) increased from the previous year by 152.58 million liters per day to 170.95 million liters per day (12.04 percent) because of the eased measures, resulting in economic and social recovery. As a result, demand for gasohol and diesel grew 4.45 percent and 15.72 percent respectively, while the demand for jet fuels grew the highest, as seen from an increase in the number of flights in spite of a drop in demand by 88.02 percent.

### Domestic Demand for Refined Products

Product	Demand (Million liters/day)		
	Jan-Dec 2021	Jan-Dec 2022	Growth
Gasoline Group	29.49	30.63	3.88%
<i>Regular Gasoline</i>	1.12	1.00	-10.76%
<i>Gasohol</i>	28.37	29.63	4.45%
Diesel Group	63.13	73.05	15.72%
Jet fuel	4.86	9.14	88.02%
Fuel oil	5.53	6.40	15.73%
Liquefied Petroleum Gas*	20.08	21.10	5.07%
<b>Total</b>	<b>152.58</b>	<b>170.95</b>	<b>12.04%</b>

Source: Department of Energy Business

\* Excluding quantities used by refineries as feedstock in their own petrochemical plants

### Domestic Fuel Market Shares

Company	Jan-Dec 2021	Jan-Dec 2022	Growth
OR	37.9%	39.6%	4.4%
Bangchak	10.1%	10.9%	7.4%
Esso	11.1%	10.5%	-5.5%
Thai Oil	7.1%	7.0%	-0.8%
Shell	7.1%	6.7%	-4.9%
Others	26.6%	25.2%	-5.3%

Source: Department of Energy Business

With regard to the domestic oil supply from six domestic refineries, namely Thairoil Refinery, IRPC Refinery, PTT Global Chemical Refinery, Esso Refinery, Star Petroleum Refinery, and Bangchak Refinery, the average refining volume in 2022 was 1,018 thousand barrels per day (KBD) (January–November data), an increase of 4.4 % from 2021.

### Average Refinery Throughput

Refinery	Throughput (KBD)		
	2021	2022*	Growth
Thai Oil	263.465	286.617	8.8%
IRPC	194.234	173.954	-10.4%
ESSO	124.098	133.136	7.3%
Star Petroleum	136.531	151.432	10.9%
PTT Global Chemical	159.814	153.106	-4.2%
Bangchak	97.32	120.307	23.6%
<b>Total</b>	<b>975.462</b>	<b>1,018.552</b>	<b>4.4%</b>

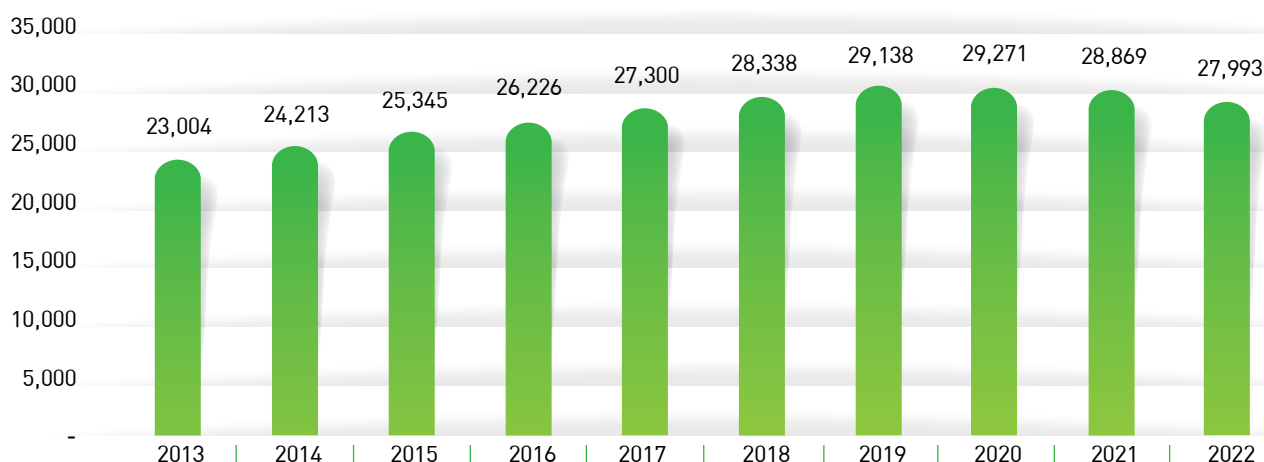
Source: Department of Energy Business

\* Jan.– Nov. 2022

As a result of the pandemic, the number of retail service stations fell. The tally of domestic Article 11 service stations (as of Q4 2022 versus December 31, 2021) was 27,993, a decrease of 876 or 3 percent from 2021. However, the major Article 7 traders grew their service stations by 289. The service stations offering Gasohol E20 and Gasohol E85 (as of December 31, 2022) grew by 5,477 locations and 1,204 stations respectively.

### Number of Service Station

(Unit : Station)



Source: Department of Energy Business

As far as the oil industrial competition in 2023 is concerned, there will still be intense competition continuing from the previous year. There is a good trend due to the recovery of the economic and tourism. Major oil traders continually expand their service stations, including the image improvement of their service stations for modernity along with developing new services to meet the needs of patrons by combining non-oil businesses to increase competitiveness and consistently creating returns on investment

### Comparison of service stations of various brands at the end of December 2021 and 2022

	Number of Service Stations			Proportion (%)		
	2021	2022	△	2021	2022	△
PTTOR	2,147	2,234	4.1%	7.4%	8.0%	0.5%
PTTRM	154	153	-0.6%	0.5%	0.5%	0.0%
PTT	11	4	-63.6%	0.0%	0.0%	0.0%
PTG	2,165	2,229	3.0%	7.5%	8.0%	0.5%
Bangchak	1,277	1,343	5.2%	4.4%	4.8%	0.4%
ESSO	731	802	9.7%	2.5%	2.9%	0.3%
Shell	667	697	4.5%	2.3%	2.5%	0.2%
Caltex	434	443	2.1%	1.5%	1.6%	0.1%
Susco	192	169	-12.0%	0.7%	0.6%	-0.1%
Susco Dealers	19	12	-36.8%	0.1%	0.0%	0.0%
Others M.7	697	57	-91.8%	2.4%	0.2%	-2.2%
Unbranded	20,375	19,850	-2.6%	70.6%	70.9%	0.3%
<b>Total</b>	<b>28,869</b>	<b>27,993</b>	<b>-3.0%</b>	<b>7.4%</b>	<b>8.0%</b>	<b>0.5%</b>

Source: Department of Energy Business

As for the lubricating oil (through Article 7 traders) market, the numbers from the Department of Energy Business as of December 31, 2022, indicated that Bangchak was able to drive domestic sales to 3.95 million liters per month, growing by 5% from last year, as opposed to the domestic market for ready-made lubricating oil, which shrank 2.2% amid the economy bearing the brunt of COVID-19.



## Product distribution and distribution channels:

Bangchak products are distributed through:

1) **Service stations** This is the usual retail channel, which is, through service stations scattered around the country. Also, in this category are community service stations, intended for sale to members. All products are delivered via tanker trucks.

Bangchak's retail stations are operated in five formats, namely:

Station Format	Number (station)	Share(%)
<b>1. Company Own Company Operate (COCO):</b> Bangchak is the investor and operates the station through Bangchak Green Net Co., Ltd. Bangchak takes control of the policy and business model. COCO stations are mostly large stations located on major roads, and, under Bangchak's direct supervision, serve as prototype stations.	219	16
<b>2. Company Own Dealer Operate (CODO):</b> Bangchak is the investor and land owner, while the station management is carried out by experienced operators, who rent the stations.	57	4
<b>3. Joint Venture (JV):</b> This is a joint investment between Bangchak and operators interested in running the service station business.	62	5
<b>4. Dealer Own Dealer Operate (DODO):</b> The operator is the station owner, land owner, and sole investor, as well as a distribution agent.	386	29
<b>5. Co - Operative (CO-OP):</b> These stations are invested by the community. In most cases, the community is the land owner and investor.	619	46
<b>Total</b>	<b>1,343</b>	<b>100</b>

Remarks: Bangchak Corporation Plc., as of December 31, 2022

- 2) **Industrial sale** This sales channel serves industrial plants and businesses with fuel demand for heating and producing products and services, such as food, textiles, paper, chemical, iron, and metal industries. Customers deal directly with the company, and deliveries are arranged by tanker trucks, except for some factories with their own piers.
- 3) **B2B** This channel serves businesses with large purchase volumes like airlines, cargo/passenger, land and marine transport companies, as well as construction companies. These customers deal direct with the company, and deliveries are carried out by pipeline (for airlines), boat, and tanker truck.
- 4) **Sale to other oil companies** This is the sales channel among large and medium-sized oil traders who own oil depots. Purchased products are distributed through customers' own networks to end-customers. Deliveries are normally carried out by pipeline or customers' trucks.
- 5) **Sale to refineries and petrochemical plants** This is the sale of refined products in the form of feedstock to petroleum or petrochemical production process, such as Naphtha for the aromatics unit. Deliveries are normally carried out by boat.
- 6) **Export sale** Deliveries are normally carried out by marine vessel to overseas oil traders. In some case, traders in neighboring countries directly handle truck transport from Bangchak's depots in Thailand to their facilities.

**Types of customers** Bangchak's customers can be classified by purchasing method:

- 1) **Outlet & End-User Customers** This group of customers are those buying Bangchak brand oil products through stations operated by the company, dealers, cooperatives or communities. Also, in this group are corporate customers like factories, construction companies, airlines, cargo and passenger boats, and government agencies and state enterprises.
- 2) **Supply Sales Customers** These customers are small and large oil traders, who order finished products from Bangchak for further distribution. Deliveries are made direct to customers' sites or outlets in their networks.
- 3) **Export Customers** These customers are overseas oil traders who buy Bangchak oil to feed their production process or distribute internationally, such as Low Sulphur Waxy Residue (LSWR) sold to customers in Singapore, Malaysia, and China to fuel power generators and feed their cracking units for producing higher-value gasoline and diesel for further distribution.

Bangchak's sales volume, categorized by type of customer

Unit: thousand barrels/day

Type	2022		2021		2020	
	Volume	%	Volume	%	Volume	%
1. Outlet & End-User Customer	101.34	71.0	82.34	65.2	86.7	71.3
2. Supply Sales Customers	11.41	8.0	16.92	13.4	16.2	13.3
3. Export Customer	30.08	21.1	27.05	21.4	18.7	15.4
<b>Total</b>	<b>142.83</b>	<b>100.0</b>	<b>126.3</b>	<b>100.0</b>	<b>121.6</b>	<b>100.0</b>

Source: Bangchak Corporation Plc.

## Sales value of Bangchak's products and services

Products	2022		2021		2020	
	million baht	%	million baht	%	million baht	%
<b>Domestic Sale</b>						
1. High-speed diesel	124,494	48.5	84,434	51.8	64,979	54.0
2. Fuel oil	2,748	1.1	1,968	1.2	1,661	1.4
3. Gasoline	66,685	25.9	43,564	26.7	36,324	30.2
4. Other products and services	15,987	6.2	7,935	4.9	7,290	6.1
<b>Total domestic sale</b>	<b>209,914</b>	<b>81.7</b>	<b>137,901</b>	<b>84.7</b>	<b>110,254</b>	<b>91.7</b>
<b>Export Sale</b>						
1. High-speed diesel	7,052	2.7	5,127	3.1	1,956	1.6
2. Fuel oil	37,670	14.7	18,550	11.4	6,999	5.8
3. Gasoline	787	0.3	353	0.2	484	0.4
4. Other products and services	1,441	0.6	928	0.6	541	0.4
<b>Total export sale</b>	<b>46,950</b>	<b>18.3</b>	<b>24,958</b>	<b>15.3</b>	<b>9,980</b>	<b>8.3</b>
<b>Combined sales value</b>						
1. High-speed diesel	131,546	51.2	89,561	54.97	66,935	55.67
2. Fuel oil	40,418	15.7	20,518	12.63	8,660	7.20
3. Gasoline	67,472	26.3	43,917	26.96	36,808	30.61
4. Other products and service	17,428	6.8	8,863	5.44	7,831	6.51
<b>Total sales value</b>	<b>256,864</b>	<b>100.0</b>	<b>162,859</b>	<b>100.0</b>	<b>120,234</b>	<b>100.0</b>
<b>% increase/decrease</b>	<b>57.72</b>		<b>35.45</b>		<b>28.90</b>	

Source: Bangchak Corporation Plc.

## 1.2.4 Supplies of products and services

### 1) Production capacity and production volume

Bangchak's complex refinery, located on 210 Sukhumvit 64, Phra Khanong, Bangkok, boasts a refining capacity of 120,000 barrels per day and performs a 24-hour operation.

Production capacity (measured in 'barrels per day') means the refining system, piping system, and storage system that receive crude for turning into finished products at the maximum volume per day through the quality improvement system, piping system, blending system, storage system, and product distribution system. Every 30 – 36 months, Bangchak shuts down the system for maintenance, which normally lasts about 25 – 30 days, to keep up or upgrade the system's performance. The shutdown schedule depends on operational and economic circumstances. Also, there are plans to implement various efficiency improvement projects during the 2024 shutdown to extend the shutdown period to 36 – 48 months for the next shutdown.

Bangchak has, over time, upgraded and expanded its refining unit. Today's operation is considered efficient with high safety standards and environment management, which exceed standards.

Bangchak's refining capacity and refining volume		Unit: thousand barrels/day		
	2022	2021	2020	
Nameplate capacity				
: thousand barrels per refining day	120	120	120	
: thousand barrels per calendar day (A)	113.4	113.4	113.4	
Output volume (by product)				
1. Diesel	64.39	51.99	58.11	
2. UO	13.33	8.87	4.56	
3. Fuel oil	11.59	11.58	8.77	
4. Gasoline	23.92	19.78	19.43	
5. Solvent	0.27	0.31	0.16	
6. Aviation fuel, kerosene	6.03	4.03	3.69	
7. LPG	2.45	2.06	2.57	
8. Products for internal use and product loss during operation	0.59	0.03	-0.10	
Total output volume (B)	122.57	99.04	97.19	
% increase of output volume	23.8	1.9	-13.7	
% of capacity utilization (B/A)	108.9	87.33	85.71	

Source: Bangchak Corporation Plc.

Remarks: <sup>1/</sup> Bangchak runs refining operation with three shifts of staff working eight hours per shift. Maintenance shutdowns are regularly scheduled to keep up or upgrade the refining process.  
<sup>2/</sup> The gasoline output excludes the amount of ethanol in the production of Gasohol.  
<sup>3/</sup> Started to produce solvent in 2020



## 2) Refining process

- **Fractional Distillation** : The refining process starts from breaking up crude oil into fractions in the refining unit by heating it at 370 degrees Celsius. Then, 60% – 70% of the crude will vaporize to the top of the refining column, where it finds the lowest temperature. When that vapor cools down, it condenses into a liquid and flow onto layers of trays, depending on their boiling points, as detailed below:
  1. The top layer, with the lowest temperature, is LPG.
  2. The second layer is Light Virgin Naphtha (LVN).
  3. The third layer is Heavy Virgin Naphtha (HVN) (both LVN and HVN will be blended with some additives to produce gasoline).
  4. The fourth layer is kerosene and aviation fuel.
  5. The fifth layer is diesel.
  6. The remaining liquid crude stays at the bottom of the distillation column, where the temperature is the highest. The liquid is known as the “Atmospheric Residue”.

Vaporization and condensation of crude oil from one tray to another is an ongoing steady-state process in a separate pipe placed beside the distillation column. This separate part is known as a ‘straight run’. Yields from the straight run process, including diesel, contain high cetane and ignite easily, thus easing complete combustion and making engines clean. The resulting fuel oil still has some blend of light yields, making it easy to ignite, thus giving complete combustion. While the excess air can be reduced, resulting in lower fuel and maintenance costs in the long run.

- **Treating** : Treating is to make quality improvement to crude and products by removing unwanted contents, such as Sulphur. Treating units include the gas treating unit, naphtha production unit, low-sulphur diesel production unit of Euro 4 standard, and fuel oil treating unit, as well as gasoline production unit of Euro 4 standard.
- **Conversion** : Conversion is the process of changing oil molecule structures to achieve an oil product of higher quality and value. Conversion units include the gasoline production unit (isomerization, reforming) and fuel oil conversion unit.
- **Blending** : Blending is to mix at least two products together or to mix some additives into a product to achieve a product of higher quality.

**Fuel oil upgrading unit:** Since demand for fuel oil has been falling over time while Bangchak realizes the optimal use of resource, fuel oil produced in the straight run process is treated to achieve cleaner products of higher value, for example, fuel gas, cooking gas (LPG), light naphtha, heavy naphtha, aviation fuel, and diesel.

The above-mentioned treating method starts from moving the fuel oil from the distillation column to the vacuum distillation unit to remove Vacuum Gas Oil. The fuel oil molecules will then be broken up into fractions to produce the desired products. Here, hydrogen from the hydrogen production unit is fed in to help molecule fractioning complete. At the bottom of the vacuum distillation column, heavy fuel oil will be further treated for sale.

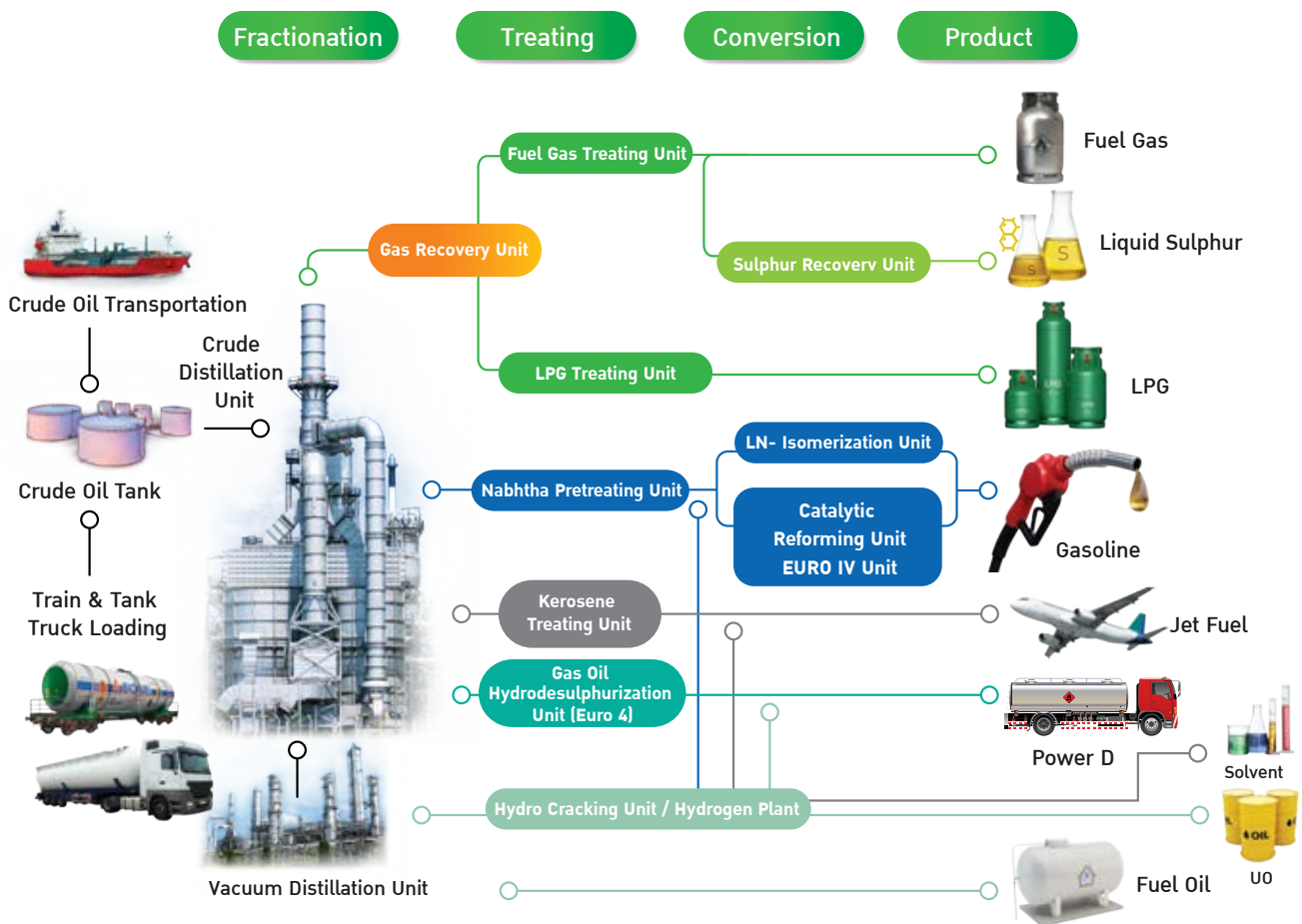
Products derived from molecule fractioning, comprising fuel gas, cooking gas (LPG), light naphtha, heavy naphtha, aviation fuel, and diesel, will be sent to the product separation unit. Fuel gas obtained from the process will be refined by removing the sulphur content. Treated fuel oil, diesel after sulphur content removal under the Euro 4 standard, aviation fuel, and cooking gas are kept in storage tanks for sale.

**Low-sulphur diesel production unit of Euro 4 standard** This is quality improvement for diesel, using hydrogen in combination with a catalyst under specified pressure. By the Euro 4 standard, sulphur content in diesel will be reduced sevenfold to achieve a highly pure product, which will be kept in storage tanks for sale.

Light naphtha and heavy naphtha will be sent to the naphtha production unit to reduce the sulphur content by tenfold under the Euro 4 standard. The product will then be sent to the gasoline production unit (reforming) to raise the octane number before flowing further to the production unit of Euro 4 standard gasoline.

**Production unit of gasoline / gasohol of Euro 4 standard** This is the quality improvement for gasoline by using hydrogen, in combination with a catalyst under specified pressure, to reduce the benzene content under the Euro 4 standard. The product will be highly pure with ten times less sulphur content and 3.5 times less benzene. The product is kept in the storage tanks for sale.

**Bangchak Complex Refinery process**



### 3) Raw materials and suppliers

The main raw material of the refining business is ‘crude oil’, natural hydrocarbons created by compression of organic materials, that is, animals and plants, over millions of years under the earth’s surface. Thailand holds its own crude sources at various places, such as the along the seams of Phitsanulok and Kamphaeng Phet provinces, in Suphan Buri province, Sukhothai, Fang district in Chiang Mai, and in the Gulf of Thailand. However, the volume of crude oil produced indigenously is not enough to satisfy the demand posed by the seven domestic refineries. Thus, most of the crude needs to be imported. The major import sources of crude are countries in the Middle East like the Oman, as well as those in Southeast Asia, such as Malaysia, Indonesia, Brunei, the Philippines, and Australia. Crude imports from the Middle East require 15 – 20 days for transport and those from the Far East require 3–7 days. Normally, Bangchak keeps a crude stock of around 30 days in running its refinery.

#### Indigenous sources of crude oil

(unit: thousand barrels/day)

Crude Field	2022		2021		2020	
	Volume	%	Volume	%	Volume	%
1. Sirikit	25,854	33	26,477	27.1	29,294	24.7
2. Tantawan	12,518	16	14,804	15.2	17,698	14.9
3. Erawan	6,149	8	15,931	16.3	24,489	20.6
4. Nasanun/Nasanun East	463	1	385	0.4	489	0.4
5. Jasmine	10,046	13	9,987	10.2	10,750	9.1
6. Manora	4,622	6	6,738	6.9	6,016	5.1
7. Others	19,286	24	23,298	23.9	29,904	25.2
<b>Total</b>	<b>78,938</b>	<b>100</b>	<b>97,620</b>	<b>100</b>	<b>118,640</b>	<b>100</b>

Source: Energy Policy and Planning Office, Ministry of Energy

To achieve its goal on crude procurement security at the lowest cost and desired quality, Bangchak sources crude oil from both indigenous and overseas sources at suitable proportions, taking into consideration refining economics. Also, there are times when Bangchak orders petroleum products for sale, known as physical swaps with other producers.

In 2022, Bangchak procured indigenous crude oil from many fields in domestics, totaling 5,777 thousand barrels, which mainly from Sirikit Field (Phet), Benchamas Field, Pattani Field and others.

This year, Bangchak imported crude 37,950.36 thousand barrels. There are 50.62% Crude from the Far East fields, such as Labuan from Indonesia, KIMANIS, Bunga Orchid and Bunga Kekwa from Malaysia, and Champion from Brunei. Also, there are 46.36% Crude from other sources, such as Buatifel and SARIR MESLA from Lybya.

In addition to crude oil, Bangchak procures semi-finished products to make finished products, while some finished products are also procured for sale.

## Bangchak's Cost of Feedstock

Crude Type	2022		2021		2020	
	million baht	%	million baht	%	million baht	%
<b>Cost of indigenous feedstock</b>						
1. Crude and semi-finished products	44,140	20.41	28,526	25.22	25,309	23.12
2. Finished products	16,290	7.53	12,129	10.72	7,321	6.69
<b>Total</b>	<b>60,429</b>	<b>27.94</b>	<b>40,656</b>	<b>35.94</b>	<b>32,630</b>	<b>42.82</b>
<b>Cost of imported feedstock</b>						
1. Crude and semi-finished products	143,580	66.39	67,474	59.65	38,899	35.54
2. Finished products	12,268	5.67	4,987	4.41	4,666	4.26
<b>Total</b>	<b>155,848</b>	<b>72.06</b>	<b>72,462</b>	<b>64.06</b>	<b>43,565</b>	<b>57.18</b>
<b>Combined costs of indigenous and imported feedstock</b>						
1. Crude and semi-finished products	187,720	86.80	96,001	84.87	64,208	84.27
2. Finished products	28,558	13.20	17,116	15.13	11,987	15.73
<b>Total feedstock cost</b>	<b>216,278</b>	<b>100.00</b>	<b>113,117</b>	<b>100.00</b>	<b>76,195</b>	<b>100.00</b>

Source: Bangchak Corporation Plc.



## 1.2.5 Review of business assets

Asset	Book value (Baht million <sup>1/</sup> )	Obligation
Lands	4,244	
Buildings Buildings	4,557	
Machinery, equipment refinery plants	27,044	35,021
Equipment solar plants	12,855	
Oil exploration and production assets	17,800	
Marketing and office equipment	3,340	None
Platinum catalysts <sup>2/</sup>	239	None
Vehicles and Other assets Vehicles and Other assets	215	None
Works in progress	2,724	None
Power purchase agreement	10,440	None
Exploration and evaluation expenditure	650	None
Usage rights and other intangible assets	648	None
Right to use assets	16,946	None
<b>Total</b>	<b>101,702</b>	

Note: <sup>1/</sup> This year, the allowance for impairment of assets consists of Oil exploration and production assets, Equipment solar plants and other intangible assets in the amount of Baht 2,527 million.

<sup>2/</sup> "Platinum catalysts": platinum-based catalysts (found in the octane enhancement unit's reactor), the contents of which are set by their producers.

### 1. Right-of-use

The Company has a land lease agreement with the Treasury Department. It is a the ratchaphatsadu land lease agreement where the Company's refinery is located. The Company has renewed the lease for the second time with a renewal fee of Baht 551.63 million and annual rental payment. The right to use has the remaining book value of 345 million baht. The term of the lease starts from April 1, 2015, and expires on March 31, 2033. The remaining contract is 10 years.

### 2. Intangible assets

Intangible assets of The Company consist of Right to use and cost of development of computer software, Right to connect electrical transmission line, Power purchase agreement, Power purchase agreement and assets under concession agreement and Exploration and evaluation expenditure.

## Trademarks

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry <sup>1</sup>
<b>Copyrights</b>			
1. Bangchak leaf	11	All fuels, cold tissue paper, pure drinking water, plastic polymers, pens, pencils, notebooks, folders, asphalt, activated carbon	Aug. 30, 2029 Oct.15, 2029 Aug. 20, 2026
2. GRENA ZENITH SJ	1	Lubricant	Nov. 5, 2026
3. ISO GREEN	1	Gasoline	Jun. 30, 2024
4. GE GOLD	7	Synthetic gasoline–engine lubricant Semi–synthetic gasoline–engine lubricant	Jan.15, 2027 Nov. 19, 2031 Dec. 24, 2031 Feb. 12, 2032 Jan. 13, 2033
5. GE PLUS	4	Gasoline–engine lubricant	Jan. 15, 2027 Nov. 19, 2031 Dec. 24, 2031 Jan. 13, 2033
6. GE SILVER	3	Semi–synthetic gasoline–engine lubricant	Nov. 4, 2024 Jan. 15, 2027 Dec. 24, 2031
7. Green Plus	1	Gasoline	Sep. 14, 2024
8. Green Plus 91	1	Gasoline	Sep. 14, 2024
9. Green Plus 95	1	Gasoline	Sep. 14, 2024
10. LOWCOST	1	All fuels	Jun. 23, 2025
11. D3 GOLD	2	Synthetic diesel–engine lubricant	Oct. 9, 2023 Jan.15, 2027
12. D3 COMMONRAIL	1	Diesel–engine lubricant	Oct. 30, 2028
13. D3 TURBO PLUS COMMONRAIL	1	Semi–synthetic diesel–engine lubricant	Oct. 30, 2028
14. D3 Max	1	Diesel–engine lubricant	May 14, 2027
15. D3 EXTRA PLUS	1	Diesel–engine lubricant	Jan. 15, 2027
16. D3 PICK UP PLUS	1	Diesel–engine lubricant	Jan. 15, 2027
17. D3 TURBO PLUS	1	Semi–synthetic diesel–engine lubricant	Jan. 15, 2027

## Trademarks

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry <sup>1</sup>
18. BANGCHAK POWER D	1	High-speed diesel	Jul. 10, 2028
19. SUPER POWER D B5 (EURO 4)	1	High-speed diesel	May 2, 2032
20. SUPER POWER D (EURO 4)	1	High-speed diesel	May 2, 2032
21. GE NGV	1	Semi-synthetic gasoline-engine lubricant	Dec. 24, 2031
22. GE PLATINUM	1	Synthetic gasoline-engine lubricant	Dec. 24, 2031
23. Bangchak Max Drive	1	Gasoline Fuel Conditioner	Dec. 25, 2026
24. Super HDX	1	Diesel Fuel Conditioner	Jan. 15, 2027
25. FURIO	1	Lubricant	Mar.2, 2027
26. FURIO F2	1	Lubricant	Feb.11, 2028
27. FURIO F2 DIESEL	1	Lubricant	Feb.11, 2028
28. BCP LUBRICANTS	1	Lubricant	May 2, 2029
29. Krathing	1	Automatic fuel vending machine and coin-operated type	Nov. 25, 2031

## Service Marks

Service logo	Number of registered trademarks	Goods/services under trademark	Expiry <sup>1</sup>
<b>Copyrights</b>			
1. Bangchak leaf	3	Goods sales management	Dec. 20, 2028
2. Bangchak colored strips, Bangchak characters, and Bangchak leaf	1	Vehicle service station	Aug. 6, 2023
3. Colored strips and Bangchak leaf	1	Vehicle service station	Aug. 6, 2023
4. Colored strips	1	Vehicle service station	Nov. 3, 2023
5. Bangchak colored strips	1	Vehicle service station	Aug. 6, 2023
6. Hornbill photo	2	Goods sales management	Oct. 10, 2026
7. Gold food plate (black & white)	1	Sale of goods, foods, and drinks	Sep. 4, 2023
8. Gold food plate (colored)	1	Sale of goods, foods, and drinks	Sep. 4, 2023
9. GREEN AUTO SERVICE	1	Automotive maintenance & repair	Jul. 24, 2025
10. GREEN SERVE	1	Automotive maintenance & repair	Sep. 1, 2025
11. Green Wash	1	Automotive maintenance & Vehicle cleaning	Sep. 1, 2025
12. GREEN WASH AUTOCARE	2	Automotive maintenance & Vehicle cleaning	Jul. 25, 2026
13. GREEN WASH EXPRESS	1	Automotive maintenance & Vehicle cleaning	Jul. 25, 2026
14. GREEN BIKE EXPRESS	1	Automotive maintenance & Motorbike maintenance	Jul. 25, 2026
15. GREEN TYRE EXPRESS	2	Tyre sale & mending	Aug. 15, 2026
16. Baichak	1	Food & drink sale	Mar. 15, 2021
17. Baichak Mart	2	Food & fresh coffee business management, Miscellaneous goods for consumers' convenience	Apr. 1, 2023 Jan. 18, 2032
18. Bangchak colored strips, three colors leaf	1	Vehicle service station	Sep. 24, 2023
19. BUBBLY TEA	1	Food & drink sale	Jun. 4, 2024
20. HURRICANE ICE	1	Food & drink sale	Jun. 4, 2024
21. MILK AND BREAD	1	Food & drink sale	Jun. 4, 2024
22. LOW COST	1	Vehicle service station	Apr. 28, 2025
23. RESPOPLEX	1	Technology	Aug.28, 2027



## Trademarks and Service Marks advertised abroad

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
1. Bangchak leaf and Chinese characters (registered in PRC (China))	1	Gasoline, diesel, and lubricants	Dec. 27, 2030
2. Bangchak leaf and BANGCHAK LUBRICANTS – Registered in Myanmar <sup>2</sup> – Registered in LPDR (Laos)	2	Fuel products	– Mar. 20, 2023
3. Bangchak leaf and BCP LUBRICANTS (Registered in Myanmar) <sup>2</sup>	1	Fuel products	–
4. Bangchak leaf and BANGCHAK (Registered in Myanmar) <sup>2</sup>	2	Fuel products, service stations	–
5. Bangchak leaf and characters (Registered in LPDR (Laos))	2	Fuel products, service stations	Mar. 20, 2023
6. Bangchak leaf and BCP LUBRICANTS (Registered in Vietnam)	1	Fuel products	Jul. 13, 2032
7. Bangchak leaf and BCP LUBRICANTS (Registered in Cambodia)	1	Fuel products	Jul. 5, 2032
8. Bangchak leaf and BCP LUBRICANTS (Registered in Lebanon)	1	Fuel products	Feb. 26, 2029
9. Bangchak leaf and BCP (Registered in Myanmar) <sup>2</sup>	2	Fuel products & Vehicle service station	–
10. Bangchak leaf and BANGCHAK (Registered in Cambodia)	2	Fuel products & Vehicle service station	Nov. 20, 2023
11. Bangchak leaf (Registered in PRC (China))	1	Fuel products	Jan. 6, 2031
12. Bangchak leaf and BCP LUBRICANTS (Registered in Jordan)	1	Fuel products	Nov. 24, 2023
13. Bangchak leaf and BCP LUBRICANTS (Registered in Philippines) <sup>3</sup>	1	Fuel products	Sep.10, 2025
14. Bangchak leaf and BCP LUBRICANTS (Registered in Kenya)	1	Fuel products	Dec. 10, 2023

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
15. Bangchak leaf and BCP LUBRICANTS (Registered in OAPI countries) <sup>4</sup>	1	Fuel products	Dec. 6, 2023
16. Bangchak leaf and BCP LUBRICANTS (Registered in Malaysia)	1	Fuel products	Jun. 10, 2025
17. BAICHAK MART (Registered in PRC (China))	1	Miscellaneous goods for consumers' convenience	Jan. 27, 2025
18. BAICHAK MART (Registered in Vietnam)	1	Miscellaneous goods for consumers' convenience	Sep. 3, 2023
19. BAICHAK MART (Registered in LPDR (Laos))	1	Miscellaneous goods for consumers' convenience	Dec. 5, 2024
20. GREEN SERVE (Registered in LPDR (Laos))	1	Vehicle maintenance	Dec. 5, 2024
21. Bangchak leaf and BANGCHAK (Registered in PRC (China))	1	Service stations	Jan. 27, 2025
22. Bangchak leaf and BANGCHAK (Registered in LPDR (Laos))	2	Fuel products, service stations	Dec. 5, 2024
23. Bangchak leaf and BANGCHAK (Registered in Vietnam)	2	Fuel products, service stations	Sep.30, 2023 Nov. 19, 2023
24. Bangchak leaf and BCP (Registered in PRC (China))	2	Fuel products, service stations	Jan. 13, 2025 Oct. 20, 2025
25. Bangchak leaf and BCP (Registered in LPDR (Laos))	2	Fuel products, service stations	Dec. 5, 2024
26. Bangchak leaf and BCP (Registered in Vietnam)	1	Fuel products, service stations	Sep.30, 2023
27. Bangchak leaf and Bangchak (Registered in Cambodia)	2	Fuel products, service stations	Oct. 1, 2023
28. Bangchak leaf and BCP (Registered in Cambodia)	2	Fuel products, Service stations	Oct. 1, 2023
29. Bangchak leaf and BCP LUBRICANTS (Registered in LPDR (Laos))	1	Fuel Products	Jan. 17, 2024
30. Bangchak leaf and BANGCHAK (Registered in PRC (China))	1	Fuel products	Jan. 27, 2025
31. BANGCHAK MART (Registered in Cambodia)	1	Miscellaneous goods for consumers' convenience	Sep. 5, 2023
32. GREEN SERVE (Registered in Cambodia)	1	Vehicle maintenance	Sep. 5, 2023

### Trademarks and Service Marks advertised abroad

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
33. Bangchak leaf and BCP LUBRICANTS (Registered in PRC (China))	1	Fuel products	Aug. 13, 2025
34. Bangchak leaf and BCP LUBRICANTS (Registered in Turkmenistan)	1	Fuel products	Jun. 23, 2025
35. FURIO (Registered in Myanmar) <sup>2</sup>	1	Fuel products	-
36. FURIO (Registered in the Philippines) <sup>3</sup>	1	Fuel products	Aug. 16, 2028
37. FURIO (Registered in LPDR (Laos))	1	Fuel products	Apr. 2, 2029
38. FURIO (Registered in PRC (China))	1	Fuel products	Feb. 6, 2029
39. FURIO (Registered in Cambodia)	1	Fuel products	Apr. 4, 2028
40. FURIO (Registered in Vietnam)	1	Fuel products	Apr. 2, 2028

### Trademarks and Service Marks under deliberation in Thailand

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
1. MIDORI	1	Sanitizer & supplements	Filed Oct. 22, 2020
2. FURIO MOTO EXPRESS	1	Vehicle service station / Vehicle maintenance / Oil changes	Filed Jun. 28, 2022
3. FURIO CARE	1	Vehicle Service Station / Vehicle maintenance	Filed Jun. 28, 2022
4. TYRE CARE	1	Distribution of tire products / Vehicle service station / Tire repair	Filed Jun. 28, 2022
5. Color bar and Bangchak leaf	3	Vehicle service station	Filed Aug. 9, 2022
6. Color bar	2	Vehicle service station	Filed Aug. 9, 2022
7. New Bangchak leaf	2	Fuel products Merchandising Management Service station	Filed Nov. 7, 2022
8. New Bangchak leaf and BANGCHAK character	4	Fuel products Merchandising Management Service station	Filed Nov. 7, 2022

## Trademarks and Service Marks under deliberation abroad

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
1. Bangchak leaf and BCP LUBRICANTS, registered in Iraq	1	Fuel products	Filed on Aug. 3, 2015
2. Bangchak leaf and BCP LUBRICANTS (Registered in Bangladesh)	1	Fuel products	Filed on Nov. 18, 2019
3. New Bangchak leaf (Registered in Cambodia)	1	Fuel products Service station	Filed on Nov. 21, 2022
4. New Bangchak leaf and BANGCHAK character (Registered in Cambodia)	1	Fuel products Service station	Filed on Nov. 21, 2022
5. New Bangchak leaf and BANGCHAK character (Registered in Vietnam)	1	Fuel products Service station	Filed on Nov. 22, 2022
6. New Bangchak leaf and BANGCHAK character (Registered in LPDR (Laos))	1	Fuel products Service station	Filed on Nov. 23, 2022
7. New Bangchak leaf (Registered in PRC (China))	1	Fuel products Service station	Filed on Nov. 25, 2022
8. New Bangchak leaf and BANGCHAK character (Registered in PRC (China))	1	Fuel products Service station	Filed on Nov. 25, 2022

Note: <sup>1</sup> Registered trademarks and service logos are in effect 10 years from registration dates and extendable every 10 years

<sup>2</sup> In registering trademarks in Myanmar, one must submit declaration(s) of trademark ownership and place advertisement(s) to that effect in local newspapers every 2–3 years

<sup>3</sup> In registering trademarks in Philippines, one must submit Declaration of Actual Use within 3 years from filing.

<sup>4</sup> OAPI countries: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Equatorial Guinea, Gabon, Guinea, Guinea Bissau, Ivory Coast, Mali, Mauritania, Niger, Senegal, and Togo



## Patent and Petty Patent

Patent / Petty Patent	Assignee	Expiry date <sup>1</sup>
1. Gallon design patent	Bangchak	Feb. 19, 2028
2. Gallon design patent	Bangchak	Feb. 19, 2028
3. Lid design patent	Bangchak	Feb. 19, 2028
4. Oil cone design patent	Bangchak	Feb. 19, 2028

Remark: <sup>1</sup> Product design patents are valid for 10 years from the date of application

## Policy of investment in subsidiaries and associates

Bangchak's investment policy for businesses is based on a combination of factors to support and promote its own businesses, including business growth trends, investment that adds value and is economically sound, and contribution to Bangchak's competitiveness. Investment is made through itself, subsidiaries, associates, or other companies, with the main consideration on suitability and potential of the company in question.

Bangchak has defined its affiliate governance guidelines for operations of a uniform standard and alignment with Bangchak's policy, underlined by corporate governance.

## Credit Policy

Bangchak and Bangchak Group have established guidelines for trade credit and formulate a credit policy and credit management to be a guideline for reviewing, monitoring and supervising those involved to take appropriate action against the Group's risks. Continual review of the trade credit policy to comply with economic conditions and market competition or when there are significant changes in related policies. To set the credit limit and the terms of payment must be consistent with the quantity and value of the products that will be purchased from the Group, debt servicing ability and consider each customer's risks through approval by the Company's authorized person.

However, in practice, the credit limit is set and setting terms of payment at the group companies considered to customers and classified by each business group as follows:

Business Group	Credit term
Oil and Non-Oil Business	3 - 105 days
Green Power Business	30 - 60 days
Bio-based Product Business	7 - 45 days

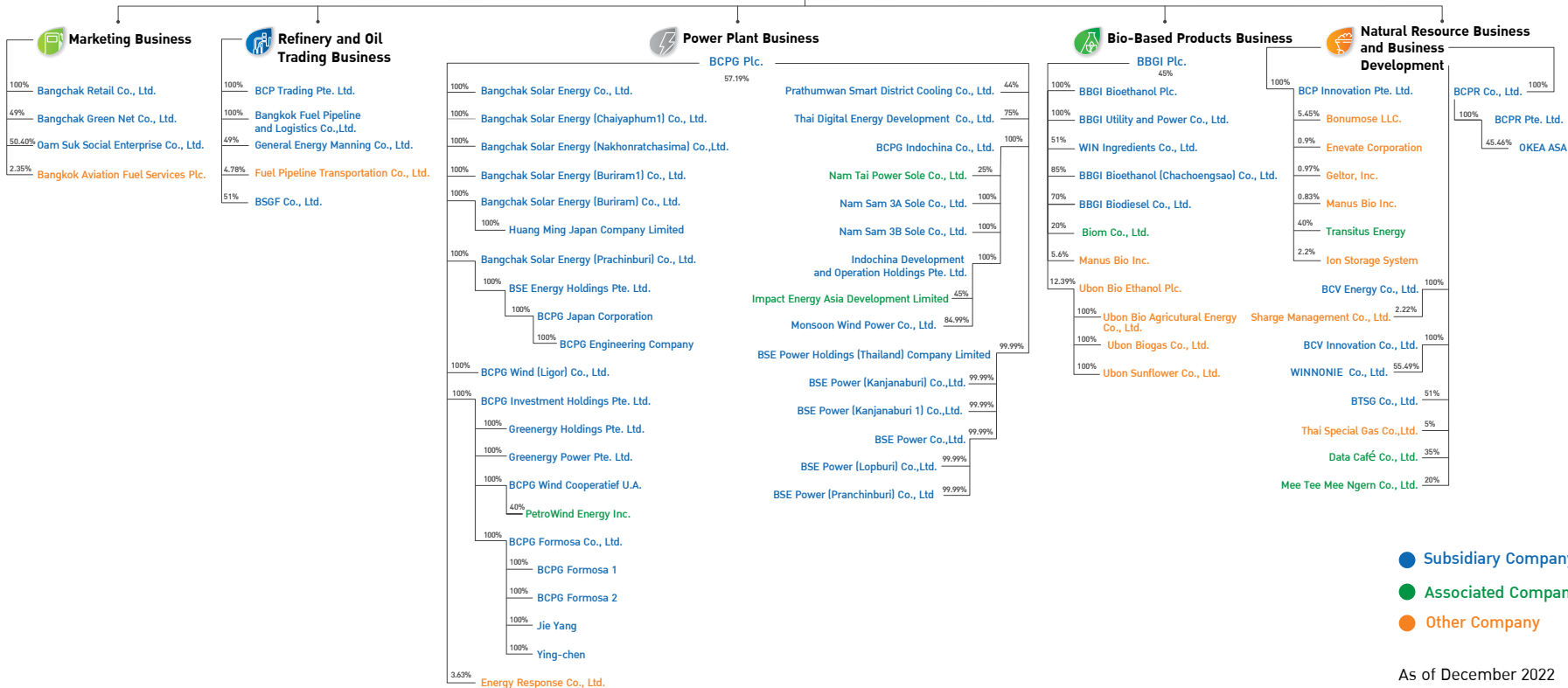
## Account Receivable Turnover and Collection Period

	2022	2021	2020
Account Receivable Turnover (AR Turnover: times)	27.42	26.29	18.33
Collection Period (days)	13	14	20

# 1.3 Shareholding Structure



**Bangchak Corporation Plc.**  
Registered Capital and Paid-up Capital Baht 1,376,923,157



- Subsidiary Company
- Associated Company
- Other Company

As of December 2022



## Refinery and Oil Trading Business

The complex refinery of Bangchak operates with a nameplate capacity of 120,000 barrels per day (120 KBD). Most of the outputs are gasoline and diesel. The quality of its gasohol and diesel products meets the public sector's Euro 4 standard. It raises the efficiency of its refining processes with the implementation of its FAST+ Projects with greenhouse gas emission reductions. Bangchak focuses on energy stability in its processes by using electricity and steam derived from its cogeneration power plant while replacing fuel oil.

### BCP Trading Pte. Ltd. (BCPT)

Incorporated in Singapore with a registered capital of USD30 million wholly owned, BCPT engages in commodity trading including crude oil, petroleum products, petrochemicals, other chemical products, and other downstream businesses.

### Bangkok Fuel Pipeline and Logistics Co., Ltd. (BFPL)

BFPL engages in the business of fuel transportation and logistics, which Bangchak holds 100%. Currently operates a fuel delivery service through an underground fuel pipeline system which is a type that can transport many kinds of oil (multi product pipeline). The pipeline begins at the Bangchak Refinery, walking along the railway line to the oil depot in Chong Nonsi, continuing to the oil depot at Don Mueang Airport, and further to the Company's oil depot in Bang Pa-in district. There is also a pipeline connection in the Makkasan area to Suvarnabhumi Airport to deliver jet fuel.

### General Energy Manning Co., Ltd. (GEM)

Incorporated with Baht 1 million in registered capital, in which Bangchak holds 49%, GEM engages in the business of recruitment and human resource management.

### Fuel Pipeline Transportation Ltd. (FPT)

Bangchak holds 4.78%, FPT operates underground pipeline fuel transport. The pipeline is a multiproduct pipeline, with the beginning of the pipeline at the Company's oil depot in Bang Pa-in District. to the north at Phichit Oil Depot and Lampang Oil Depot.



## Marketing Business

The Marketing Business Group sells fuels and lubricants to consumers through Bangchak's network of 1,343 service stations nationwide, made up of 724 standard and 619 community service stations, as of 31 December 2022. They also distribute products to industrial users and the transport, airlines, vessels, construction, and agriculture sectors, which provide convenience to customers. The stations offer supplementary (non-oil) businesses under the operation of Bangchak Retail Co., Ltd.

### Bangchak Green Net Co., Ltd. (BGN)

Incorporated with Baht 1 million in registered capital, in which Bangchak holds 49%, BGN engages in service station administration and sales management of consumer products at Baichak shops.

### **Bangchak Retail Co., Ltd. (BCR)**

This wholly owned subsidiary of Bangchak has Baht 1,500 million in registered capital. BCR engages in the food and drinks business to accommodate continuous growth in the retail business. BCR now has 1,002 Inthanin coffee shops (as of 31 December 2022).

### **Oam Suk Social Enterprise Co., Ltd.**

With an initial registered capital of Baht 126 million, in which Bangchak holds 50.4%, the company engages in the purchase of agricultural produce and organic crops for processing, marketing, distribution, and R&D.



## **Power Plant Business**

Bangchak invests in the renewable-power business by holding 57.19% equity in BCPG Public Company Limited (BCPG), a SET-listed company. Its IPO took place on September 28, 2016. BCPG engages in investments in the power generation business from green energy sources (both domestic and overseas), such as solar, wind, and geothermal power projects.

### **BCPG Public Company Limited (BCPG)**

BCPG has Baht 16,508.5 billion in registered capital, formed to engage and invest in green power businesses in and outside Thailand. At year-end, it commanded 390.8 megawatts (MW) in total capacity. In the past year, BCPG had invested in convertible bonds on VRB Energy, which engages in manufacturing and distributing a Utility-Scale Energy Storage System known as Vanadium Redox Flow, which is worth up to USD 24 million, and has signed a power purchase agreement (PPA) with Vietnam Electricity, a 25-year contract with a capacity of 600 MW at the Laos-Vietnam border.



## **Bio-Based Products Business**

Recognizing the significance of renewable energy in reducing trade deficits from imported fuels, thus enhancing national energy security, supporting farmers and conserving the environment, Bangchak advocates the blending of ethanol with gasoline, and biodiesel with diesel to form assorted graded of gasohol and biodiesel. Bangchak invests in bio-based products through shareholding in BBGI Public Company Limited (BBGI).

### **BBGI Public Company Limited (BBGI)**

BBGI was incorporated through a merger between BBP Holdings Co., Ltd. (BBH), a subsidiary of Bangchak, and KSL GI Co., Ltd. (KSLGI), a subsidiary of Khon Kaen Sugar Industry Plc. with a registered capital of Baht 2.532 billion. In April 2018, it registered conversion into BBGI Plc., along with increasing its registered capital to Baht 3.615 billion by issuing 433.20 million recapitalization shares with a par value of Baht 2.50 per share to offer for sale to the existing shareholders of BCP, KSL, those who are entitled to share allocation and offering shares to the public. It has started trading on SET since March 17, 2022. Currently, the Company holds 45% of BBGI's shares. BBGI engages in business manufactures and distributes ethanol, biodiesel, and by-products. BBGI's subsidiaries and associates have a total capacity of 1,600,000 liters per day (600,000 liters per day of ethanol and 1,000,000 liters per day of biodiesel) with the following subsidiaries and associates:

### **BBGI Biodiesel Co., Ltd. (BBGI-BI)**

Established with Baht 281.5 million in registered capital, in which BBGI holds 70%, BBGI-BI engages in the production of biodiesel from crude palm oil, a basic raw material, with the nameplate capacity raised to 1,000,000 liters a day. The company is located in Bang Pa-in, next to Bangchak's oil depot in Ayutthaya.

### **BBGI Bioethanol (Chachoengsao) Co., Ltd. (BBGI-PS)**

BBGI-PS has a registered capital of Baht 500 million, in which BBGI holds 85%. Located in Amphoe Phanom Sarakham, Chachoengsao, it produces ethanol from fresh cassava, cassava chips, sugar, and molasses with a capacity of 150,000 liters a day.

### **BBGI Bioethanol Public Company Limited (BBGI-NP/BP)**

BBGI-NP/BP is wholly owned by BBGI with a registered capital of Baht 610 million. It engages in the production and distribution of ethanol obtained from molasses, a by-product of the sugar production process. Currently, has two ethanol manufacturers operating in District, Kanchanaburi, with a capacity of 300,000 liters per day and Nam Phong District, Khon Kaen, with a capacity of 150,000 liters per day, which is currently being renovated to increase the capacity by 200,000 liters per day.

### **BBGI Utility and Power Co., Ltd.**

Wholly owned by BBGI Plc, BBGI Utility and Power Co., Ltd. has a registered capital of Baht 50 million. It was formed to engage in the production and sale of bio-based energy, power, and public utilities.

### **WIN Ingredients Co., Ltd.**

WIN Ingredients Co., Ltd., has a registered capital of Baht 320 million, with BBGI Plc. holding 51%. It was formed to engage in the production, sale, import, and export of all bio-based products and chemicals.

### **Biome Co., Ltd.**

With a registered capital of 69.375 million baht, BBGI acquired 20% of the total issued and paid-up shares of Biome which was established to operate the business of experimental research and development in biotechnology especially research on biological products using Synthetic Biology technology.

The other invested company is Ubon Bio Ethanol Co., Ltd. (UBE).

### **Ubon Bio Ethanol Co., Ltd. (UBE)**

UBE was incorporated with a registered capital of Baht 3,914.29 billion, in which BBGI holds 12.39%. Located in Amphoe Na Yia, Ubon Ratchathani, it engages in ethanol production using fresh cassava, cassava chips, and molasses as feedstock with a capacity of 400,000 liters a day. UBE's subsidiary also engages in processing cassava into flour and generating power from the biogas derived from wastewater treatment from the flour and ethanol processes.





## Natural Resource Business and Business Development

This business group, one of Bangchak's five core businesses, is in charge of the development of upstream petroleum businesses and battery energy storage systems, namely the petroleum exploration and production (E&P) business and the lithium mining business. Bangchak founded BCPR Co., Ltd., in Thailand, and BCPR Pte. Ltd. in Singapore, to engage in the petroleum E&P business. BTSG Co., Ltd., in Thailand, to engage in liquefied natural gas business and founded BCP Innovation Pte. Ltd., in Singapore, to engage in the lithium mining business and start-up.

### BCP Innovation Pte. Ltd.

BCP Innovation Pte. Ltd. (BCPI), wholly owned by Bangchak, was incorporated in Singapore with a registered capital of USD 53.3 million to engage in the lithium mining business and other startup businesses. Currently, BCPI has the right to purchase lithium under the Lithium Purchase Agreement with Lithium Americas Corp. of up to 6,000 tons per year from the Cauchari-Olaroz project and has invested in many startup businesses.

### BCPR Co., Ltd. (BCPR)

On July 12, 2018, Bangchak established a wholly owned BCPR Co., Ltd., in Thailand, which today has Baht 661 million in registered capital (6.61 million shares at Baht 100 per share). The objective is to engage in business operations by investing in natural resource businesses. BCPR has now invested in BCPR Pte. Ltd., founded in Singapore to invest jointly in OKEA AS, which engages in petroleum development and production in Norway.

### BCPR Pte. Ltd.

BCPR Pte. Ltd., was incorporated in Singapore on July 12, 2018, with a registered capital of USD 18.2 million and is wholly owned by BCPR Co., Ltd. The company engages in foreign energy, petrochemical, and natural resources businesses and currently invests in OKEA ASA, which engages in local petroleum exploration, development and production in Norway.

### OKEA ASA

OKEA ASA, a listed company on the Norwegian Stock Exchange, engages in Norway's petroleum exploration, development and production. BCPR Pte. Ltd., Bangchak's subsidiary, holds 45.46% shares in OKEA ASA. The company operates the Draugen, Gjoa, Ivar Aasen and Yme oil and gas fields (production commenced in Q4 2021) and holds or is developing the Grevling, Aurora, Falk oil and gas fields and several other fields in Norway, i.e., Hasselmus, Hamlet, Aurora. In addition, OKEA ASA is the operator of many fields.

### BTSG Co., Ltd. (BTSG)

BTSG has Baht 200 million in registered capital, in which Bangchak holds 51%, to engage in the supply and distribution of liquefied natural gas and related businesses.

### Thai Special Gas Co., Ltd. (TSG)

TSG has Baht 50,000,000 in registered capital, in which Bangchak holds 5% equity, and operates the business of supplying, bottling, and selling industrial gases. This also includes design, equipment, and system installation, selling of tools and equipment, and testing services of equipment such as industrial gas tanks.



## Research and development and innovation business

To pursue the position of the leading Asian Greenovative group, Bangchak expands its investment in emerging energy innovation such as lithium, used in the manufacturing of batteries for electrical vehicles (EVs) and extending bio-based products to add value to its current biofuel products. Bangchak set up four more venture-capital companies to engage or jointly invest in 10 domestic startup businesses, promoted by the government.

### **BCV Energy Co., Ltd. (BCVE)**

BCVE, wholly owned by Bangchak, was incorporated with a registered capital of Baht 1,020 million to engage in the venture capital business for funding domestic startups relating to energy innovation.

### **BCV Innovation Co., Ltd. (BCVI)**

BCVI, wholly owned by Bangchak, was incorporated with a registered capital of Baht 65.1 million to engage in the venture capital business for funding domestic startups relating to innovation.

### **Winnonie Co., Ltd. (Winnonie)**

Winnonie has Baht 90.1 million in registered capital, BCVI holds 55.49%, to engage in electric motorcycles and battery replacement services, including related businesses that align with Bangchak's goal, leadership in green energy innovator.

### **Transitus Energy Ltd.**

The Company holds 40% of shares in hydrogen energy business. In Europe, the registered capital is 12.3 million baht.

### **Data Cafe Co., Ltd.**

With registered capital of 12.3 million baht, the company holds 35% of the shares. It engages in business of providing services for personnel in information technology to various business organizations such as telecommunication financial institution and energy business.

### **Mee Tee Mee Ngern Co., Ltd.**

It has a registered capital of 1,000 million baht. The Company holds 20% of its shares. It operates a land loan and consignment business.

List of major shareholders as detail under 1.4 Registered Capital and Paid-up Capital

## 1.4 Registered Capital and Paid-up Capital

The Company's registered capital amounted to Baht 1,376,923,157 of which Baht 1,376,923,157 was paid up. An equal number of common shares were issued at a par value of one Baht each.

### Shareholders

Top 10 Major Shareholders ( as of September 1, 2022)	Number of Shares	Shareholding (%)
1. Thai NVDR Co., Ltd.	240,233,093	17.45
2. Social Security Office	198,307,697	14.40
3. Vayupak Fund 1, managed by Krung Thai Asset management PLC	136,586,300	9.92
4. Vayupak Fund 1, managed by MFC Asset management PLC	136,586,300	9.92
5. Ministry of Finance	65,543,767	4.76
6. SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	49,840,498	3.62
7. Bangkok Life Assurance PLC	24,154,700	1.75
8. Mrs. Somsong Lapananrat	23,923,700	1.74
9. Bangchak Corporation Public Company Limited	19,238,000	1.40
10. STATE STREET EUROPE LIMITED	11,908,095	0.86
<b>Top 10 Total</b>	<b>906,322,150</b>	<b>65.82</b>
<b>Grand Total</b>	<b>1,376,923,157</b>	<b>100.00</b>

### Shareholders through Thai NVDR Co., Ltd. Who owns more than 0.50% of the paid-up BCP shares

Top 10 Major Shareholders ( as of September 1, 2022)	Number of Shares	Shareholding (%)
1. STATE STREET BANK AND TRUST COMPANY	45,474,400	3.30
2. SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	33,482,500	2.43
3. STATE STREET EUROPE LIMITED	33,089,265	2.40
4. J.P. MORGAN SECURITIES PLC	25,998,300	1.89
5. SOUTH EAST ASIA UK (TYPE A) NOMINEES LIMITED	19,117,247	1.39
6. BNY MELLON NOMINEES LIMITED	8,414,000	0.61
7. GOLDMAN SACHS INTERNATIONAL	8,345,366	0.61
<b>Total</b>	<b>173,921,078</b>	<b>12.63</b>

Source: [www.set.or.th/en/market/product/stock/quote/BCP/major-shareholders](http://www.set.or.th/en/market/product/stock/quote/BCP/major-shareholders)

Note: - Investors can examine updated shareholders' information at Bangchak's website before the AGM

## 1.5 Issuance of other securities

### Debentures

On October 27, 2022, Bangchak earned “A” credit rating for the organization and unsubordinated and unsecured debentures and subordinated bond at BBB+ Level, Stable Outlook by TRIS Rating Co., Ltd.

In 2022, Bangchak has total outstanding debentures of 49,500 million baht as detailed below

Debenture	Value (Baht million)	Interest rate (%/year)	Maturity (years)	Redemption Date
BCP238A	400	2.96	5	August 10, 2023
BCP23NA	2,000	1.45	2	5 November, 2023
BCP244A	3,500	5.18	10	April 11, 2024
BCP258A	600	3.42	7	August 10, 2025
BCP258B	4,500	2.84	3	August 25, 2025
BCP260A	3,000	3.60	4	October 21, 2026
BCP26NA	1,000	2.29	5	5 November, 2026
BCP273A	2,000	4.72	12	March 3, 2027
BCP275A	500	3.00	7	May 8, 2027
BCP278A	2,000	3.26	5	August 25, 2027
BCP28DA	7,000	4.04	10	December 20, 2028
BCP29NA	1,400	3.11	8	5 November, 2029
BCP303A	1,000	5.05	15	March 3, 2030
BCP305A	4,500	3.40	10	May 8, 2030
BCP31NA	2,600	3.43	10	5 November, 2031
BCP328A	3,500	4.00	10	August 25, 2032
BCP19PA	10,000	5.00	100	March 3, 2119

### Bill of Exchange

As of December 31, 2022, the Company has no unpaid bills of exchange.

## 1.6 Dividend policy

### • **Bangchak Corporation Public Company Limited**

The Company has the policy of paying out dividend to the shareholders at the rate of not less than 30 percent of net profit after deduction of allocation of legal reserve. However, this is subject to the economic situation, the Company's cash flow and investment plans of the Company and its subsidiaries according to the necessary, appropriation and other concerning as the Board of Directors' consideration

#### Dividend Payment History

Year	2017 (Restate)	2018 (Restate)	2019	2020	2021	2022 (First Half)
Earnings per share (Baht/share)	4.07	1.79	1.18	(5.50)	5.25	6.91
Annual dividend (Baht/share)	2.15	1.35	0.80	0.40	2.00	1.25
Dividend payout ratio (%)	53	75	68	-	38	18

### • **Subsidiaries' dividend policies (only dividend-paying ones)**

#### **BCPG Public Company Limited**

This company's dividend payment is no lower than 40% of its net profit according to separate financial statements after deduction of all reserved funds under its regulations and related laws. The Board of Directors' resolution on dividend payment will be raised for the approval of the shareholders at the AGM, except for interim dividend payment, which the Board authorized to approve and make a subsequent report to shareholders' meeting. Dividend payment is subject to each year's economic situation, the company's cash flow, and investment plans of Bangchak and affiliates. The Board, however, will also take into consideration other factors as seen appropriate.

#### **BBGI Public Company Limited**

This company has the policy to pay out dividends to the shareholders at the rate of not less than 40 percent of net profit after deduction of allocation of legal reserve. Note that the Board may decide to set different dividend payment periods and rates from this or not pay dividend at all, depending on performance outcomes, financial positions, cash flows, working capital, liabilities, terms and restrictions of loan agreements, terms governing the company's rights and responsibility as the bond issuer, the company Group's investment plans and business growth, as well as the state of the economy and the market, other needs, factors, and related considerations seen fit by the Board.

Once the Board has endorsed an annual dividend payment, it must seek the shareholders' approval at the AGM, except for interim dividend, which falls under the Board's authority. The Board is required, however, to report to the shareholders at their next meeting.

#### **Bangchak Green Net Co., Ltd.**

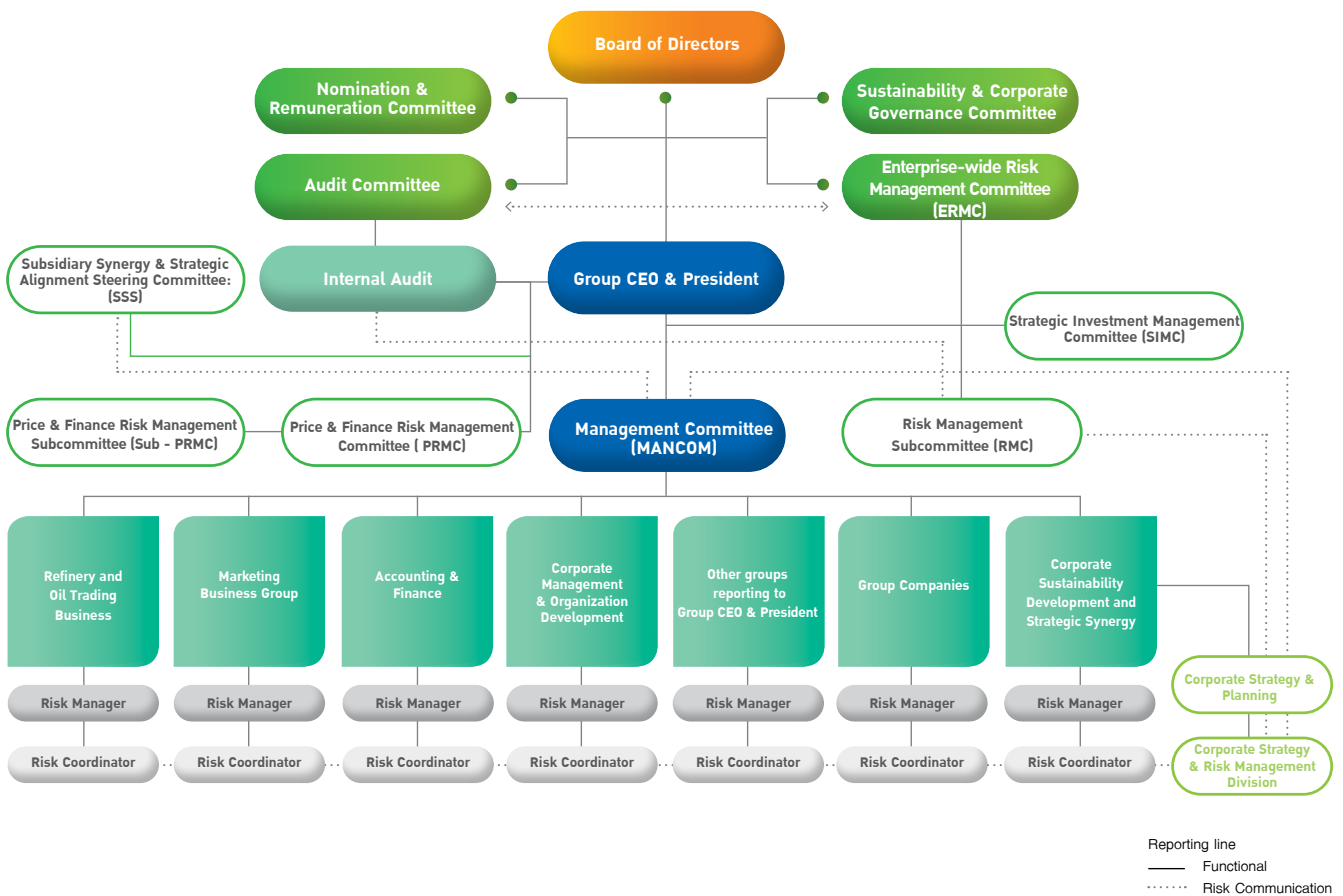
For a given fiscal year, the holders of preferred shares are entitled to annual dividends equivalent to the average daily interest rates for one-year fix deposits announced by Krungthai Bank Plc plus 3%. Dividends are paid in proportion to each paid-up share value when the dividends are paid out as stated in the resolution of the annual general meeting of shareholders (AGM). For a given year, if the company's profit is less than the dividends calculated for holders of preferred shares, all dividends are to be paid from such profit to holders of preferred shares only, and none is to be paid to holders of common shares. Any outstanding dividends for holders of preferred shares will be carried forward or accumulated to the following year along with those for the holders of common shares. For a given year, if the company's profit exceeds the dividends calculated for holders of preferred shares, the AGM will approve dividends for holders of common shares, case by case.



## 2. Risk Management

### 2.1 Risk Management Policy and Plans

Bangchak has adopted an international integrated enterprise-wide risk management system based on COSO ERM and ISO 31000 for more than 19 years to define management directions and measures to prevent and minimize impacts from a variety of risks preventing it from achieving goals. The risk management system has provided not only the capability for Bangchak to operate all businesses successfully under a relentlessly changing environment but has also warranted confidence among all stakeholders. All executives and staff, as well as joint ventures, fully participate in this international risk management system aligned with the corporate strategy and planning, as well as the sustainability development policy involving environmental, social and governance (ESG), under the supervision and monitoring of an Enterprise-wide Risk Management Committee (ERMC), with reporting lines and organizational network illustrated below.



Remark: Risk Manager – Vice President / Designated person

Risk Coordinator – assigned by Senior Executive Vice President / Executive Vice President

## Risk Management Results

This year countries around the world, Thailand included, were besieged by economic uncertainties. Economic recovery was delayed by multiple factors, including the transmission of COVID-19 early in the year, aggravating geopolitical situations, boycotts of Russia in the wake of the Russia-Ukraine war, consistently high inflation rates, costly energy and consumer goods resulting from disrupted supply chains and the weakening baht, climate change, and Thailand's extensive flooding. However, Bangchak, including joint-venture companies, had prepared an enterprise-wide risk management plan to mitigate the impact on the business. It monitored and tracked the overall effect to keep risk levels acceptable and prepare for a volatile future business landscape. Bangchak developed a risk management plan in parallel with the operating strategy. It planned two scenarios in response to potential situations to ensure adaptability to changing circumstances.

In addition, for business continuity and sustainability, Bangchak reviewed trends and business factors that are expected to change and impact business (mega trends and global risks) to manage them in the medium term and long term, including competition in the business and industry, economic situation, consumers' behavior, the surroundings and climate change due to global warming, and technological and innovation growth, including alternative & renewable energy, energy storage, electric vehicle, and policies of the public sector. These studies have been integrated with primary data of stakeholders' expectations and needs for further analyses of future impacts and directions of risk management in parallel with integrated corporate strategy to strive for mutual sustainability.

## 2.2 Risks to Bangchak's operations

Bangchak has grouped its risk management framework into 1) corporate risk management, 2) project investment risks, and 3) business continuity management. This framework helps formulate appropriate risk management system and assessment. Below is a progress report in these three areas.

### 1. Corporate Risk Management

Corporate risk management includes management of all internal and external risks incorporated with an assessment of future trends which could affect the organization in the short, medium, and long terms. The system incorporates risks in strategy, operation, finance, and reputation. The system is managed with specific key risk indicators (KRIs) to monitor and track the likelihoods and severity of all identified risks and provides treatment plans to mitigate and minimize the risks and drive operations to succeed as planned. In 2022, Bangchak assessed and managed corporate risks aligned with the corporate strategy and sustainability development involving the environment, society and governance as follows.

### Strategies

#### Economic Uncertainties and High Prices of Energy

The supply bottleneck and the Russia-Ukraine war catapulted the prices of energy and consumer goods, while inflation stayed higher than target scopes in several countries, the central banks of many countries resorted to strict monetary policies, and the government tried to maintain the stability of domestic retail fuel prices. To manage these risks, Bangchak commands the following mitigation plan.

- The Refinery and Oil Trading Business Group closely monitored the volatile oil prices and engaged in some hedging while securing adequate loan facilities to accommodate crude procurement for the oil trading business of BCP Trading Pte. Ltd. (BCPT)
- To brace for uncertainty, Refinery and Trading Business Group focused on developing High Value Specialty products. To elaborate, Bangchak will be producing UO (unconverted oil) from the Hydrocracking Unit as a raw material for lube base oil production and for paraffin wax for the candle industry, paper coating, and the adhesive industry.

The Hydrocracking Unit was modified to raise UO productivity to 75 million liters a month. Also, we calibrated process control parameters for solvent production, which is known as BCP White Spirit 3040 with a low aromatics content, which serves as a raw material for the paint, thinner, and resin industry. We also considered procuring crude oil from diverse sources during certain periods, with due regard for quality matching our processes, meaning decent refining margins to add value to our business.

- The Marketing Business Group successfully had the No. 2 market share (Ref. Department of Energy Business) through our targeted unique designs in conjunction with the Bangchak brand identity. Our present service station tally is 1,343 as of the year-end. We relentlessly raised our service standard for customers' maximum satisfaction, thus maintaining the top Net Promoter Score (NPS) through customer empathy, customer relationship management, and service development while applying digitalization to deliver remarkable experiences for our patrons under the Your Greenovative Destination concept. Ongoing is our emphasis on non-oil businesses in conjunction with partners. This year Inthanin Coffee set a target to keep growing branches inside and outside service stations, with 1,002 branches at the year-end.
- BBGI Public Company Limited (BBGI) adjusted its biodiesel capacity in line with prevailing demand, which varies with the public sector's reformulated diesel.

### Risks of energy innovation transformation

Transformation of energy innovation is an external factor shaping Bangchak's businesses. Bangchak has therefore developed risk assessment and converted advancement of energy innovation into business opportunities as follows.

- Established a green ecosystem to drive Bangchak Group's innovations with an emphasis on green energy and bio-based products through Bangchak Initiative and Innovation Center (BiiC).
- BBGI Plc. grew its ethanol capacity this year and ran a project to relentlessly improve the production efficiency of biodiesel and ethanol concurrently with glycerin production at 80 tons per day along with related products, including pharmaceutical-grade hand sanitizer alcohol, to grow its product value. BBGI is Thailand's foremost biofuel producer and distributor.
- Grew business to high-value bio-based products through BBGI Plc. by investing in Manus Bio Inc., a leader in high-value bio-based products through bio-innovations derived from advanced bio-fermentation. Manus Bio won a nutrition certificate for the Neotame sweetener. BBGI also formed WIN Ingredients Singapore Pte. Ltd. to engage in bio-based product development and support the technical and commercial sides of business. BBGI also signed a joint-venture agreement with BIOM Co., Ltd., Chulalongkorn University's first biotechnological development R&D company designed to scale up the value of research addressing the supply chains of high-value bio-based products. Finally, we sold food supplements under the B Nature Plus brand.
- Promote the initiation of business opportunities from energy innovation through regular campaigns among staff and subsidiaries, through introduction of Design Thinking to help develop new products and services to cope with future changes. To this end, BiiC can act like a business incubator and eventually commercialize selected initiatives.
- Continued to expand the startup service "Winnonie". Bangchak introduced and rented out electric motorcycles to motorcycle taxi riders and riders who delivered food or parcels. They can swap batteries at swapping stations located in Bangchak service stations. This effort scaled up green energy innovation and improved the riders' quality of life.
- Launched the "Smart Digital Fuel Dispenser Project: Krathing". Bangchak, in collaboration with Micro Oil and Retail Co., Ltd. and DTAC TriNet Co., Ltd., installed and managed digital fuel dispensers. It also established a communication system for the installation of Krathing dispensers nationwide. As a result, Krathing, serving as a platform providing quality fuel, could reach small communities. This project aimed to promote their access to quality energy that met the required standard. In the future, Bangchak would scale up services other than oil services to improve local people's quality of life in all aspects.

- Formed BSGF Co., Ltd., a joint venture with BBGI Plc. (our subsidiary) and Thanachok Oil Light Co., Ltd., to procure raw materials, produce, and distribute Sustainable Aviation Fuel (SAF) derived from used cooking oil. Its initial registered capital was Baht 1 million, to be recapitalized later. Bangchak held 51%; BBGI, 20%; and Thanachok Oil Light, 29% equity.

### Risks of managing human resources for future growth

To support additional investments for security and sustainability of income, Bangchak needs to satisfy higher demand for diversified and highly skilled human resources for each business and to maintain a proper generation gap within the organization to drive future businesses. Managing risks of human resources for future growth to align with business strategies is defined and treated with consistent programs and sessions of lessons learned and knowledge exchange among staff of Bangchak Group. These sessions hone skills, identify career advancement, and sustain business continuity as well as strengthening ties among staff workers and Bangchak. Activities in these sessions are organized and analyzed jointly by the management through the Subsidiary Synergy and Strategic Alignment Steering Committee.

## Operations

### Risks of managing feedstock and supply chain

Management of risks associated with supply chains and suppliers on delivery of feedstock, raw materials, machines, equipment and related services for the production and distribution is critical to uninterrupted operations, fostering confidence among all stakeholders and giving a competitive advantage for the organization. The risk management plan on feedstock and supply chains covers:

- Select crude oil from various sources at suitable periods with due regard for appropriate quality for processes that yield healthy refining margins to add business value.
- Develop long-term crude sales agreements with domestic and international suppliers to secure consistent supply for the refinery.
- Stock and procure feedstock for biofuel production from competitive sources with appropriate prices.
- To sustain market demand uncertainty, the Refinery and Oil Trading Business Group focused on develop High Value Specialty products by growing the UO capacity to 75 million liters per month, assessing risks of suppliers' adequacy by grouping suppliers of raw materials, goods, and services of high values and assessing economic, social, and environmental risks facing Bangchak, produced by these suppliers. The goal is to foster business continuity across the supply chain.

### Risks of digital technology transformation and cybersecurity

Risks of digital technology transformation and cybersecurity are external risks that have rapidly evolved, driven by strong business competition, reliance on competitive technologies, and connectivity of hardware and software through Internet technology to raise business efficiency and create good experience for customers, with due regard for the safety of the corporate IT system. Bangchak took action to cater to such technological development and change along with reviewing technological risk issues concerning current business disruption as follows:

- Establish a digital technology unit in charge of planning, monitoring, and procuring proper digital technologies for Bangchak to cope with changes in consumer behavior, work process improvement toward increasing competitive advantages, and adding value and efficiency to its services. The following additional technologies were applied in 2022.
  - The Digital Payment Project, in which digital payment is made in the Mobile EDC (electronic data capture) form to avoid physical contact at service stations by scanning the QR Code to pay through all banks' applications and

- PromptPay or simply touch and pay with contactless credit cards while accruing Bangchak membership points.
- Develop personalized marketing by applying data analytics to examine individual consumer behavior to develop tailor-made service patterns specific to each consumer and hence increase customer satisfaction.
  - Promoted the digitalization of working processes to increase efficiency and reduce work time. Bangchak chose digital tools, including Robotic Process Automation (RPA), Power BI or Power App, in work improvement.
  - Set up a cybersecurity function, responsible for planning, monitoring, surveillance, testing, and procuring tools to prevent cyber threats, which tended to keep increasing each year. In 2022 the Enterprise-wide Risk Management Committee focused on surveillance and provided risk management in case cyber-attacks disrupted the business process support system. It provided tools to enhance the security of the computer center. Moreover, it designed more secure information infrastructure systems and conducted vulnerability assessments to promptly close gaps. Bangchak kept monitoring key risk indicators through the Security System Alert System. Furthermore, it formulated an incident response plan, created awareness of cyber threats among employees, and regularly conducted testing. Finally, it implemented a secure work system that received ISO 27001 certification for data security management, ISO 27032 for cybersecurity management, and ISO 27018 for personal data security management.
  - In addition, Bangchak develop a refinery cybersecurity system program to safeguard work systems from cyber-attacks or interruptions which might affect refining processes. Since 2020, Bangchak has won ISO/IEC 27001 certification (Information Security Management), covering the refinery's Distributed Control System, thus ensuring that its refining processes will continue uninterrupted despite cyber-attacks.

### Risks to reputation from social media

With the transformation of the social media platform, where news and information of Bangchak's products and services are exchanged among consumers, moved to online, lightning response rates have become crucial. More importantly, online negative news and distortions could go viral, thus tarnishing Bangchak's reputation. Managing reputation risk therefore demands a dedicated team to relentlessly monitor movements of online social media. These tasks increase communication efficiency under normal circumstance and crises and reduce negative impacts. The system also calls for regular drills to ensure crisis preparedness.

## Finance

### Risks of volatile prices of oil and feedstock

The risks of volatile prices of oil and feedstock directly affect the revenue stream of Bangchak's core petroleum and petroleum-related businesses. Bangchak manages these risks with short-term and long-term plans as follows.

- Put in place a mechanism to track the movement of the crude oil price, spreads between crude and refined product prices, and regular development of new risk management tools for members of the subcommittee and risk management committee on prices and finance to consider and decide suitable options to manage, and report directly to the executive management committee.
- Diversify risks arising from price fluctuation of agricultural produce through investment in bio-based businesses operated by BBGI to upgrade business competitive edge in biofuels, biodiesel and ethanol, a steppingstone to high-value bio-based product development and value additions to the company.



### Risks of volatility of exchange rates and interest rates

Throughout the year, high exchange rate fluctuation was the name of the game. The baht/US dollar began to weaken continually since the beginning of the year, caused largely by the strengthening dollar—a result of the US Fed's adjusted tight monetary measures. Interest rates this year were raised three times by the Bank of Thailand from 0.5 to 1.25% at the year-end. This fluctuation affected Bangchak's revenue, notably its petroleum and international joint-venture businesses. To counter these effects, Bangchak continually exercised its plan to manage risks of exchange rates and interest rates as described below.

- Adopt natural hedges on transactions with international currencies on both income and expenses.
- Manage major costs of capital toward fixed and consistent interest rates.
- Closely monitor movement and trends of international monetary markets to execute proper hedging on exchange rates and interest rates decided by the Risk Management Committee on pricing and finance to ensure successful businesses as planned.

## Regulations

### Risks from enforcement of the Personal Data Protection Act B.E. 2562 (2019)

The Personal Data Protection Act B.E. 2562 was announced in the Government Gazette on May 27, 2019 and was postponed taking effect on June 1, 2022. In compliance with the "Personal Data Protection Act B.E. 2562", Bangchak appointed a Data Protection Officer (DPO) and a taskforce known as the DPO Office, consisting of delegates of related units who are responsible for advising others about personal data protection, audit work on the compilation of personal data, and coordinate work with the Office of Personal Data Protection and data owners.

## Societal and/or Environmental Risks

### Risks of impacts on communities and society

Bangchak is fully committed to operating its businesses in a friendly way with communities, the public and the environment in a sustainable way. Work processes have therefore been continuously upgraded to ensure safety and zero impact on communities and the public under the following risk management plan.

- Constantly developed a system for occupational health and safety of international standard to upgrade health and safety in the workplace while systematizing work processes with due regard for risks, opportunities, and legal requirements. Bangchak was certified with ISO 45001, ISO 14001, and ISO 50001.
- Routinely conduct risk management with systems of Safety Integrity Level, Reliability-Centered Maintenance, and Risk-Based Inspection to ensure the efficiency of all equipment and work processes for accurate preventive maintenance programs.
- Perform Hazard and Operability Study assessment and install the process safety management system at all procedural levels of refining processes in conjunction with leading engineering consulting firms to ensure international work standards and practices.
- Install an online air quality metering system with automatic display on all monitors in the refinery and its vicinity for the communities surrounding the facilities to get real-time air quality information, leading to higher public confidence in Bangchak's operation.
- Consistently organize community educational activities for people living near the refinery facilities, schools, temples, and condominiums to understand, learn and be fully aware of safety. The programs include sharing of knowledge and practical drills on evacuation, firefighting, and first-aid medical treatment, as well as community safety alert and warning systems. Community members have actively participated in these programs.

In supervising businesses operated by joint ventures, Bangchak monitored and stayed vigilant over risks with impacts on individual communities to prevent them from hardship or impacts of production processes or operation, including vigilance over wastewater treatment. The ERM is charged with year-round monitoring of work in this aspect.

### **Risks of climate change and environmental change leading to GHG reduction measure**

Because business operations potentially cause global warming, Bangchak took action to focus on reducing energy consumption and GHG and carbon dioxide emissions as follows:

- Showed commitment to conducting a low-carbon business and leading energy transition. Bangchak has been increasing the proportion of green companies to lower carbon emissions. It also founded the Carbon Markets Club to promote carbon credit trading.
- Under the BCP 316 NET concept, set a Carbon Neutrality goal for 2030 and Net Zero GHG emissions for 2050 spanning four approaches: B = Breakthrough performance (focusing on high-efficiency production processes, improvement of business processes, low carbon emission, and being environment-friendly); C = Conserving nature and society (striking an ecological balance by naturally sequestering carbon); P = Proactive business growth and transition (transitioning business to clean energy with technology for sustainability). For the second consecutive year, Bangchak was highly ranked for the low-carbon business and sustainability by Thailand Greenhouse Gas Management Organization (Public Organization) (TGO), based on its corporate governance, sustainability report, and business size under economic, environmental, and social criteria that align with the national sustainability development goals.
- Replace fuel oil with natural gas to generate power and steam in the combined-cycle plant and deploy it as a primary energy source for the distillation units, resulting in higher energy efficiency and reduction of carbon dioxide emissions.
- Bangchak took part in easing pollution in the form of PM 2.5 particulates and smog by selling diesel containing five times less sulfur (lower than 10 ppm), as less sulfur can lower dust problems resulting from combustion along with sulfur dioxide. Such diesel was sold in Bangkok Metropolis during such critical periods.
- Remodel resource consumption with the 3Rs strategy of Reduce, Reuse and Recycle to achieve sustainable and environmentally friendly business success. This includes collection of plastic bottles from customers voluntarily to produce recycled products for society, collection of depleted plastic lubricant containers for recycling to produce polymers and eventually reproduce such containers. These programs are aimed to reduce public waste and sustain the values of resources through reuse and recycling to optimize their values to the environment, society and communities in a sustainable way.
- Cut the use of plastics in activities of non-oil businesses and the use of plastic containers by modifying cold drinks' lids to do away with straws. Continually adjusted plastic containers (Bio-cups) for greater biodegradability. Solicited customers' collection of used cups for exchange into discounts; over 1 million biodegradable cups had been sent to the Royal Forest Department through the Kaeo Phaw Kla (Cups for Saplings).
- Under the Orphan Waste Project, Bangchak forged ahead with its stewardship of the environment and social sustainability. It advocated the Circular Economy to cut waste at sources to ease social impacts of garbage dumping in pits, supported proper waste management, and reduced air pollution resulting from landfill. To this end, Bangchak joined environmental stewardship partners by using its service stations as waste collection points. This year, over 65 tons were collected from donors at service stations in Bangkok Metropolis. Bangchak was among the 14 allies under the Green Shelter Project by serving as a donation point for drink cartons, which were recycled into various building materials, including Eco Roofs, Eco Door Frames, Eco Wood, and Eco Bricks. These materials are used by the Friend of Pa Foundation, Thai Red Cross Society, which handed them to people needing housing due to natural calamities, needy people, and those with housing difficulties.

## Water Shortage Risks

Water shortage has been identified as an imminent global crisis. Global warming and a booming population are the main causes of uncertainty on available water for consumption. Bangchak has paid its full attention to water management to conserve water in production processes as follows.

- Monitored risks from climate change, such as drought, by monitoring and staying vigilant over daily water situations of the Metropolitan Waterworks Authority to assess the water shortage risk affecting refining processes, to ensure emergency water source availability, and to define proactive measures in case of risk arising from lower Chao Phraya River water levels, which may affect navigation, while ensuring minimal effects on stakeholders. Monitored flood situations and took proactive steps, for example, monitoring the levels of water in the major rivers during the rainy season, inspecting the readiness of flood prevention equipment by establishing a risk management plan in response to flood possibility and severity in order to ensure continuous business operation.
- Reduced water consumption by improving tap water quality with a micro-filtration system and a reverse osmosis system. It also reused 1,290,335 cubic meters of condensate water and stripped water in processes. Furthermore, Bangchak recycled 203,167 cubic meters of treated water by improving its quality with the reverse osmosis system. Following the 3Rs measure, it saved water equivalent to the total water consumption of 4,120 households.
- Conducted water stress assessment through the AQUEDUCT program to find that the location of Bangchak Refinery was a medium-high (20–40%) risk area, which by definition is not a significant area for water stress.
- Improved the cooling unit of the refinery to improve operation while trimming water loss from the cooling system, thus reducing consumption of tap water from the public water works.
- Promoted the reduction of water consumption in all production processes with all affiliates and business units, led by the water recycling program by the Bio-based Product Business Group. Moreover, a project of drilling for groundwater was initiated for water storage and supply for the facilities.

## Cultural promotion

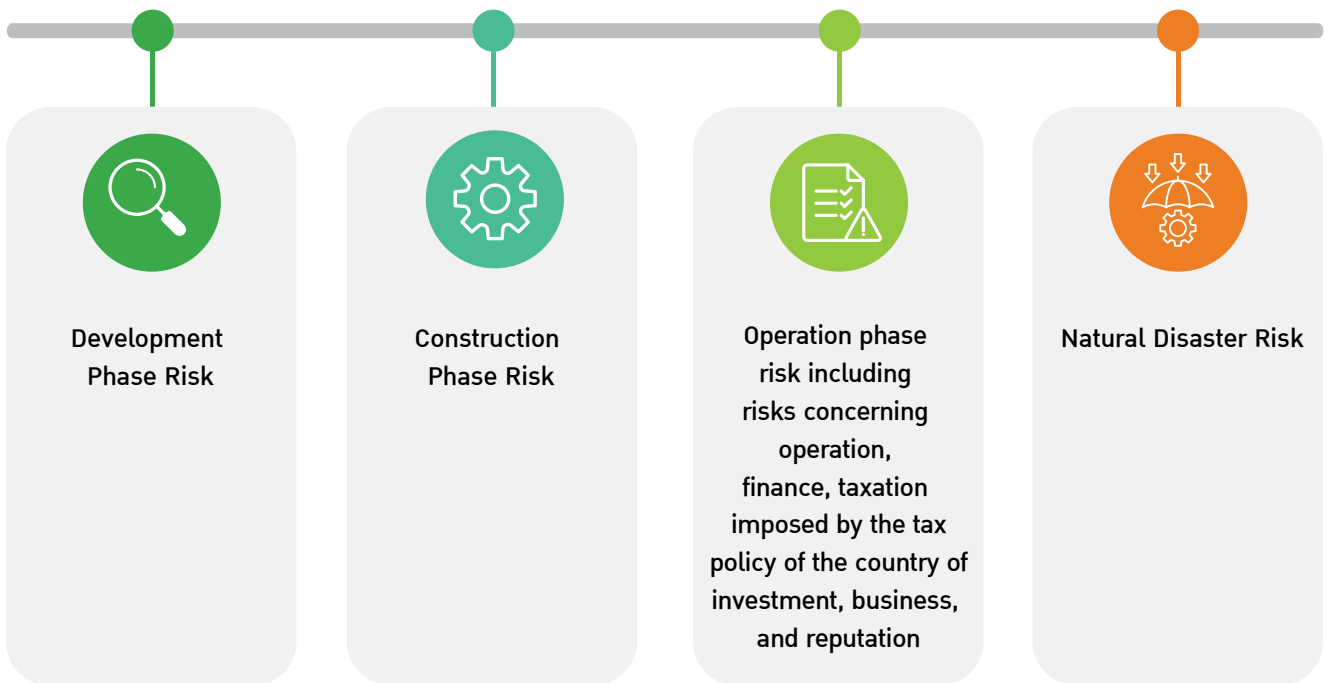
Social development is part of Bangchak's business management. Therefore, participation in social development for sustainability was defined in the corporate and employee cultures.

- Bangchak valued environmental and social care as the corporate culture. It also defined a business responsibility policy on respect for human rights as guidelines for Bangchak Group's Board of Directors, executives, and employees. It adhered to the UN Global Compact, international guidelines on social responsibility (ISO 26000), the Universal Declaration of Human Rights (UDHR), the United Nations Guiding Principles on Business and Human Rights (UNGPs), and Women's Empowerment Principles (WEPIs). Bangchak incorporated these into the model for continued growth and promoted engagement to ensure equality and inclusion.
- Bangchak launched a project on reading and writing for children for the third consecutive class, as it recognized the importance of youth reading and writing, a serious national problem needing continued remedy. The project was operated by the Bai Mai Pun Suk Foundation. Khru Koi (Ms. Naiduangta Patummasoot) from the Thung Suk Asom Learning Center conducted the training for first-grade teaching staff from 51 schools nationwide, numbering some 150. The intention is for teachers to acquire a mastery of the teaching process along with approaches for classroom arrangement, and measurement of students' Thai fundamental skills, and so on, so that education management may achieve the objectives. This move should ease the national problem while addressing SDGs 14 (Quality Education).
- The Pun Suk Musical Project was organized to ease hardship faced by groups of musicians and vocalists who bore the brunt of Covid-19. Bangchak service station space was used for musical shows, with expenses paid to all the artists that took turns putting on their shows and sharing musical happiness with Bangchak's patrons. Bangchak sought vocalists and musicians through the Musical Association of Thailand under the Royal Patronage and supported the expenses of some 400 of them.

- “Kaew Phaw Kla” (Cups for Saplings) activity invited Bangchak Group’s employees and Inthanin customers nationwide to return Inthanin bioplastic cups. Bangchak then gave these cups to the Forest Department to cultivate saplings in place of black plastic plant bags to reduce waste and increase green space.

## 2. Project Investment Risks

In addition to strategic directions and returns on investment, project investment risk management is another crucial component of business success. All investment projects must therefore be reviewed for risk management with risk treatment at various stages as follows.



For all investment projects significant to the Company’s operations, the Enterprise-wide Risk Management Committee must approve their risk management plans to ensure that the business managed risks properly, impacted neither the community nor the environment, and could achieve Bangchak’s goals. This year the Enterprise-wide Risk Management Committee approved, advised, and made observations on risk management preparation for the joint-venture project to form BSGF Co., Ltd., to engage in the production of SAFs.

## 3. Business Continuity Management (BCM)

To ensure the ability to continue its businesses even during crises, Bangchak has developed and installed a Business Continuity Management (BCM) system. Bangchak won the ISO 22301 BCM award covering Headquarters, Bangchak refinery and Bangchak Oil Distribution Center, Central Region Business Office and Bang Pa-in Oil Distribution Center since 2013. The award is a guarantee of its preparedness to continue its businesses with maximum efficiency under international standards even during crises, and high confidence for all stakeholders on the ability of Bangchak to fully operate during crises and constantly deliver products to its clients.

This year the world faced multiple challenges, notably the time it takes for economies to recover as well as high uncertainties resulting from the Russia-Ukraine war. Bangchak has adjusted its operations, adding a few fuel grades for procurement flexibility to sustain the tight supply of oil and natural gas. It prepared for securing commercial credit facilities in case of soaring oil prices and issued bonds to stay prepared for extra financial liquidity. As for floods, Bangchak closely monitored water levels and remained poised to execute crisis management plans for floods at operating sites and service stations.

### 3. Driving a Sustainable Business

#### 3.1 Policy and Goals for Sustainability Management

##### 3.1.1 Sustainability Policy

Bangchak’s Sustainability Policy is derived from the integration of various guidelines, criteria, and international standards on sustainability and CSR, namely the UN Global Compact (UNGC), Dow Jones Sustainability Indices (DJSI), and International Organization for Standardization (ISO). Bangchak also addresses Sustainable Development Goals (SDGs) and the Safety, Security, Health, Environment and Energy Policy (SHEE Policy) and is committed to domestic and international environmental standards together with stakeholders’ expectations in line with its business vision, direction, and strategies, which frame corporate sustainability operations—which in turn illustrate its commitment to sustainability across the value chain.

##### 3.1.2 Sustainability Guidelines

###### 3.1.2.1 Oversight and information disclosure structure

To ensure that its entire operations are integrated and goal efficient, Bangchak’s sustainability oversight and management structure incorporate the Board of Directors to the operating level. The Sustainability and Corporate Governance Committee (SCGC) proposes sustainability guidelines to the Board, oversees the Board’s and management’s performance against these guidelines, reviews these guidelines and recommends updating to keep up with international standards, and assigns the Sustainability Policy to the Sustainability Policy Committee (SPC).

Defining and reviewing this policy and goals, SPC deliberates the operating approach under Bangchak’s sustainability strategic scope, risks, and opportunities for business sustainability in addition to supporting and driving the work of the Sustainability Management Committee (SMC).

SMC implements the Sustainability Policy and strategies conducts, risk assessment, and identifies opportunities relating to sustainability in addition to sustainability guidelines.

Each year Bangchak issues an integrated sustainability report to detail sustainability outcomes and assure complete and accurate data. To this end, Bangchak has put in place verification of the report and KPIs under the GRI standards by a third party well-versed in auditing and independently ensuring readers of performances relating to the oil and gas business.



(Download the policy at <https://www.bangchak.co.th/storage/document/sustainability/2019/sustainability-policy-en.pdf>).



(The integrated sustainability report is downloadable at <https://www.bangchak.co.th>).



### 3.1.2.2 4 Green Sustainability Strategy (4Gs)

Bangchak’s 4 Green Sustainability Strategy (4Gs) aligns with the Sustainability Policy and addresses SDGs:

# 4 Green Sustainability Strategy

1

**Green Business**



- **Green Business:** Focuses on investment and creates value addition to business in a sustainable and responsible way; applies green initiatives to scale up current and emerging businesses to drive sustainable growth and become Asia’s leading greenovative company.

2

**Green Production**



- **Green Production:** Focuses on upgrading environmental and production safety management through efficient consumption of resources, particularly energy and water; commands ISO 14001 (environmental management), ISO 50001 (energy management), ISO 45001 (safety management), and Process Safety Management (PSM).

3

**Your Greenovative Destination**



- **Your Greenovative Destination:** Pursues experience and new-look green innovations to sustain the New Normal, where each can participate in sustainable environmental stewardship through Bangchak service stations, products, and services.

4

**Green Society**



- **Green Society:** Develops businesses or activities constantly benefiting the environment and society through environmental stewardship and participation in social improvement, particularly through support of SMEs and farmers to earn income from joint contribution of sustainability to communities and society through various projects.

Arising from the 4Gs and Sustainability Policy, Bangchak’s corporate sustainability KPIs have been aligned with its “Crafting a Sustainable World with Evolving Greenovation” vision and address stakeholders’ needs. Despite the apparent subsidence of COVID-19 this year, Bangchak still valued stewardship of all stakeholders through activities meant to support and assist them by focusing on preventive measures and preparedness for a return to normal, value given to corporate governance and personal data security, investment in green innovation businesses and digitalization, as well as cyber risk management and security.

Concerning the environment, Bangchak has climate change at the top of its list. Bangchak Group has set a Carbon Neutrality goal for 2030 and a Net-Zero greenhouse gas (GHG) emission goal for 2050 by implementing the [BCP 316 NET] plan. To elaborate, the 2030 goals are to trim 30 percent of GHG from the 2019 base year by improving production efficiency, adding GHG sequestration through reforestation by 10 percent, growing investment in low-carbon businesses, investigating carbon reduction technologies, and forming ecological systems supporting a low-carbon society through activities under the Carbon Markets Club and the Syn Bio Consortium.

### 3.1.2.3 ESG measurement

Concerning measurement of business sustainability, Bangchak has taken part in sustainability assessment in three aspects (environmental, social, and governance) while striving for sound economic performance to achieve key goals: SET’s sustainable development and S&P Global Corporate Sustainability Assessment (S&P Global CSA) as well as Morgan Stanley Capital International (MSCI) ESG Ratings, undertaken by MSCI ESG Research, an internationally proficient and credible agency reputed for ESG indices. These entities evaluate our capacity to manage ESG risks facing listed companies. Below are Bangchak’s outcomes.

#### ESG assessment by SET

- Bangchak was included in the Thailand Sustainability Investment (THSI) list by the SET for the eighth consecutive year (2015–2022), which acknowledges listed companies, securities companies, and mutual fund management securities companies with outstanding overall business sustainability and regard for ESG. Moreover, it was awarded the Sustainability Excellence Awards for the sixth consecutive year, and the Sustainability Awards of Honor for the third consecutive year at the SET Awards 2022.

#### International ESG assessment

- Bangchak’s ESG rating done by MSCI ESG Research yielded an AA outcome for the fifth consecutive year (2018–Present)
- Bangchak continually took part in the S&P Global Corporate Sustainability Assessment; this year the agency adjusted its assessment period (Result will be announced in early 2023).



## 3.2 Management of Impacts on Stakeholders in the Business Value Chain

### 3.2.1 Business value chain

Stakeholder action is at the top of Bangchak’s priorities, relentlessly undertaken to align with the Crafting a Sustainable World with Evolving Greenovation vision. Bangchak pays due regard for its stakeholders and manages activity sustainability across the value chain, ranging from upstream (procurement and transport of crude oil and raw materials) to downstream (refining, product development, procurement and hiring, product transport, and product and service distribution) to cater to all stakeholders’ needs and expectations, strike a balance between business value and worth among all stakeholders, and forge cordial relations and confidence between Bangchak and stakeholders.

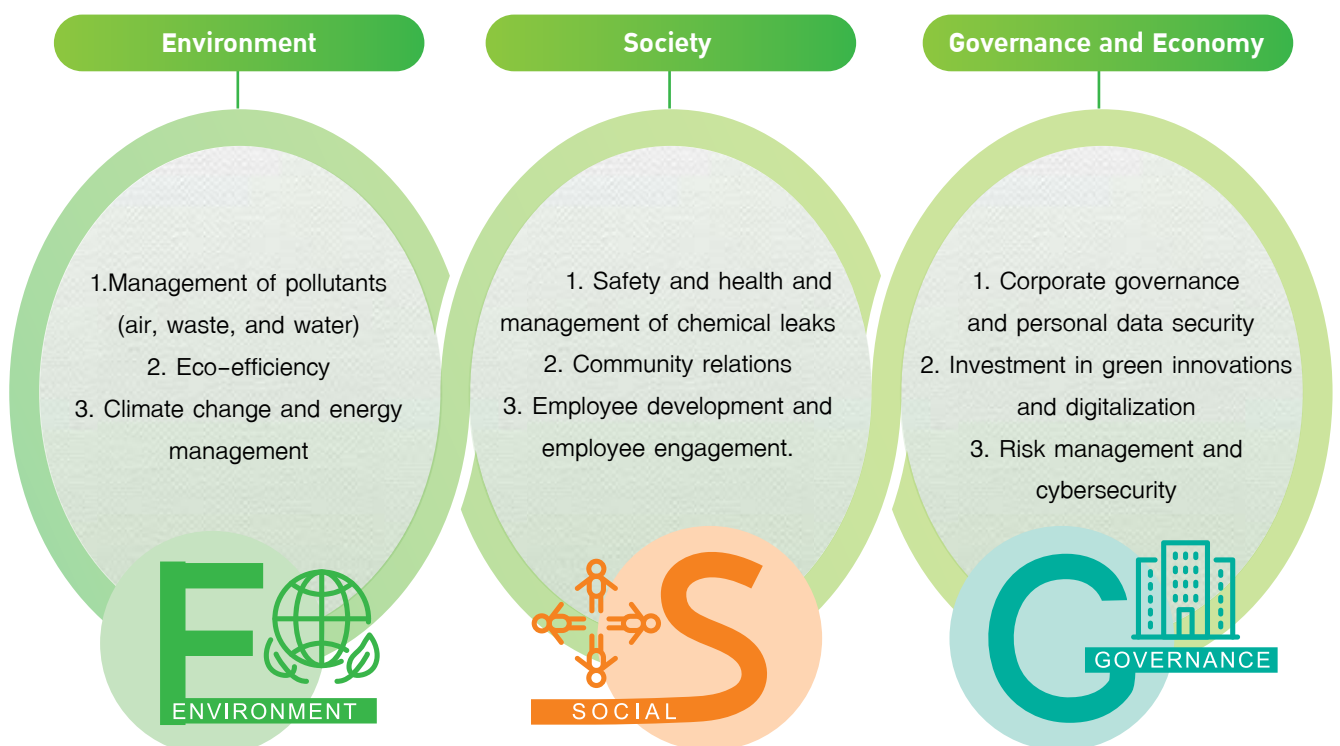
### 3.2.2 Stakeholder analysis in business value chain

Bangchak’s 10 groups of stakeholders are classified by their connection to its business, their sustainability impact on Bangchak, and impact arising from Bangchak’s business on them. The groups consist of creditors/financial institutions, customers, employees, suppliers and contractors, service station operators (dealers, BGN, agricultural cooperatives), communities, government agencies, shareholders, the mass media, and business competitors.

This year Bangchak surveyed their needs and expectations for its operations, leveraging diverse methods and frequencies suiting each group. The findings were analyzed and addressed as well as deliberated along with global sustainability directions and outlooks, SDGs, domestic context, and Bangchak’s own factors, including goals, corporate directions, and business risks. Emerging from this exercise are corporate materiality topics, leading to strategies and plans to address Bangchak’s materiality issues.

### 3.2.3 ESG materiality issues

For each aspect of ESG, the top three materiality issues tackled this year consisted of



## 3.3 Environmental Sustainability Management

### 3.3.1 Environmental Policy and Guidelines

Bangchak is committed to developing business sustainability along with the environment and society across its value chain in line with stakeholders' expectations, the Sufficiency Economy principles, compliance with the UN Global Compact, UN SDGs, and various international standards. Therefore, it has amended and rolled out the Sustainability Policy, embracing sustainability issues of today's business, affiliates, and emerging businesses (domestic and international).

Bangchak promotes all executives' and employees' awareness of environmental risks and impacts arising from its operations on water, air, soil, forests, ecology, biodiversity, and climate change. It audits, manages risks and impacts on the surroundings and climate, advocates application of technologies and innovations to the evolution of efficient management systems for the environment, energy, water, and waste throughout business processes and emerging businesses. It also evolves cooperation with local and international entities in resource management, environmental stewardship, adaptation, and mitigation of climate change for efficiency and cost-effectiveness.

### 3.3.2 Proactive Environmental Management

Bangchak strives to pay attention to potential environmental impacts under ISO 14001:2015 as a primary standard in tandem with the Global Reporting Initiative (GRI). The emphases are on proactive environmental management in preventing and reducing pollution at sources and on optimizing resource consumption under the Circular Economy to ease environmental impacts directly and indirectly.

#### Prevention and management of leaks and spills

Bangchak's focus is still on environmental and community impacts arising from its operations across the value chain, ranging from crude oil transport (marine and land). It strives for ways to prevent and reduce undesirable accidents. Bangchak's goal is to prevent leaks and spills of significant volumes (more than 100 barrels each time) of oil and chemicals.

#### Management of air pollution

Bangchak operates in parallel with air pollution control from oil refining processes inside the compounds of the refinery and in surrounding communities under the laws and applicable standards. Its goal is to attract zero complaints about air pollution from these communities. It strives to control volatile organic compounds (VOCs) from oil terminals and production processes on the refinery's compound. The refinery also has a policy of consuming clean fuels to cut air pollution arising from production processes.

#### Management of waste and scrap

Bangchak values full exploitation of resources through its relentless implementation of 3Rs (reuse, reduce, recycle) on waste derived from office areas and the refinery. From 3Rs, it evolved into 5Rs and 7Rs: reject non-green materials or chemicals, recovery of valuable resources in waste, rethink before disposal or elimination, repurpose of waste through alternative uses. The goal is zero waste to landfill in tandem with zero ton of incineration without energy recovery and 3 percent reduction of waste generation intensity by 2025.

### 3.3.3 Sustainable Environmental Management

Bangchak operates under its Sustainability Policy to manage its environment sustainably, whether climate, water, or energy, to mitigate impacts arising from its operations, focusing on SDG 6 and SDG 13. In addition, Bangchak commands a KPI on eco-efficiency in parallel with sustainable development.

#### Eco-efficiency

Bangchak strives to grow its overall business while giving due regard for mitigation of impacts arising from its operations, notably environmental ones, to drive for sustainability. As a result, it leverages eco-efficiency as an index of production efficiency and environmental impacts of production. To elaborate, its EBITDA echoes economic growth and emitted GHG volumes, a key environmental issue of the petroleum industry that illustrates environmental impacts. High eco-efficiency represents high production efficiency and low environmental impacts.

#### Management of climate change

Climate change resulting from GHG emissions is currently a key sustainability issue facing all industries. Bangchak recognizes risks and impacts on itself and stakeholders from physical and legislative changes concerning climate change. To illustrate its commitment to addressing climate change in line with the Paris Agreement, calling for no more than 2 degrees Celsius increment, and SDG 13, Bangchak Group has declared a Carbon Neutrality goal for 2030, goals for GHG reduction (Scope 1 and Scope 2) of 30 percent by 2030, and a Net Zero emission goal for 2050. It has also required corporate GHG emissions as a corporate KPI and required them as a KPI for the Group CEO and President. Bangchak has also defined strategies and assessed risks and opportunities for climate change (short-term and long-term) in line with the guidelines of the Task Force on Climate-Related Financial Disclosures (TCFD) to assess related financial impacts.

Bangchak's sustainability policy on fully maximizing the management of resources and the environment is evident in the encouragement of all executives and employees to recognize environmental risks and impacts arising from their own operations, which incorporate climate change. To this end, it requires audits and management of risks and impacts potentially affecting the environment and climate; advocates the application of technologies and innovations to the evolution of management systems for the environment, energy, water, and waste for ongoing efficiency in business processes and emerging businesses; and evolves cooperation with local and international entities in the management of resources, environmental stewardship, adaptation, and mitigation of impacts of climate change for high efficiency and economic cost-effectiveness.





To achieve carbon neutrality and Net Zero goals, Bangchak has mapped out BCP 316 NET strategies, embracing four pathways, with emphasis on tangible processes to achieve long-term goals.

**B: Breakthrough Performance** (goal of 30 percent GHG emissions reduction from the 2019 base year)

Raising energy efficiency through production processes with high efficiency and low carbon emission and being environment-friendly due to the use of clean energy and clean fuels in such processes.

**C: Conserving Nature and Society** (goal of 10 percent GHG emissions reduction from the 2019 base year)

Establishment of ecological equilibrium and connectivity to a low-carbon society through natural carbon sequestration and development of natural sources of carbon dioxide sequestration from Green Carbon and Blue Carbon ecology. Bangchak Group therefore began its investigation and initiation of Green & Blue Carbon work plans to connect the aspect of socio-community development and engagement with stakeholders (customers, communities, government agencies, academia, and NGOs) to concurrently improve the people's way of life through reforestation, conservation of community forests, planting-conservation of mangrove forests, and investigation of seagrasses.

**P: Proactive Business Growth and Transition** (goal of 60 percent GHG emissions reduction from the 2019 base year)

Energy transition towards Net Zero through emerging technologies for sustainable growth and green energy technologies to foster green businesses as Bangchak's New S-Curve.

**NET: Net Zero Ecosystem**

The establishment of a new ecology to accommodate the move toward New Zero, including formation of the Winnonie (electric motorcycles for rent) platform and cooperation with various sectors in forming the Carbon Markets Club. In addition, Bangchak stated its intention to play a part in driving and supporting the goal of corporate carbon neutrality and Net Zero by 2050 as a Climate Action Leading Organization (CALO) through action under the Carbon Neutral Thailand network.

**Energy consumption**

In view of climate change, Bangchak has recognized the criticality of efficient energy consumption, notably in its energy-intensive refinery, in support of the policy of GHG reduction from energy production processes (heat energy, electrical energy, and steam energy), driven by ISO 50001. Bangchak also set an energy consumption target by reviewing such consumption in production units and declaring 4.99 percent FOEB (fuel oil equivalent per barrel) as a goal for 2022.

## Management of water

This is another critical issue for Bangchak, in tandem with its response to SDG 6 (water management and sanitation) and the application of 3Rs to ward off possible drought. Water is another key resource for refining processes. Water effluents released into rivers must be prevented from affecting the surroundings and nearby communities. So, Bangchak has set a target for water re-use of 30 percent of the 2015 base year by 2030 and still controlled the quality of produced water by the law and in line with the requirements of the GRI Sustainability Reporting (GRI) standards.

### 3.3.4 Environmental performance outcomes

Bangchak reports its environmental performance outcomes through sustainability reports, featuring data audits and reporting under the GRI Sustainability Reporting Standards (GRI Standards) and Oil & Gas Sector Supplement (OGSS), along with a third party's verification. This year Lloyd's Register International (Thailand) Ltd., served as a verifier. The refinery won the Green Industry Level 5 certification by the Department of Industrial Works for continued environmental management and was recognized as an Eco Factory for commanding a required management standard and for valuing five aspects of industrial development, namely physical, economic, social, environmental, and management. The assessment covered 14 requirements, including eco-efficiency.

#### 3.3.4.1 Proactive environmental performance outcomes

##### Prevention and management of leaks and spills

###### Performance

- No significant leaks or spills of oil or chemicals to the external environment.

###### Key activities

Bangchak commands preventive measures and consistently prepares its operators for efficient operation and speedy management action in case of oil or chemical spills, notably around the Chao Phraya valley down to the estuary at the Gulf of Thailand. Actions included the dispatching of the "Sri Tahrarak 8" vessel to control and collect crude oil slicks should oil be spilled into the river, which boosted the confidence of nearby communities in the safety and prevention of potential environmental impacts in case of emergencies. Bangchak operated without significant leaks or spills (more than 100 barrels each time) in keeping with its operating goal.

Bangchak remains prepared to extend support to the public sector and the Oil Industry Environment Safety Group Association (IESG) in collecting oil slicks. It is also ready to support external requests made during times of flooding or other incidents.

## Management of air pollution

### Performance

- Bangchak attracts no air pollution complaints
- All air quality parameters measured by a third party within standard limits.

### Key activities

Bangchak's clean energy policy contributed to the response to the proactive environmental management policy in reducing pollution at sources. Also, it curbed the release of pollutants from upstream sources under the ISO 14004:2015 international standard as a minimum. This year Bangchak made full use of its enclosed ground flare, thus enabling the gas sent to the flare tower to be combusted more completely, lessening air, noise, and light pollution. This year it also monitored air quality through continuous measurement by online tools installed at the vent, around work areas, and around the refinery, not to mention daily measurement of VOCs by various instruments. At the same time, a third party was commissioned to measure air quality. Finally, air quality inside the refinery and around the refinery stayed entirely within limits; no complaint about air quality arose.

## Management of waste and scrap

### Performance

- Zero waste sent for disposal via landfilling
- 99.99 percent of all waste was managed by 3Rs.

### Key activities

Bangchak leverages 7Rs (reject, reduce, reuse, recycle, recovery, rethink, repurpose) to ease environmental impacts of waste disposal and optimize the potential for using raw materials from upstream to downstream. It commands a process for hiring and procurement and selecting disposal companies and their disposal methods in a move toward the Circular Economy under the Zero Waste to Landfill policy. As a result, the refinery won certification for Standard for Zero Waste to Landfill from the Department of Industrial Works and this year leveraged 3Rs in managing 99.99 percent of all waste. Bangchak also extended the concept to its office areas, thus fostering employee awareness and participation through projects like the office paper garbage recycling project in cooperation with the network for sustainability of Thailand; "Give Me a Lunch Box" project, where discounts were given to employees who used their own lunch boxes instead of using plastic boxes; "Green Roof" project, where UHT drink containers were selected for recycling into roof sheets; and "Orphan Waste" project, where selected garbage served as power generating fuels instead of landfilling materials.

### 3.3.4.2 Performance on sustainable environment

#### Eco-efficiency

##### Performance

	2019	2020	2021	2022
Eco-efficiency	5.61	0.01	14.34	21.96

### Key activities

This year Bangchak recorded a higher eco-efficiency than last year due to the impacts of rising oil prices and refining margins in keeping with rising demand for fuels, in turn improving the performances of the entire refining industry and Bangchak. Nonetheless, the emissions of GHGs this year proved less than last year on account of project implementation for refinery energy efficiency, which illustrated Bangchak's commitment to doing business in parallel with environmental mitigation.

## Management of climate change

To address the Carbon Neutrality goal by 2030 and the Net Zero Emission goal by 2050.

### Performance

#### GHG emissions from the refinery, 2019-2022

GHG Emissions	2019	2020	2021	2022
Scope 1 (tons CO <sub>2</sub> equivalent, tCO <sub>2</sub> c)	899,697	883,878	819,696	932,378
Scope 2 (tCO <sub>2</sub> c)	8,264	4,554	5,487	5,099
Scope 3 (tCO <sub>2</sub> c)	-	279,038	422,077	600,788
<b>Total (tCO<sub>2</sub>c)</b>	<b>907,961</b>	<b>1,167,470</b>	<b>1,247,260</b>	<b>1,538,265</b>

### Key activities

- The Refinery and Oil Trading Business commanded energy management and a project to improve energy efficiency to reduce GHG emissions, including a project to install coating materials to prevent heat loss at the furnace wall, a project to improve heat exchangers, and a project to lower steam consumption and investigate and assess carbon dioxide emission through product Life Cycle Assessment (LCA).
- The Marketing Business focused on solar energy consumption, namely the use of solar-powered air conditioners in Inthanin and Dakasi outlets together with solar rooftop installation at service stations in a move toward Net Zero Service Stations. Bangchak cooperated with business partners in relentlessly installing EV chargers at Bangchak service stations on main highways and roads to accommodate the rise in EVs across all regions of Thailand.
- The establishment of platforms for electric motorcycle rentals (Winnonie) represented a Bangchak Group startup that applied green energy innovation to upgrade the quality of life of public motorcycle chauffeurs.
- The fuel transport business operated by BFPL Co., Ltd., and the LNG supply and distribution business operated by BTSG Co., Ltd. supported the business of service and sale of alternative low-carbon fuels.
- Collaboration with business partners Thanachok Oil Light Co., Ltd., and BBGI Plc to set up BSGF Co., Ltd., to engage in the production and sale of sustainable aviation fuel (SAF), derived from used cooking oil. SAF are used by the aviation sector worldwide in place of conventional fuels without any effect on engines and contribute to carbon dioxide emission by up to 82,000 tons of carbon dioxide equivalent a year.
- Investment in a startup that evolved the production of Blue Hydrogen 'Transitus' in the UK to later scale up to green hydrogen.
- Bangchak's Head Office garnered an award for lowering GHG emissions under the Low Emission Support Scheme (LESS) thanks to the company's activities on reducing power and fuel consumption and garbage-sorting for recycling.
- Formation of the Carbon Markets Club stimulated knowledge-sharing and passion for carbon credit management and trading in the Thai market. Bangchak Group and 11 founding partners expanded work and enrolled corporate and individual members. Today, 39 entities and 145 individuals have signed up. This year the club advocated carbon credit trading and certificates for being power producers from digital renewable energy to successfully lower GHG emissions by more than 400,000 tCO<sub>2</sub>c.
- A reforestation project undertaken with the Royal Forest Department, under which Bangchak received 3,172 rai from the department; a community forest conservation project in conjunction with the Mae Fah Luang Foundation, which saw Bangchak plant trees in operated areas nationwide; and mangrove reforestation in conjunction with the Department of Marine and Coastal Resources.
- Bangchak Group supported a project investigating the feasibility of using seagrass sources around Mak Archipelago with the Faculty of Fisheries, leading up to sustainable development into a low-carbon destination in conjunction with

five other agencies, namely Ko Mak Tambon Administration Organization, Ban Ao Nid Integrated Agricultural Community Enterprise, Designated Areas for Sustainable Tourism Administration (Public Organization), Kasetsart University, and Thailand Greenhouse Gas Management Organization (Public Organization) (TGO). The group defined a 3–5 year plan embracing a study of emitted GHG volumes from key activities, ways to lower GHG emissions in everyday life (garbage management, clean–energy consumption, transport, etc.), and rehabilitation–conservation of land and marine ecology for carbon sequestration.

- 12<sup>th</sup> Annual Environmental Seminar on Energy Security and Carbon Sequestration: Bangchak Group hosts this seminar every year with a theme aligning with world and business trends to underline the transition from fossil fuels to clean energy, which calls for time, capital, and suitable technologies. Essential to the speed of this energy transition is taxonomy or grouping of investment businesses that lower carbon emission and are environment–friendly and create investment values that favor carbon reduction and encourage more investment through various privileges and resources supplied by the private sector. This aligns with Bangchak Group’s new vision: Crafting a Sustainable World with Evolving Greenovation. Bangchak therefore values three balanced energy challenges, namely energy security, energy affordability, and environmental sustainability, to strike a balance between the consumption of earth’s energy (which affects carbon dioxide emission into the atmosphere) and environmental conservation as well as earth stewardship for sustainability.

### Climate change–related awards

Bangchak received the LCSB (Low Carbon and Sustainable Business) Award at the excellent level for the 2<sup>nd</sup> consecutive year from TGO. This award honors exemplary entities in the low–carbon business that drive themselves toward sustainability, focus on GHG emissions reduction, and value all aspects of sustainability (economic, environmental, and social). Bangchak takes pride in leading this energy transition while valuing energy security in parallel with access to energy affordability and earnest attempts to minimize environmental impacts, not to mention mobilization toward a low–carbon society to foster global sustainability.

### Energy consumption

#### Performance

Energy consumption in production processes equaled 4.83 percent of fuel oil equivalent per capacity.

#### Key activities

In its energy management, Bangchak continually operated under the ISO 50001 international standard. Artificial intelligence (AI) was applied to evolve corporate business processes and projects were run to improve energy management efficiency under a refinery development project this year, improving energy efficiency.

#### Fuel consumption of Bangchak Refinery, 2019–2022

	2019	2020	2021	2022
Fuel gas (liters)	136,607,978.00	131,578,519.00	101,670,730.00	126,696,298.00
Natural gas (kg)	84,916,177.00	66,868,625.00	91,834,880.70	98,251,566.00
Crude oil (barrels)	41,113,626.20	35,598,490.60	36,168,982.37	45,100,651.64



### Power consumption of Bangchak Refinery, 2019-2022

	2019	2020	2021	2022
Purchased power (kW-hours)	16,528,000	9,257,000	11,153,000	11,459,000

This year, refining units consumed 4.83 percent of fuel oil equivalent per capacity, which proved superior to the annual goal of 4.99 percent.

### Management of water

#### Performance

- Controlled water consumption per capacity at 53 million cubic meters per thousand barrels of fuel oil equivalent, exceeding the goal of 55 million cubic meters per thousand barrels of fuel oil equivalent.
- Lowered consumption of tap water by 1.56 million cubic meters, or 40.04 percent of the 3.91 million cubic meters, requirement of water for production.
- Reused/recycled water of the refinery equaled 1.56 million cubic meters.

#### Key activities

In its water management, Bangchak implemented the policy of lowering tap-water consumption in production processes at the refinery under 3Rs. It tracked and stayed vigilant about drought, floods, and changes in the water level of the Chao Phraya River; also, it reviewed risk management for water and water stress. In addition, this year the refinery implemented the following projects to improve its water efficiency:

- A project to improve the quality of tap water before entering the demineralized water production system.
- A project to reuse condensate water derived from production processes in steam boilers.
- A project to replace tap water in the Desalter Unit with stripped water from the Sour Water Stream Stripping Unit of Plant 3
- A project to reuse treated water in the cooling process.

This year the refinery's water management succeeded in accumulating water recycling of 35 percent from the 2015 base year, exceeding the goal.

### Water consumption of Bangchak Refinery, 2019-2022

	2019	2020	2021	2022
Consumption of tap water (million cu.m.)	2.49	2.04	2.10	1.75

## 3.4 Social Sustainability Management

### 3.4.1 Social Policy and Guidelines

In defining the social policy and guidelines in its operations, Bangchak strives to align with laws and regulations on social management as well as respect for human rights. To this end, it applied the Sufficiency Economy principles along with international standards on sustainability, namely UNGC, UN SDGs, and DJSI to set its Sustainability Policy. Also, in its operations, Bangchak has defined related policies for comprehensive social management (concurrently embracing mitigation and care for the environment and society). These policies include of one on human rights; safety, security, health, environment, and energy; corporate governance; anti-corruption; stewardship of employees, customers, suppliers, and contractors. An opinion and expectation survey was carried out to improve activities that address stakeholders' expectations. All along, Bangchak's key guidelines were continually improved under the guidance of organization sustainability assessment of SEC, SET, S&P Global Corporate Sustainability Assessment, and MSCI. Download the policy on corporate sustainability and human rights at



[www.bangchak.co.th/storage/document/sustainability/2019/sustainability-policy-en.pdf](http://www.bangchak.co.th/storage/document/sustainability/2019/sustainability-policy-en.pdf)



[www.bangchak.co.th/storage/document/sustainability/2020/human-rights-cpk-en.pdf](http://www.bangchak.co.th/storage/document/sustainability/2020/human-rights-cpk-en.pdf)

#### Management of human rights

Recognizing the criticality of systematic management of human rights and the environment in its operations, Bangchak does its business with respect for the rights of stakeholders, including LGBTQ+, and respect for differences in thinking and other aspects of social equality, including religion, skin color, and nationality. This extends to vulnerable population, including women, children, natives, employees, expatriate labor, contractors, suppliers, customers, and local communities and finally, the environment, all of which find adaptation in Bangchak's business. It also strives to prevent risks and potential impacts arising from infringement of human rights and the environment of stakeholders. To boost confidence in its operations with respect for human rights, Bangchak has put in place a policy on business responsibility for respecting human rights by stringently committing itself to international entities on human rights, including the UN Global Compact, ISO 26000 (related to CSR), Universal Declaration of Human Rights (UDHR), United Nations Guiding Principles on Business and Human Rights (UNGP), and Women's Empowerment Principles (WEPs). All these frame Bangchak's guidelines for the Board, management, and all other employees.

#### Management of employee stewardship

Amid global shifts in the economic, technological, social, environmental, and energy sectors—not to mention COVID-19 ramifications—Bangchak has revised its vision, mission, and core value “i am bcp” to define its business directions and approach for employee development. It still values employee stewardship under the 100XHappiness strategy so that all employees are 100 times as happy while pursuing the Bangchak 100X (centennial) entity together with keeping them safe from the ongoing COVID-19. Bangchak values talent attraction and retention and career development and career path by conducting employee engagement surveys and leveraging employees' recommendations to constant development of employee stewardship.

### Management of safety and Occupational health

Safety and health form critical business responsibility. Bangchak requires executives, employees, and contractors to take responsibility for the safety of themselves, colleagues, and communities in line with the security, safety, and health policy. It requires them to comply with the ISO 45001 (safety management) and Process Safety Management (PSM) at all times. Bangchak institutes risk assessment and measures to lower operators' health risks to ensure that Everyone Goes Home Safely Everyday.

### Management of responsibility to customers and service station operators

Bangchak's customers fall into three main groups—end users, industrial customers, and wholesale customers—in addition to business partners that operate service stations and agricultural cooperative business partners. In place is a proactive and reactive customer relationship management plan with various groups under the customer-centric marketing strategy. As for service stations, which represent a core business, Bangchak organizes a survey leading up to the Net Promoter Score (NPS) to gauge service outcomes and continually apply the score to customer care plan development.

### Management of engagement in community and social development

This management forms part of the effort to develop a better quality of life and resilience for society. Bangchak focuses on implementing the Crafting a Sustainable World with Evolving Greenovation vision with the application of innovations, technologies, and the BCG economic model (Bio Economy, Circular Economy, and Green Economy) that stresses cost-effective employment of resources to develop projects that benefit society as a whole so that they create value and worth that meet the demand of all stakeholders while supporting UN SDGs (SDG 4: Quality education, SDG 11: Sustainable cities and communities, and SDG 9: Industry, innovation, and infrastructure). This is accomplished by encouraging startups or social enterprises to become efficient and consume resources that are clean and green. Finally, SCG 8: Decent work and economic growth.



### 3.4.1.1 Goals and strategies for social management 2022

Goal	Strategies
<b>Human rights</b>	
<ul style="list-style-type: none"> <li>• No significant labor and human rights complaints</li> <li>• No significant violation and discrimination complaints</li> </ul>	<ul style="list-style-type: none"> <li>• Review business responsibility policy for respect of human rights to provide guidelines to the Board, management, and employees (policy commitment)</li> <li>• Conduct human rights impact self-assessment</li> <li>• Implement a process of stakeholder engagement with access to remedy negative impacts on human rights</li> <li>• Carry out comprehensive performance tracking of human rights</li> <li>• Carry out performance tracking for reporting to management to mount remedial action once human rights are violated, which is then reported to stakeholders</li> </ul>
<b>Employee stewardship</b>	
<ul style="list-style-type: none"> <li>• Employee engagement score of at least 67 percent</li> </ul>	<ul style="list-style-type: none"> <li>• Oversee, develop, and promote employees under the 100XHappiness strategy by establishing                         <ol style="list-style-type: none"> <li>1. Happy Stay</li> <li>2. Happy DNA under i am bcp</li> <li>3. Happy Me</li> <li>4. Happy Heart</li> </ol> </li> </ul>
<b>Safety and health</b>	
<ul style="list-style-type: none"> <li>• LTIFR = 0 (lost-time injury)</li> <li>• OIFR = 0 (total employee illness rate)</li> <li>• Fatality rate = 0 (work-related)</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise SHEE management and the ISO 45001 standard</li> <li>• Implement PSM</li> <li>• Institute ongoing safety culture transformation</li> </ul>
<b>Customer responsibility</b>	
<ul style="list-style-type: none"> <li>• Maintain No. 1 Net Promoter Score (NPS)</li> </ul>	<ul style="list-style-type: none"> <li>• Develop customer-centric marketing</li> <li>• Upgrade customers' experience through the quality of products, service stations, and services together with increased business process efficiency</li> </ul>
<b>Engagement in evolution of communities and society</b>	
<b>Communities around the refinery</b>	
<ul style="list-style-type: none"> <li>• Community engagement score of at least 86 percent</li> <li>• No community complaint</li> </ul>	<ul style="list-style-type: none"> <li>• Evolve activity format for wider benefit to communities</li> <li>• Keep close communication with communities</li> </ul>

### 3.4.2 Social performance

#### Human rights

##### Performance

- No significant labor and human rights complaints
- No significant violation and discrimination complaints.

##### Key activities

Strategies	Key activities
Revision of business responsibility policy of respect for human rights	<ul style="list-style-type: none"> <li>• Annual review. This year the policy stayed unchanged.</li> </ul>
Human rights impact self-assessment and mitigation plan	<ul style="list-style-type: none"> <li>• Annual risk assessment embracing all stakeholders across the value chain. Below are the issues of concern to stakeholders, which are found in the following risk and human rights impact mitigation measures:                             <ul style="list-style-type: none"> <li>o Management of safety in transporting refined products from terminals to service stations</li> <li>o Community stewardship (customs, tradition, folk wisdom, lifestyles, and economic/social conditions)</li> <li>o Customer service and safety of service stations</li> <li>o Hiring through labor recruiters violating requirements of labor laws, safety, and the environment</li> <li>o Violence and sexual harassment.</li> </ul> </li> </ul>
Comprehensive tracking of human rights	<ul style="list-style-type: none"> <li>• Tracked through interviews and assessment forms filled by five stakeholder groups (human rights-risk groups): no negative impacts were found</li> <li>• Conducted an audit on treatment of labor and human rights through the Supplier Code of Conduct; employees were encouraged to solve problems once human rights violation occurs on the part of suppliers. (Download the Supplier Code of Conduct at</li> </ul>



Strategies	Key activities
<p>Cultivation of responsibility and understanding of human rights</p>	<ul style="list-style-type: none"> <li>Organized a talk on Business and Human Rights for Bangchak employees, given by Prof. Emeritus Vitit Muntarbhorn of the Faculty of Law, Chulalongkorn University, an expert on human rights</li> <li>Organized talks and knowledge-sharing sessions on human rights (labor rights, human rights actions, and the Supplier Code of Conduct) for third-party agencies</li> </ul>
<p>Bargaining negotiation, disputes, and complaints</p>	<ul style="list-style-type: none"> <li>Bangchak welcomed employee representatives to communication sessions with its management through the labor union, a juristic person legally registered. The union is free to conduct activities, supported by Bangchak, and organizes quarterly discussions.</li> <li>According to regular sharing and discussions between management and the Employee Committee (representing employees), Bangchak attracted no significant labor disputes and no complaints about human rights. It did not significantly violate laws or social requirements. Finally, it has not been accused of creating negative social impacts over the past three years.</li> <li>Representatives of Bangchak management together with the Employee Committee visited the workforce of regional offices and listened to their comments</li> <li>Employees' benefits and welfare matters were modified. Communication channels (E-mails) were added between employees and the Employee Committee.</li> </ul>
<p>Performance reporting and data disclosure</p>	<ul style="list-style-type: none"> <li>Details about human rights activities were publicized through the BCP Website:</li> </ul> <div style="display: flex; align-items: center; margin-top: 10px;">  <p><a href="http://www.bangchak.co.th/en/sustainability/social-dimension">www.bangchak.co.th/en/sustainability/social-dimension</a></p> </div>

**Awards related to human rights activities: Bangchak garnered the following:**

- UN Women 2022: Thailand Women's Empowerment Principles (WEPs) Awards: 1<sup>st</sup> runner-up (in the transparency and Reporting)
- Outstanding Thai Capital Market Sustainability Model Organization Award Program Support for People with Disabilities for 2022, presented by SEC in conjunction with the Ministry of Labour, Department of Skill Development, Department of Employment, Department of Empowerment of Persons with Disabilities, Thai Listed Companies Association, and Disabilities Thailand.

## Employee stewardship

### Performance

- The employee engagement score rose to 75 percent, exceeding the target. About 98 percent of all employees took part in the survey this year.

### Key activities

Ongoing is Bangchak’s mobilization of the People Value Plan, with plan formulation on employee engagement in parallel with employee stewardship amid COVID-19 and employee engagement in defining the new core value “i am bcp”, detailed below:

- 1. Happy Stay** Bangchak now commands a Hybrid Workplace Policy for units whose work can be done from home; employees can choose to come to the office as needed and as seen fit. Work areas were modified to accommodate diverse activities and promote knowledge-sharing, including the “Suk Saran” facilities that resemble working in a garden, remodeled Canteen, and library facilities, jogging tracks and bicycle tracks around the refinery, a gym, a meditation room, and areas for various employee clubs.
- 2. Happy DNA** Bangchak encouraged employee engagement in the new i am bcp core value under the Core Value Journey Check-up program and encouraged behavior display with i am bcp core value Point activities.
- 3. Happy Me** Bangchak focused on employees’ well-being and health care, which featured key activities including development of an application that records health data; acquisition of a platform for online visits to psychiatrists; organization of a mission for health care under monthly requirements under the Health Challenge activity; and increased welfare. Such welfare consisted of medical care expenses, which are now possible for family members, and OPD medical care expenses for employees with more than one child; both parents can now exercise the OPD right. Speedier formats were introduced for reimbursement along with instant verification of such rights. Service awards were also introduced. Bangchak also issued measures and guidelines for employee stewardship under COVID-19, namely development of a system recording ATK outcomes and providing notification so that initial medication can be sent to employees’ homes; establishment of a waiting center; provision of initial self-care instruments, including oxygen meters, thermometers, and initial medication; establishment of telemedicine for doctors’ consultation during quarantine periods; supply of booster vaccines for employees and family members (parents included); and support to the company policy of vaccination dates equal work days.
- 4. Happy Heart** Bangchak provided multiple communication channels for employees, including BCP Town Hall, “PS Notes”, Facebook group (Proud to be BCP#2), and LINE Official: i am bcp It also held relationship activities among employees and executives, including the 12 Month 12 Activities, meant to forge engagement and relationship among the workforce, with a focus on giving recognition and employee value.



## HR Asia Best Companies to Work for in Asia 2022

The HR Asia Best Companies to Work for in Asia 2022 award is an international acclaim presented to such Thai companies. Bangchak won this award for its employee stewardship under the 100XHappiness approach.

**Safety and health**

**Performance**

- LTIFR was zero
- OIFR was zero
- Fatality Rate was zero
- 6 million man-hours of safe operation without lost time.

**Key activities**

Strategy	Key activities
<ul style="list-style-type: none"> <li>• In place are the SHEE management system and ISO 45001</li> <li>• In place is PSM</li> </ul>	<ul style="list-style-type: none"> <li>• Established a protocol for hazard, risks, and improvement opportunity identification.</li> <li>• Encouraged employees to identify hazards and risks by themselves through a taskforce, which defined a plan for joint inspection and advised operators. Once hazards and risks are identified, they are reported in the Safety Operation Report, with a focus on unsafe acts and unsafe conditions.</li> <li>• Organized employee check-ups upon hiring, during regular job performance, to dismissal, embracing general check-ups and health risk-based check-ups as recommended by occupational health physicians and Bangchak’s occupational health practitioners.</li> <li>• Staged medical emergency drills so that Bangchak’s emergency team and the contract hospital team may rehearse and understand their roles, thus giving them flexibility and efficiency in future coordination.</li> <li>• Monitored and measured air quality inside buildings under the recommended Singapore Standard 554:2016, ongoing since 2017.</li> </ul>
<p>Ongoing promotion of safety culture transformation</p>	<ul style="list-style-type: none"> <li>• Staged ongoing activities promoting safety on and off the job (24-hour safety). Related persons received communication, and all employees and contractors were encouraged to become aware of safety, acquire understanding, and commit themselves to safe work every day.</li> <li>• The SHEE Excellence Day activity saw awards given to employees and contractors that correctly observed work procedures, thus setting role models for others. Safety knowledge was provided through activity booths of the Safety and Occupational Health Division and supplier companies.</li> <li>• Cultivation of awareness and education through various channels, including communication through Outlook, bulletin boards, and Safety Radio Channel in the form of intelligence, knowledge, and warning signs, including promotion of employees’ need to wear PPE.</li> <li>• Life-Saving Rules Promotion featured brainstorming of employees on the Safety Committee so as to communicate the IOGP life-saving rules in a simple way and to inform contractors through monthly meetings with their safety officers.</li> </ul>

**Safety and health awards**

Bangchak won an award as an outstanding workplace for safety, health, and work environment at the national level for the consecutive year, presented by the Ministry of Labour.

## Responsibility to customers and service station operators

### Performance

- Bangchak has maintained its No.1 Net Promoter Score (NPS) since 2017.

### Key activities

Bangchak’s ongoing activities in the face of COVID-19 included

- Development of a call center system to accommodate all contacts from consumers and operators, embracing fuel ordering and Inthanin’s raw material ordering. Call center operators can work from home and can transfer lines assessing callers’ satisfaction
- Development of a system to accommodate the New Normal, namely loyalty point award with cellphone numbers, payment via QR Code scanning, wireless card swipers, and fuel ordering without lowering one’s car windowpane
- Changes in various promotional campaigns and privileges, namely point conversion from membership cards into COVID life insurance and an insurance policy for allergies against COVID-19 vaccine.

Bangchak values customers’ airing of needs and expectations at service stations, including those of industrial customers, wholesale customers, and service station operators. It develops and delivers products beyond customers’ expectations together with green products, while applying various technologies and innovations to relentless improvement of service stations, service station surroundings, and non-oil businesses (innovative service stations). As for services, Bangchak commands ongoing development of customer relationship stewardship with a focus on three aspects.

### 1. Two-way communication between customers and Bangchak

Service station customer	Industrial customer / wholesale customer	Service station operator and Inthanin Coffee outlet
<ul style="list-style-type: none"> <li>• Customer contact channels (phone and online media)</li> <li>• Call Back system for phone operators faced with fully-occupied lines or those outside work hours</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of an online communication system</li> <li>• Online surveys after service provision</li> </ul>	<ul style="list-style-type: none"> <li>• Fuel-ordering system through the call center, enabling station operators to order around the clock</li> <li>• Call Back system for phone operators</li> <li>• Phone surveys concerning satisfaction after service provision</li> <li>• LINE Group for station operators</li> </ul>

## 2. Application of digitalization in support of relationship promotion

Service station customer	Industrial customer / wholesale customer	Service station operator and Inthanin Coffee outlet
<ul style="list-style-type: none"> <li>• CRM implementation and provision of privileges for new customer groups, segmented by group (trucks and food riders). Analysis and privilege grouping based on fuel consumption and Inthanin visits by members to stimulate repurchases</li> <li>• Ordering fuels through LINE Official, payment through QR Codes, and wireless card swipers, where customers can touch credit cards without getting off the car, point accumulation by providing cellphone numbers, and point donation through mobile applications and the Takrabun menu, etc.</li> <li>• Compliance with the Personal Data Protection Act (PDPA)</li> </ul>	<ul style="list-style-type: none"> <li>• E-Tax invoice system implementation to ease customers</li> <li>• Improvement of lubricant grade database for customers to inspect lubricant products of their choice through <a href="http://www.bangchaklubricants.com">www.bangchaklubricants.com</a></li> </ul>	<ul style="list-style-type: none"> <li>• Phone CRM system development</li> <li>• Phone system development enabling call center staff to work from home, thus lowering COVID-19 infection risks; this did not affect the current manpower</li> <li>• Addition of E-Training courses for operators and service staff for more comprehensive training, with training access around the clock to develop their own work</li> <li>• Development of the E-Report system for operators and MR to access key data for speedy decision-making</li> <li>• Development of a system for raw-material ordering for Inthanin outlets through the Point of Sale</li> <li>• Development of a payment system linked to service providers at Inthanin outlets, including True Money Wallet, Dolphin Wallet, ShopeePay Wallet, and Rabbit Linepay, thus continually giving customers more ways to pay and take part in marketing promotion activities</li> </ul>



### 3. Management of relationship to maintain the current clientele and add a new clientele

Service station customer	Industrial customer / wholesale customer	Service station operator and Inthanin Coffee outlet
<ul style="list-style-type: none"> <li>• Privileges for Bangchak Membership cardholders, including bonus points for new members and extra privileges for other members, such as discounts given upon fuel price rises, double the ordinary points when refueling with diesel, and special birthday privileges</li> <li>• Extra privileges for cardholders in line with the New Normal, including turning points into COVID-19 insurance policies, using points to buy medicine and apparatus, and risk reduction through online purchases, including Grab, lineman, and Foodpanda</li> <li>• Customer base expansion along with partners (SCG, AIS Serenade, and The1Card)</li> <li>• Transfer and swap points between members along with AIS Point and MAAI. Payment for goods through the Thung Ngoen application</li> </ul>	<ul style="list-style-type: none"> <li>• Support to business operations, including knowledge- sharing on products and sale, Total Solution service, addition of equipment care, and quality assurance. Monthly visits and meetings with key customers, designed to jointly come up with sales promotional tools and grow trade networks</li> </ul>	<ul style="list-style-type: none"> <li>• Continual delivery of high-quality products, including Bangchak Hi Premium 97, Hi Premium Diesel S, and E20S EVO</li> <li>• Development of a point-swapping system to grow the customer base</li> <li>• Development of Program Bonding in support of investment service station development for complete and auxiliary businesses</li> <li>• Expansion in the service station count where digital payment is accepted</li> <li>• Expansion of partners in the online market to raise sales for Inthanin operators</li> <li>• Development of TO GO products</li> <li>• Development of an Inthanin mobile application for customers' pickup points at branches and purchase of monthly subscription packages</li> </ul>

## Engagement in community and social development

### 1. Stewardship of Bangchak's neighbors

#### Performance

- This year's community engagement score rose to 89.2 percent, exceeding the target.

#### Key activities

The Company provides various communication channels for communities living near Bangchak Refinery, such as community visits and direct phone calls from community relations staff, organizing relations activities, group chat of community committee in line application, condo residents, and teachers from schools around the refinery, organizing public relations boards in communities and condos, Bai Mai Family booklet and the Bai Mai Family facebook. In 2022, there were 332 communications covering 43,662 people from 5,098 households in 10 communities, 19 schools, and 29 condominiums.

Bangchak's community relations activities span eight aspects, namely safety, quality of life, economic, sports, public service, education, environmental, relationship promotion, and conservation of culture and customs. This year it held more than 118 activities, with about 65,139 people benefiting from them, including.

**o Safety**

Bangchak staged evacuation drills for incidents or fires and trained personnel for the use of firefighting apparatus, first aid, and preliminary lifesaving, including CPR and help to those suffering from food choking. Trainees were students, teachers, and school staff as well as condominium residents from eight communities, seven schools, and 22 condominiums around the refinery in the Phra Khanong – Bang Na area, a total of 30 training sessions and 8,705 participants.



**o Quality of life**

**Bangchak Cares, Combats COVID-19 Project**

**• Donation of preventive equipment for COVID-19 infection to refinery neighbors**

The items consisted of 20,000 boxes of hygienic masks; 18,000 sets of home-use ATKs; 50,000 liters of alcohols; 6,000 bottles of handwash alcohol gels; 12,000 boxes for hygienic masks; 5,000 red garbage bags for hazardous garbage; and 5,000 bottles of potable water to residents of communities, condominiums, families, school staff/students, and government offices around the refinery.



**• Bangchak Happiness Bags to School**

These bags were designed to lend moral support to students around the refinery and communities during school breaks under the COVID-19 situation to ease parents’ burdens for buying learning tools, pens and pencils, cloth masks, and vitamin C. Bangchak donated 13,363 sets to all students 19 schools.

**• Bangchak Happiness Kits for Teachers**

These bags were designed to lend moral support to teachers, executives, and school staff as a way of thanking them for their perseverance and care for students during the COVID-19 periods. Bangchak donated 1,000 kits to the teachers, executives, and staff from 19 schools.



**o Economic**

**Bangchak Dee Taw Jai Project (supporting community shops)**

Under this project, Bangchak enabled community shops around the refinery to earn income during the COVID-19 periods by ordering food and snacks in addition to buying community products and handicrafts for use in its activities. About 30 orders were placed, involving 130 people and totaling 853,637 Baht.

**Musical Happiness Project**

To support musicians and vocalists facing hardship during the COVID-19 periods, Bangchak launched this project to create hiring opportunities and give income to them at national CSR events. In conjunction with the Musical Association of Thailand under the Royal Patronage, Bangchak supported shows featuring artists, musicians, and vocalists on the compounds of selected Bangchak service stations, including the Si Nakarin, Phattanakan 34, and Kanchanaphisek Km. 41 branches. A total of 1.58 million Baht of revenue was collected, with participation by some 400 musicians and vocalists.

## o Education

### **Rak Pun Suk Junior Project**

With SCG Chemicals and the Happiness Sharing Foundation (Bai Mai Pun Suk), Bangchak managed this project (dealing with management of garbage and a garbage bank) by applying 3Rs and the Circular Economy at 11 schools around the refinery in Khet Phra Khanong and Bang Na (districts) and Tambon Bang Nam Phueng in Amphoe Phra Pradaeng (district) of Samut Prakan.

One training session was held this year, where project equipment (including a Green Cone fertilization tank) and a supporting budget were provided. One follow-up session at the schools was held. Bangchak found that the schools had established learning bases, where students were properly enrolled under the project, and implementation of work at each base went extremely well under the project. To illustrate, garbage was well-sorted under 3Rs, students recycled milk cartons and made pot-rests to prepare fertilizers from naturally falling leaves, and planted kitchen gardens at schools under the Phaw, Phak, Phak learning base.

### **Eco-School Project**

With the Department of Environmental Quality Promotion, Phra Khanong District Office, and Bang Na District Office, Bangchak implemented the Eco-School Project to advocate executives/science and environment teachers in 11 schools around the refinery about mastering the curriculum planning process and integration of environmental education activities under holistic environmental science.

As for this year's outcomes, Bangchak organized one learning-sharing activity to summarize and draw lessons learned from academic year 2021 and, on three occasions, followed up the outcomes of schools' work under the New Normal project plans. Participating schools developed curricula/projects/activities for this activity involving students, resulting in 11 curricula/projects/activities, including environmental study in schools, school garbage management, and school wastewater management.

## o Environment

### **Bangchak's Concern for Communities Project contributed to mitigation of particulate problems**

With the Phra Khanong district office, Bangchak presented 20,000 N95 masks to residents of communities, condominiums, school personnel, and government agencies around the refinery to ease health problems caused by PM2.5.

### **Project to support major groups of farmers keeping stingless bees of Tambon Bang Nam Phueng**

Bangchak implemented this project in Tambon Bang Nam Phueng and smaller groups in this subdistrict in Amphoe Phra Pradaeng (district), Samut Prakan. These stingless bees bring environmental and economic benefits, and their presence indicates environmental fertility and biodiversity of a given area. Bangchak supported/encouraged/developed/looked after these bees' nurseries, ranging from its support given to the growth in the number of farmers, growth in the number of hives/bees, product support/development, and research on food supplements for the bees, and so on. This year saw 60 group members/farmers households and 300 hives. A rough survey of the natural stingless bee population in the area exceeded 1,000, with 300,000 bees in nurseries.

**2. Social stewardship**

**Key activities**

Social activities to address the BCP 316 NET plan start from participating Bangchak employees. Bangchak promotes climate action behavior: garbage sorting, consumption of clean energy, and reduction in power consumption in everyday life. Such behavior forms part of their KPIs on top of CSR activities. CSR activities were aligned with natural carbon dioxide sequestration sources development in both onland and marine ecology (C: Conserving nature and society). Bangchak Group initiated its investigation and a plan on green and blue carbon in various formats that can connect with community-social development work involving various stakeholder groups (customers, communities, government agencies, academia, and NGOs) in concurrent support of the people’s quality of life. Four key models are the vehicles: reforestation, community forest conservation, reforestation-conservation of mangrove forests, and investigation of seagrass sources. Below are the projects with steady progress this year.

**Koh Mak on the Low Carbon Destination Path Project**

Bangchak Group began working on Koh Mak (Mak Island) through its support to the feasibility study on using seagrass sources in Koh Mak Archipelago, conducted with the Faculty of Fisheries. Bangchak Group therefore harbored interest in expanding this sustainability project to a scaled-up low-carbon destination along with five agencies, namely Koh Mak Tambon Administration Organization, Ban Ao Nid Integrated Agricultural Community Enterprise, Designated Areas for Sustainable Tourism Administration (Public Organization), Kasetsart University, and Thailand Greenhouse Gas Management Organization (Public Organization) (TGO). The group defined a 3–5 year plan embracing a study of GHG volumes derived from key activities, ways to lower GHG emissions in everyday life (garbage management, clean-energy consumption, transport, etc.), and rehabilitation-conservation of land and marine ecology for carbon sequestration.



**12<sup>th</sup> Annual Seminar: Energy Security and Carbon Sequestration**

Bangchak Group hosts the seminar every year with a theme aligning with world and business trends to underline the transition from fossil fuels to clean energy, which calls for time, capital, and suitable technologies. Bangchak values three balanced energy challenges, namely energy security, energy affordability, and environmental sustainability, to strike a balance between the consumption of earth’s energy (which affects carbon dioxide emission into the atmosphere) and environmental conservation as well as earth stewardship for sustainability.

**Carbon Markets Club**

The club stimulated knowledge-sharing on carbon credit management and trading in Thailand’s markets.





**BCG Economy**

Driving a low carbon society by extending the business concept of BCG Economy, focusing on resource utilization is worthwhile to develop projects that benefit society by encouraging different groups of stakeholders. It supports SDGs and reinforces its leadership in the energy transition. With the establishment of BSGF Company Limited to conduct business and sell sustainable aviation fuel (SAF) from used cooking oil to collect used cooking oil raw materials from the public through more than 40 Bangchak service stations in order to reduce oil waste into public water sources and bring resources back to produce fuel. It can be used immediately by the aviation sector around the world. This also cooperates with many partners to invite Thai people to continuously reduce waste at source using space in Bangchak service stations in Bangkok and Chonburi as a collection point for orphan waste to reduce the amount of waste going to landfills leading to a process of proper sorting and disposal. In 2022, it was able to collect more than 80 tons of orphan waste from offices and interested people. In addition, Bangchak is one of 14 partners in the project to collect boxes to build houses (Green Shelter) to invite people to deliver used UHT beverage cartons to recycle to Eco Roof, Eco Door Frame, Eco Wood, and Eco Brick (Eco Brick) for Friends of Pa Foundation, Thai Red Cross Society.

It also promotes the creation of green areas in the project “Phuet Phan Pun Suk” to honor Her Majesty the Queen Mother on her 90th birthday anniversary and National Mothers’ Day (August 12, 2022), Bangchak Group initiated this project. This was another instance of cooperation with earth conservation allies from several sectors, including Bangkok Metropolitan Administration, Expressway Authority of Thailand,



Royal Forest Department, and Tambon Bang Nam Phueng Administration Organization, to promote the creation of green areas by refinery communities. Bangchak executives and employees, and the public. The trees reflect efforts to add greenery to filter particulates and lower carbon dioxide emission through natural methods and enhance ecological balance.

As for its social work aspect, Bangchak Group’s activities remained active. It bought farm products in oversupply and at depressed prices and processed them into complimentary items for customers, including dry longans and Buai Nuan Jai (processed plum), to ease farmers’ troubles by giving them income.

**Education**

On the 5<sup>th</sup> anniversary of the establishment of the Happiness Sharing Foundation (Bai Mai Pun Suk) which develops educational activities with allies, three key projects were in operation, namely “Read and Write With Ease”, “Rak Pun Suk Junior”, “Solar Pun Suk Junior” These focus on laying a foundation for sustainability by developing youth education and environmental awareness, aligned with UN SDG 4 (quality education) and driven toward SDG 13 (climate action). In other words, we are cultivating awareness and desirable environmental behavior in line with sustainable development and national policy under the BCG Economic Model. The projects incorporated some 15,000 youths from nearly 200 schools in 52 provinces.



Please see more details from the 2022 Sustainability Report at <https://www.bangchak.co.th/en/document/sustainability-report>



## 4. Management Discussion and Analysis : MD&A

### Executive Summary

#### Key Financial Data

Refinery Business Group	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Average Crude Run (KBD)	122.6	123.2	-0.4%	112.2	9%	122.6	99.0	24%
Utilization Rate (%)	102%	103%		94%		102%	83%	
GRM (US\$/BBL)								
- Operating GRM	14.68	11.20	3.48	6.79	7.90	14.33	4.52	9.81
- Total GRM	6.64	10.45	-3.81	9.97	-3.33	11.87	8.96	2.91
Marketing Business Group								
Marketing Margin (Baht / liter) <sup>1/</sup>	0.81	1.13	-29%	0.69	17%	0.93	0.88	5%
Sales Volume (Million liters)	1,713	1,386	24%	1,379	24%	5,977	4,854	23%
Power Plant Business Group								
Electricity Sales Volume (GWh)	223.8	320.4	-30%	234.2	-4%	947.9	875.2	8%
Bio-based Product Business Group								
Sales Volume (Million liters)								
- Ethanol	37.6	40.2	-7%	51.7	-27%	141.2	179.9	-22%
- Biodiesel	63.9	46.9	36%	58.0	10%	208.5	239.1	-13%
Natural Resources Business and New Business Development Group								
Production volume-Net to OKEA (kboepd)	16.32	17.26	-5%	18.10	-10%	16.25	15.84	3%
Realized liquids price (US\$/BBL)	95.20	106.60	-11%	78.00	22%	98.40	65.30	51%
Realized gas price (US\$/mmbtu)	20.06	34.71	-42%	31.44	-36%	24.68	17.56	41%

Note: 1/ Marketing Margin of Bangchak and BGN (excluding Inventory gain/(loss) and net realizable value (NRV))

Unit: THB Million	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
<b>Total Revenue</b>	<b>84,583</b>	<b>74,767</b>	<b>13%</b>	<b>66,762</b>	<b>27%</b>	<b>312,202</b>	<b>199,417</b>	<b>57%</b>
Refinery and Trading Business <sup>1/</sup>	74,664	62,137	20%	56,544	32%	270,268	173,644	56%
Marketing Business <sup>2/</sup>	53,892	44,694	21%	36,362	48%	184,938	117,268	58%
Power Plant Business <sup>3/</sup>	1,267	1,544	-18%	1,232	3%	5,405	4,669	16%
Bio-Based Products Business <sup>4/</sup>	3,270	2,951	11%	4,001	-18%	13,373	14,095	-5%
Natural Resources Business and New Business Development <sup>5/</sup>	5,486	7,776	-29%	6,271	-13%	23,583	10,093	134%
Eliminations and others	(53,995)	(44,334)	22%	(37,647)	43%	(185,365)	(120,352)	54%
<b>Accounting EBITDA</b>	<b>6,951</b>	<b>11,487</b>	<b>-39%</b>	<b>9,281</b>	<b>-25%</b>	<b>44,724</b>	<b>25,818</b>	<b>73%</b>
Refinery and Trading Business	2,207	4,131	-47%	3,084	-28%	17,864	9,363	91%
Marketing Business	120	203	-41%	255	-53%	2,909	2,614	11%
Power Plant Business	1,003	1,209	-17%	1,038	-3%	6,400	4,193	53%
Bio-Based Products Business	146	35	321%	255	-43%	617	1,863	-67%
Natural Resources Business and New Business Development	3,769	6,064	-38%	4,832	-22%	17,625	8,251	114%
Eliminations and others	(294)	(155)	90%	(184)	60%	(691)	(466)	49%
<b>Profit attributable to owners of the parent</b>	<b>473</b>	<b>2,470</b>	<b>-81%</b>	<b>1,756</b>	<b>-73%</b>	<b>12,575</b>	<b>7,624</b>	<b>65%</b>
<b>Earnings (Loss) per share (Baht)</b>	<b>0.26</b>	<b>1.73</b>		<b>1.20</b>		<b>8.89</b>	<b>5.25</b>	

## Executive Summary

Note: 1/ EBITDA from Refinery and Trading Business of the company (BCP), BCP Trading Pte. Ltd. (BCPT), Bangchak Fuel Pipeline and Logistic Co., Ltd. (BFPL), BSGF Co., Ltd (BSGF) and others  
 2/ EBITDA from Marketing Business of the company (BCP), Bangchak Green Net Co., Ltd. (BGN), Bangchak Retail Co., Ltd., (BCR) and others  
 3/ EBITDA from Power Plant Business of BCPG Plc. (BCPG Group)  
 4/ EBITDA from Bio-Based Products Business of BBGI Plc. (BBGI Group)  
 5/ EBITDA from Natural Resources Business and New Business Development of OKEA ASA (OKEA), BTSG Co., Ltd. (BTSG), BCP Innovation Pte. Ltd. (BCPI) and others

For the year 2022, the company and its subsidiaries (“Bangchak Group”) emerged strongly from COVID-19 crisis with the highest performance ever with revenue from sales and services of THB 312,202 million (+57 % YoY) and EBITDA of THB 44,724 million (+73% YoY). As a result, **net profit attributable to owners of the parent is THB 12,575 million** (+65% YoY), representing **earnings per share of THB 8.89**. Key operating results of each business group are as follows:



### Refinery and Oil Trading Business Group

#### EBITDA +91% YoY

(+) Higher Operating GRM which increased by US\$ 9.81/BBL YoY to US\$ 14.33/BBL, as crack spreads for all finished products increased in tandem with higher demand and tightened supply due to Russia-Ukraine conflict. While crack spread for Diesel-Dubai (GO-DB) increased significantly.

(+) Bangchak refinery has maintained high production levels at 123 KBD throughout the year.

(-) Recognized higher loss from crude oil and product forward contracts compared to the previous year from the hedging of crack spreads risks. Moreover, in 2022, the Refinery Business recognized lower inventory gain compared to 2021 due to the lower crude oil price volatility and declining during the second half of 2022 while oil price increased throughout the year in 2021.

(+) For oil trading business, BCPT business has continued to grow. In 2022, the trading transaction of crude oil and refined products increased 15% YoY and gross profit increased from higher proportion of transactions with counterparties outside of Bangchak Group (Out-Out), resulting in an increased in EBITDA of 83% YoY to reach its highest record at THB 442 million.

(+) The company expanded its business into fuel pipeline transportation and logistics network through BFPL, which operates pipeline system transportation from Bangkok to the Bang-Pa-In oil depot. As well as a network to transport jet fuel to Suvarnabhumi and Don Mueang airports has been implemented since January 1<sup>st</sup>, 2022. This pipeline business endeavors to reduce fuel transportation costs and carbon dioxide emissions from vehicle transport, aligning with the company's vision that emphasizes sustainable, innovative business development in harmony with the environment and society.

## Executive Summary

In addition, BSGF has established a Sustainable Aviation Fuel (SAF) unit at the Bangchak Refinery with an initial production capacity of 1 million liters per day. The unit is expected to serve domestic and international flights by Q4/2024.



### Marketing Business Group

#### EBITDA +11% YoY

(+) Sales volume from the Marketing Business increased 23% YoY from demand recovery as well as the company's efforts to meet customers' needs. In addition, the opening up of countries over the world drove jet fuel sales by 148% YoY. While total marketing margin per liter increased 5% YoY to 0.93 Baht/liter, mainly from an increase in industrial marketing margin from higher diesel and lubricants demands.

(-) Recognized lower inventory gain compared to 2021 due to the declining of finished product prices during the second half of 2022 while finished product price increased throughout the year in 2021.

(+) Cumulative market share, all channels and all products in 2022, was 10.9% compared to 10.1% from the previous year.

(+) At the end of 2022, the number of service stations grew steadily to 1,343 stations (+66 stations YoY). For Non-Oil business, Inthanin Coffee experienced rapid expansion with 1,002 branches in operation (+ 185 branches YoY) and Dakasi Bubble Tea branches in service stations increased to 51 branches. In addition, the company expanded partnerships with food services providers to open shops in service stations to serve modern customers' lifestyles. This was recognized by Bangchak having received Superbrands Thailand award for the fifth consecutive year and BCR receiving the award for Inthanin Coffee for the second consecutive year.



### Power Plant Business Group

#### EBITDA +53% YoY

(+) Recognized gain from the sale of all investments in Star Energy Group Holdings Pte. Ltd ("SEGHPL") THB 2,031 million in Q1/2022, resulting in the decline of recognition of share of profit from investments in associate company by THB 470 million YoY.

(+) Performance for normal operations increased from solar power plants in Japan which generated 373% YoY more electricity from the COD of 3 new solar power plant projects; namely, Chiba 1 (COD November 1<sup>st</sup>, 2021), Komagane (COD March 29<sup>th</sup>, 2022), and Yabuki (COD April 15<sup>th</sup>, 2022).

## Executive Summary



### Bio-Based Products Business Group

EBITDA -67% YoY

(-) There was a recognition of gain on fair value adjustment of investment in the amount of THB 616 million in 2021. In terms of normal operating results, performance was deteriorated due to lower sales volume from the Ethanol business.



### Natural Resource Business Group and New Business Development

EBITDA +114% YoY

(+) OKEA's EBITDA increased 82% YoY from higher average selling price of oil and natural gas liquid (liquids price) and natural gas price (gas price) which increase 51% YoY and 41% YoY, respectively, in line with higher demand from the global market.

Since 1<sup>st</sup> November 2022, OKEA has completed the acquisition of Winterdhall Dea Norge As, resulting OKEA became an operator of the Brage field with 35.2% and increased ownership to 6.5% stake in the Ivar Aasen field and 6.0% interest in the Nova field, which these acquisitions expanded OKEA's portfolio which OKEA anticipated to have a production capacity of 22,000-25,000 barrels per day in 2023.

In Q4/2022, Bangchak Group recorded revenue from sales and rendering of services in the amount of THB 84,583 million (+13% QoQ, +27% YoY), with EBITDA of THB 6,951 million (-39% QoQ, -25% YoY). This quarter's revenue was impacted by lower global energy prices, resulting in inventory loss of THB 4,003 million (including loss on net realized value (NRV)). **Net profit attributable to owners of the parent in Q4/2022 was THB 473 million** (-81% QoQ, -73% YoY) or **earnings per share of THB 0.26**. Key performance results of each business group are as follows.



### Refinery Business Group

EBITDA - 47% QoQ

(-) The decline of crude oil price, resulting in inventory loss of THB 3,818 million (including loss on net realizable value (NRV)); higher than Q3/2022 which had Inventory loss of THB 1,996 million.

EBITDA -28% YoY

(-) Recognition of Inventory loss this quarter as global crude oil price declined while in Q4/2021 Inventory gain was THB 1,355 million.

(+) Improved normal operations from Higher Operating GRM which increased by US\$ 7.90/BBL YoY in tandem with significantly higher crack spreads of diesel product.

## Executive Summary

<p>(-) Recognition of gain from crude and oil products forward contract declined QoQ due to declining trend crack spreads.</p> <p>(+) Improved normal operations from Operating GRM increased to US\$ 14.68 /BBL, mainly as diesel crack spread improved in line with global market which diesel is the highest product yield of Bangchak refinery product yield.</p>	<p>(+) Average crude run increased 9% YoY</p> <p>(+) Recognition of gain from crude oil and oil product forward contracts of US\$ 1.22/BBL while in Q4/2021 recognized a loss of US\$ 0.72/BBL</p>
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### Marketing Business Group

EBITDA -41% QoQ	EBITDA -53% YoY
<p>(-) Marketing margin per unit decreased 0.32 baht/liter from lower retail marketing margin, as the Government continued to limit retail diesel prices as well as the company's campaign to freeze retail oil prices during the New Year holidays.</p> <p>(+) Total sales volume increased 24% QoQ, mainly accelerated by retail expansion plan, coupled with seasonal factors, when December's sales volumes were the highest ever recorded.</p>	<p>(-) Recognized Inventory loss in Q4/2022 where as in Q4/2021 recognized Inventory gain. In addition, this quarter's marketing costs of sales and services increased in line with higher sales volume.</p> <p>(+) Marketing margin per unit and sales volume increased 17% YoY and 24% YoY, respectively, due to the increase in domestic demand as well as effective sales management.</p>



### Power Plant Business Group

EBITDA -17% QoQ	EBITDA -3% YoY
<p>(-) Electricity sales volume from hydropower plant project in Laos declined 43% QoQ due to plant shutdown in December in preparation to selling electricity to Vietnam Electricity (EVN) together with the seasonal factor as Hydropower generation entering into low season.</p>	<p>(-) Recognized share of profit from investments in associates company declined by THB 138 million YoY as a result of divestment from geothermal power projects of SEGHPL in March 2022.</p> <p>(+) Electricity sales volume from solar power plants in Japan increased 149% YoY from the COD of 3 projects as stated earlier.</p>



## Executive Summary



### Bio-Based Products Business Group

EBITDA + 321 % QoQ	EBITDA -43% YoY
(+) Performance recognition from Biodiesel Business (B100) increased, mainly from higher sales volume in line with higher blending mandate from B5 to B7 announced by the Committee of Energy Policy Administration (CEPA) announcement on 10 <sup>th</sup> October 2022.	(-) Performance recognition of Biodiesel business (B100) declined mainly from lower B100 sales price in line with lower crude palm oil price as well as glycerin, a by-product, which also experienced price decline.



### Natural Resource Business Group and New Business Development

EBITDA -38% QoQ	EBITDA -22% YoY
(-) Average selling price of liquid, and natural gas from OKEA declined, especially natural gas price which declined 42% QoQ. In Q4/2022, the winter season in European came abnormally late as well as high of gas storage level in Europe.	(-) OKEA's gas price declined 36% YoY in line with global market as this quarter Europe experienced a later-than-usual winter as well as high natural gas storage level in Europe.

On 27<sup>th</sup> October 2022, due to the continued recovery of operating results and a significantly improved financial position, TRIS Rating Co., Ltd. upgraded the company rating to “A” from “A-“ while BCPG, a major subsidiary, and BBGI, another subsidiary, were upgraded to “A” (from “A-“) and “A-“ (from “BBB+”), respectively.

**Financial Position as of 31<sup>st</sup> December 2022**, Bangchak Group had cash and cash equivalents of THB 45,932 million and **total assets of THB 242,344 million**, an increase of THB 40,559 million when compared to 31<sup>st</sup> December 2021, Bangchak Group with **total liabilities of THB 158,966 million** which increased by 26,740 million Baht and **total equity of THB 83,378 million**, an increase of THB 13,819 million. Total equity attributable to owners of the parent was THB 62,704 million.

In November 2022, Bangchak announced the change of the corporate logo to align with vision and strategy of the company, the new logo represents energy innovations that drive the future endlessly, in line with the vision of " **Crafting a Sustainable World with Evolving Greenovation**" and mission “**We commit to accelerate sustainable energy transition, while balancing energy security. We are energizing lives through greenovative solution and promoting ESG for all**”.

The company focuses on business growth by balancing energy security for the country and the transition to clean energy, which Bangchak has formulated a roadmap (BCP 316 NET), efficiency improvement and production procedures, which reduces carbon emissions, in order to achieve carbon neutrality by 2030 and Net Zero GHG

## Executive Summary

Emissions by 2050. As evidence of its global leadership in sustainability, the company has received “AA” rating from MSCI ESG Rating 2022, ranked in the ESG Leader Group for the 5<sup>th</sup> consecutive year, where “AA” is the highest rating of Thai companies in the same industry. The company continues to strive toward business operating in line with ESG principles to achieve 100 years old sustainable organization goal or “Bangchak100X”.

## Other importance events until present

### March 2022

- BBGI, a subsidiary of company, completed its Initial Public Offering (“IPO”) by issuing 433.20 million new ordinary shares with an offering price of THB 10.50 per share (par value of THB 2.50 per share) in the amount of THB 4,549 million. As a result of IPO, the company’s ownership interest in BBGI was 42.02%. In addition, during the period, the company purchase additional ordinary shares of BBGI which resulted in the company’s ownership interest at 45.0% as of 31<sup>st</sup> December 2022.

- The company and BCPG notified the Stock Exchange of Thailand in regard to the acquisition of Oam Suk Social Enterprise Co., Ltd. In 2022 as planned. The company raise its registered capital from THB 10 million to THB 126 million which is approximately THB 62.5 million. Consequently, the company held 50.4% from 40%. In addition, BCPG has already settled payment of THB 62.5 million, resulting BCPG held 49.6%. The investment will be used as an investment in Sukpracha Housing Project together with the National Housing Authority, which aligns with the strategic direction and business goals in tandem with social stewardship of the Bangchak Group and Oam Suk Social Enterprise Co., Ltd.

- On 3<sup>rd</sup> March 2022, BCPG disposed 33.33% shares of Star Energy Group Holdings Pte Ltd. (“SEGHPL”) to Springhead Holdings Pte Ltd. In the amount of USD 440 million (or an equivalent of THB 14,551.32 million based on exchange rate of THB 33.06/USD). The proceed from the divestment will be supported in new investment of renewable projects, increasing BCPG’s investment ability in the future.

- On 29<sup>th</sup> March 2022, BCPG successfully achieved the commercial operations of a solar power plant project in Komagane, Japan. The Komagane project is located in Nagano province and has a PPA of 25 MW at the Feed-In-Tariff rate of JPY 36 per kWh with Chubu Electricity Power Company for 20 years.

### April 2022

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

- On 1<sup>st</sup> April 2022, the solar rooftop project at Chiang Mai University (“CMU Project”) under CMU Smart City started the COD of phase 2 with an installed capacity of 1.3 MW. The second phase is located in Suan Dok area, Chiang Mai province, operated by Thai Digital Energy Development (“TDED”), a subsidiary of BCPG with a 75 % stake. The recent COD of the phase 2 project increases the operating contracted capacity to 9.8 MW.

- On 15<sup>th</sup> April 2022, BCPG successfully achieved the commercial operations of a solar power plant project in Yabuki, Japan. The Yabuki project is located in Fukushima province and has a PPA of 20 MW at the FIT

## Other importance events until present

rate of JPY 36 kWh with Tohoku Electricity Power Company for 20 years. As of April 2022, BCPG's total operating capacity in Japan is 79.7 MW, with a developing capacity of 10 MW.

### June 2022

- The company notified the Stock Exchange of Thailand in regards to the disposition of shares in the subsidiary company, registered capital, and change in the company name, as the Board of Directors approved an investment in land loan and consignment business to extend the Mee Tee Mee Ngerm Project, to increase liquidity for those affected from COVID-19 pandemic and solve informal debt problems. The company has negotiated with business partners, Government Savings Bank and Dhipaya Group Holdings Public Company Limited ("TIPH") as follows:

- BCBV Biobased Co., Ltd. ("BCVB") (a wholly-owned subsidiary of the company and registered capital THB 20 million is a joint venture company. Also, BCBV registered the change of the company name to Mee Tee Mee Ngerm Co., Ltd.
- The company sold its shares in BCBV to the Government Savings Bank and TIPH. Consequently, the company, Government Savings Bank and TIPH will hold 20%, 49% and 31% of Mee Tee Mee Ngerm Co., Ltd.'s shares respectively. After that, BCBV increased the registered capital to THB 1,000 million in proportion, resulting in Mee Tee Mee Ngerm Co., Ltd. becoming an associate of the company.

- The company notified the Stock Exchange of Thailand in regards to the investment of the company, as the Board of Directors has approved the Digital Business Transformation Plan By applying digital technology to achieve the goal of business growth, the company therefore negotiated with its business partner, MFEC Public Company Limited ("MFEC") and reached an agreement as follows:

- The company jointly invested in Data Cafe Company Limited ("DC"), with the registered capital of THB 12.3 million DC and is an associate also held by MFEC, operating IT consulting services, research, and analysis of all types of business data, as well as providing IT service to business enterprise.
- The Company holding 35% shares in DC and DC becoming an associate of the company.

### August 2022

- The company announced its interim dividend payment for the first six-month period of 2022 to the company's shareholders at THB 1.25 per share, totaling THB 1,697 million. The dividend has been paid to the shareholders on 13<sup>th</sup> September 2022.

## Other importance events until present

- The company issued Name-Registered, Unsubordinated and Unsecured Debentures with Debentureholders' Representative to Institutional Investors and/or High Net Worth Investors in the amount of THB 10,000 million. The debentures were split into 3 series with tenors of 3, 5 and 10 years under fixed coupon rate of 2.84%, 3.26% and 4.00%, respectively.

- The company notified the Stock Exchange of Thailand in regards to the establishment of BSGF Co., Ltd. ("BSGF"), a joint venture with BBGI Plc. ("BBGI") (a subsidiary of the company) and Thanachok Oil Light Co., Ltd. The objective is to secure raw materials and production together with distribution of sustainable aviation fuel (SAF) from used vegetable oil with initial registered capital has a value of THB 1.0 million and plan for capital increase afterward. The company, BBGI and Thanachok Oil Light Co., Ltd. will hold 51%, 20% and 29% of BSGF's shares respectively.

### October 2022

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

- On 19<sup>th</sup> October 2022, the company increased the capital in BCV Energy Co., Ltd. with the amount of THB 1,000 million (THB 10 per share). The objective is to invest in the suitable business.

### November 2022

- On 1st November 2022, OKEA has completed the acquisition of Wintershall Dea Norge AS's 35.2% interest in the Brage field, 6.5% interest in the Ivar Aasen field, as well as a 6.0% interest in the Nova development field. The acquisition also included the operatorship of Brage oil field. The total value of the transaction amounts to NOK 1.1 billion (approximately THB 4 billion). Therefore, OKEA's total production to 25,000 – 27,000 boepd in 2023 – 2024.

### January 2023

- BCPG signed the agreement to acquire all shares in Asia Link Terminal Company Limited, with the consideration not exceeding THB 9,000 million, to invest in an oil terminal and seaport business from Pan Asia Storage & Terminal Company Limited. BCPG anticipates that the completion of this transaction can occur approximately in the first quarter of 2023.

- the Board of Directors meeting of BCPG, which approved the establishment of a subsidiary in the United States of America, and the investment in combined cycle gas turbine power plants. Subsequently, the subsidiary was completed establishment and entered into a share purchase agreement for acquisition of 49% of



## Other importance events until present

the membership interest in AP-BCPG CCE Partners LLC (“AP-BCPG CCE”) from AP Carroll County Holdings LLC (“APCCH”) and acquisition of 49% of the membership interest in AP-BCPG SFE Partners LLC (“AP-BCPG SFE”) from AP South Field Holdings LLC (“APSFH”) with total amount of not exceeding USD 115 million, to acquire a generation capacity of 150.98 MW, proportionated to the membership’s interest.

- The company signed the Share Purchase Agreement with ExxonMobil Asia Holdings Pte. Ltd. to directly acquire a total of 2,283,750,000 ordinary shares (equivalent to approximately 65.99% of total issued shares). The transaction is expected to be completed in the second half of 2023.

### February 2023

- At the Board of Directors’ meeting, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2022 dividend payment at the rate of THB 2.25 per share of which THB 1.25 per share was paid as an interim dividend. Thus, the remaining dividend will be at the rate of THB 1.0 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 11 April 2023.

# Statement of Income

Consolidated Statement of Income (THB Million)	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Revenue from sale of goods and rendering of services	84,584	74,767	13%	66,762	27%	312,202	199,417	57%
Cost of sale of goods and rendering of services	(78,063)	(65,491)	19%	(57,473)	36%	(265,933)	(175,744)	51%
<b>Gross Profit</b>	<b>6,521</b>	<b>9,276</b>	<b>-30%</b>	<b>9,289</b>	<b>-30%</b>	<b>46,269</b>	<b>23,673</b>	<b>95%</b>
Other income	578	455	27%	228	154%	1,854	1,278	45%
Selling and administrative expenses	(3,352)	(2,109)	59%	(2,466)	36%	(9,204)	(7,152)	29%
Exploration and evaluation expenses	(679)	(68)	899%	(344)	97%	(1,188)	(516)	130%
Gain (loss) from derivatives	1,147	1,459	-21%	133	762%	(5,136)	(1,274)	303%
Gain (loss) on foreign exchange	242	215	N/A	(76)	N/A	1	250	N/A
Gain (loss) from fair value adjustment of investment	-	5	N/A	(4)	N/A	10	614	N/A
Gain from sale of investment	-	-	N/A	(2)	N/A	2,031	120	N/A
Loss from impairment of assets	(786)	(2,214)	N/A	(1,758)	N/A	(2,433)	(1,358)	N/A
<b>Profit (loss) from operating activities</b>	<b>3,671</b>	<b>7,019</b>	<b>-48%</b>	<b>5,000</b>	<b>-27%</b>	<b>32,204</b>	<b>15,635</b>	<b>106%</b>
Finance costs	(1,005)	(1,093)	-8%	(809)	24%	(3,977)	(2,539)	57%
Impairment gain and reversal of impairment loss (impairment loss) determined in accordance with TFRS 9	(8)	1	N/A	(29)	N/A	(411)	(30)	N/A
Share of profit (loss) of associates and joint ventures accounted for using equity method	5	42	N/A	158	N/A	188	1,041	N/A
<b>Profit (loss) before income tax expense</b>	<b>2,663</b>	<b>5,969</b>	<b>-55%</b>	<b>4,320</b>	<b>-38%</b>	<b>28,004</b>	<b>14,106</b>	<b>99%</b>
Tax income (expense)	(1,410)	(3,062)	-54%	(1,756)	-20%	(12,852)	(4,263)	201%
<b>Profit (loss) for the period</b>	<b>1,253</b>	<b>2,907</b>	<b>-57%</b>	<b>2,564</b>	<b>-51%</b>	<b>15,152</b>	<b>9,843</b>	<b>54%</b>
Owners of the parent	473	2,470	-81%	1,756	-73%	12,575	7,624	65%
Non-controlling interests	780	437		811		2,577	2,221	
<b>Basic earnings per share (Baht)</b>	<b>0.26</b>	<b>1.73</b>		<b>1.20</b>		<b>8.89</b>	<b>5.25</b>	
Net profit from normal operations (excluding extraordinary items)	2,282	2,711	-16%	593	285%	11,547	1,484	678%

## Statement of Income

### Performance of 2022 compared to 2021

**Total revenue from sales and services** was THB 312,202 million, increased 57% YoY, mainly from oil-related businesses revenue from higher average selling prices of crude and refined products in line with global prices as well as increase in sales volume. In addition, the Natural Resources business group benefited from higher average liquid and natural gas prices, which increased 51% YoY.

**Gross profit** was THB 46,269 million, increased 95% YoY, thanks to US\$ 9.81 /BBL increase of operating GRM of Refinery Business to achieve at US\$ 14.33 /BBL. This was mainly from higher crack spread of all products in line with the global market.

**Selling and administrative expenses** were THB 9,204 million, increased 29% YoY, mainly from expenses related to business growth and employee-related expenses.

**Profit from derivatives** was THB 5,136 million, mainly from the recognition of losses from crude oil and refined products futures contracts.

Unit: THB Million	2022	2021	YoY (%)
<b>Extraordinary items</b>	<b>43</b>	<b>6,497</b>	<b>-99%</b>
Main items as follows:			
Inventory Gain (including loss on net realizable value (NRV))	1,708	6,698	
Loss on impairment of assets	(2,433)	(1,358)	
Loss from unrealized of derivatives	(992)	(230)	
Gain from sale of investment	2,031	120	

- **Gain from inventory gain (including loss on net realizable value (NRV))** decreased due to the lower global crude oil prices volatility and declining in the second half of 2022.
- **Loss from impairment of assets** from the impairment of OKEA's asset due to the revision of reserve volumes of Yme field.
- **Unrealized gains from derivatives** mainly from fair value measurement of crude and refined products futures contracts.
- **Gain from sale of investment** from sold all investments in SEGHPL, recognized in profit of THB 2,031 million.

**Finance cost** was THB 3,977 million, increased 57% YoY, from the company's debenture issuance in Q4/2022 together with higher interest rates in the market.

## Statement of Income

**Income tax expense** was THB 12,852 million, increased 201% YoY, in line with improved performance of the petroleum related business and natural resources businesses. In addition, the recognition of OKEA performance for the full year. The effective tax rate was 45.9%, increased from 30.2% in the previous year.

**Net profit attributable to the owners of the parent** was THB 12,575 million, increased 65% YoY, with basic earning per shares of THB 8.89, up from THB 5.25 per share in previous years.

**Net profit from normal operation (excluding extraordinary items)** was THB 11,547 million, increased 678% YoY.

### Performance of Q4/2022 compared to Q3/2022

**Total revenue from sales and services** was THB 84,584 million, increased 13% QoQ, mainly driven by oil-related businesses which increased from higher sales volume as this quarter was in travel season.

**Gross profit** was THB 6,521 million, declined 30% QoQ, mainly from the Natural Resources business where the selling price of OKEA's natural gas dropped 42% QoQ.

**Selling and administrative expenses** were THB 3,351 million, increased 59% QoQ, mainly from employee-related costs, consultants fees, and cost related to sales volumes which rose in line with the increase in revenue from sale.

**Profit from derivatives** was THB 1,147 million, mainly from gains on fair value measurement of crude and refined products price futures contracts in accordance with accounting standards.

Unit: THB Million	Q4/2022	Q3/2022	QoQ (%)
<b>Extraordinary items</b>	<b>(2,781)</b>	<b>(2,323)</b>	<b>20%</b>
Main items as follows:			
Inventory Loss (including loss on net realizable value (NRV))	(4,003)	(2,682)	
Loss on impairment of assets	(786)	(2,214)	
Gain from unrealized of derivatives	1,774	2,353	

- **Loss from inventory loss (including loss on net realizable value (NRV))** was due to the decline in global crude oil prices.
- **Loss from impairment of assets** was due to the impairment of OKEA's assets as a result of the adjustment in Yme's petroleum reserve since Q3/2022. Bangchak Group recognized such losses after taxes and according to equity share was approximately THB 90 million in Q4/2022 and THB 222 million in Q3/2022.

## Statement of Income

- **Unrealized gains from derivative** was mainly from the decline of recognition of gains from fair value measurement of crude and refined products futures contracts in accordance with accounting standards due to lower crack spreads compared to the previous quarter.

**Income tax expense** was of THB 1,410 million, decreased 54% QoQ, mainly from lower profits from the Natural Resources and oil-related businesses. The effective tax rate was similar to the previous quarter.

**Net profit attributable to the owners of the parent** was THB 473 Million, decreased 81% QoQ, with basic earning per shares of THB 0.26.

**Net profit from normal operations (excluding extraordinary items)** was THB 2,282 million, decreased 16% YoY.

### Performance of Q4/2022 compared to Q4/2021

**Total revenue from sales and services** was THB 84,584 million, increased 27% YoY, mainly from revenue of oil-related businesses thanks to higher average selling prices of crude oil and refined products as well as from higher sales volumes.

**Gross profit** was THB 6,521 million, declined 30% YoY, mainly from the Refinery Business even though operating GRM increased by US\$ 7.89 /BBL YoY to US\$ 14.68 /BBL. However, Inventory loss (including loss on net realized value (NRV)) was 9.28 US\$/BBL resulted in lower gross profit.

**Selling and administrative expenses** were THB 3,351 million, increased 36% YoY, mainly from employee-related costs, consultants fees, and cost related to sales volume which increased in line with increase in revenue from sale.

**Profit from derivatives** was THB 1,147 million mainly from gains on fair value measurement of crude and refined products price futures contracts in accordance with accounting standards.

Unit: THB Million	Q4/2022	Q4/2021	YoY (%)
<b>Extraordinary items</b>	<b>(2,781)</b>	<b>405</b>	<b>-787%</b>

Main items as follows:

Inventory Loss (including loss on net realizable value (NRV))	(4,003)	1,553
Loss on impairment of assets	(786)	(1,758)
Gain from unrealized of derivatives	1,774	721

- **Loss from inventory loss (including loss on net realizable value (NRV))** was due to the decline in global crude oil prices in Q4/2022 Inventory gain in Q4/2021.
- **Loss from impairment of assets** mainly from the impairment of OKEA's asset as a result of the adjustment in reserve of the Yme field.
- **Unrealized gains from derivatives** increased due to declining in crack spread comparing to the YoY.



## Statement of Income

**Financial Cost** was THB 1,005 million, increased 24% YoY, mainly from the company's debenture issuance in Q4/2022 together with higher interest rates in the market

**Income tax expense** was THB 1,410 million, decreased 20% YoY, mainly from lower profits from the Natural Resources and oil-related businesses.

**Net profit attributable to the owners of the parent** was THB 473 Million, decreased 73% YoY, with basic earning per shares of THB 0.26.

**Net profit from normal operations (excluding extraordinary items)** was THB 2,282 million, increased 285% YoY.

## Performance by Business Group



### 1) Refinery and Oil Trading Business Group

#### Crude Oil and Crack Spread Situation

Crude Oil Price (US\$/BBL)	Q4/2022	Q3/2022	QoQ +/-	Q4/2021	YoY +/-	2022	2021	YoY +/-
Dubai (DB)	84.77	96.68	-11.91	78.27	6.50	96.38	69.39	26.99
Dated Brent (DTD)	88.87	100.84	-11.96	79.76	9.11	101.32	70.91	30.40
DTD-DB	4.10	4.16	-0.05	1.49	2.61	4.94	1.53	3.41
Crack Spread (US\$/BBL)	Q4/2022	Q3/2022	QoQ +/-	Q4/2021	YoY +/-	2022	2021	YoY +/-
UNL95-DB	9.53	13.07	-3.54	15.44	-5.91	18.74	11.11	7.63
IK-DB	33.51	32.43	1.08	10.21	23.30	30.51	5.86	24.65
GO-DB	39.29	35.23	4.06	11.45	27.84	34.49	6.73	27.75
LSFO-DB	8.26	13.37	-5.11	8.69	-0.43	15.02	7.59	7.44

Average Dubai price in Q4/2022 declined 11.91 US\$/BBL compared to Q3/2022, pressured by the concern over global economic slowdown and COVID-19 situation in China, where the number of people infected with the disease increased sharply after the Chinese government lifted restriction measures which impacted crude oil demand. Average Dubai crude oil price in 2022 increased 26.99 US\$/BBL compared to 2021 due to the impacts from Russia-Ukraine war which created uncertainties on crude oil supply, while global demand recovered following the reopening of economic activities.

Average Dated Brent and Dubai spread (DTD-DB) in Q4/2022 declined by 0.05 US\$/BBL compared to Q3/2022 from the impact of interest rate hikes to control inflation to the European economy as well as warmer than the usual temperature in European winter which reduced demand for Brent crude oil. Average Dated Brent and Dubai spread (DTD-DB) in 2022 increased by 3.41 US\$/BBL compared to 2021 due to uncertainties in European crude oil supply. The sanctions on crude oil imports from the Russia after Russia-Ukraine war began raised the demand for Dated Brent crude oil, resulting in higher DTD-DB.

**1. Gasoline and Dubai crack spread (UNL95-DB)** average in Q4/2022 declined compared to Q3/2022, pressured by high supply as China increased export quota for finished products in 2022, while demand in Asia slowed down and demand in the United States declined as the driving season ended. Average Gasoline and Dubai crack spread (UNL95-DB) in 2022 increased compared to 2021 as COVID-19 restrictions eased which supported the increase in driving activities. **2. Jet (Kerosene) - Dubai crack spread (IK-DB)** average in Q4/2022 increased compared to Q3/2022 supported by the increase in the number of flights, especially during the New Year holidays. On top with, Kerosene demand for heating during winter season, especially in North Asia which experienced abnormally low usual temperature. Jet (Kerosene) - Dubai crack spread (IK-DB) average in 2022 increased compared to 2021 from the lifting of COVID-19 restrictions and countries opening up supported

## Performance by Business Group

demand from the aviation industry. **3. Diesel and Dubai crack spread (GO-DB)** average in Q4/2022 increased compared to Q3/2022 supported by tight supply in Europe due to labor strikes at multiple French refineries during the turnaround season. The strikes resulted in increased diesel import from Asia in order to support demand during the winter. Diesel and Dubai crack spread (GO-DB) average in 2022 increased compared to 2021 due to market uncertainties from European sanctions of refined products from Russia, while overall refined product inventories were below average and recovering in demand from the lifting of COVID-19 restrictions. **4. Low sulfur fuel oil and Dubai crack spread (LSFO-DB)** average in Q4/2022 declined compared to Q3/2022 pressured by regional oversupply due to high export volume especially from China, as well as the new refinery in Kuwait which commenced operation and has been exporting low sulfur fuel oil since November 2022. As for Low sulfur fuel oil and Dubai crack spread (FO-DB) average in 2022 increased compared to 2021 supported by tight supply as high gasoline crack spread incentivized refineries in the region to raise their Fluid Catalytic Cracking (FCC) unit utilization for higher gasoline yield, resulting in lower low sulfur fuel oil supply.

### Refinery and Oil Trading Business Group Performance

Refinery and Oil Trading Business Group Performance	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Revenue (THB Million)	74,664	62,137	20%	56,544	32%	270,268	173,644	56%
EBITDA (THB Million)	2,207	4,131	-47%	3,084	-28%	17,864	9,363	91%
Average Crude Run (KBD)	122.6	123.2	-0.4%	112.2	9%	122.6	99.0	24%
Utilization Rate (%)	102%	103%		94%		102%	83%	
Average FX (THB/USD)	36.54	36.57		33.55		35.24	32.16	
<b>(Unit: US\$/BBL)</b>								
Operating GRM	14.68	11.20	3.48	6.79	7.90	14.33	4.52	9.81
Oil Hedging	1.22	4.07	-2.85	(0.72)	1.94	(3.49)	(0.69)	-2.80
Inventory gain/ (Loss) <sup>1/</sup>	(9.26)	(4.82)	-4.44	3.91	-13.17	1.03	5.13	-4.10
<b>Total GRM</b>	<b>6.64</b>	<b>10.45</b>	<b>-3.81</b>	<b>9.97</b>	<b>-3.33</b>	<b>11.87</b>	<b>8.96</b>	<b>2.91</b>
<b>Product Yield (%)</b>								
LPG	2%	2%	0.4%	2%	0.1%	2%	2%	-0.1%
Gasoline	19%	20%	-0.8%	20%	-1.1%	20%	20%	-0.5%
Jet (Kerosene)	7%	4%	2.5%	6%	1.3%	5%	4%	0.8%
Diesel	52%	52%	0.5%	49%	3.0%	53%	52%	0.0%
Non-Transportation fuels	0.2%	0.2%	0.0%	0%	0.1%	0.2%	0.3%	-0.1%
Unconverted Oil (UO)	10%	11%	-1.0%	11%	-1.3%	11%	9%	1.9%
Fuel Oil	10%	11%	-1.2%	12%	-2.1%	9%	12%	-2.2%
<b>Total Sales Volume in each market category of the Company <sup>2/</sup></b>								
<b>(Million liters)</b>								
Marketing Business	1,713	1,386	24%	1,379	24%	5,977	4,854	23%
Petroleum traders in accordance with section 7	170	151	13%	211	-19%	662	738	-10%
Export	362	366	-1%	510	-29%	1,650	1,494	10%
<b>Total Sales Volume</b>	<b>2,244</b>	<b>1,903</b>	<b>18%</b>	<b>2,101</b>	<b>7%</b>	<b>8,288</b>	<b>7,086</b>	<b>17%</b>

## Performance by Business Group

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 2022, Refinery and Oil Trading Business Group recorded revenue of THB 270,268 million, an increase 56% YoY. EBITDA was recorded at THB 17,864 million, an increase 91% YoY. These were resulted from the following factors.

### EBITDA +91% YoY

(+) Average crude run increased by 24% YoY due to the recovery in domestic demand and higher crack spreads as COVID-19 situation improved, resulting in the refinery increased and continuously maintained average crude run at high level.

(+) Operating GRM increase US\$ 9.81/BBL mainly from the higher crack spread for all products in line with global demand recovery as countries around the world opened up, while supply tightened from the Russia-Ukraine war. Diesel and Dubai crack spread (GO-DB) increased significantly, which gas oil is the largest portion of Bangchak refinery production yield, resulting in higher Operating GRM YoY.

(-) Recognition of loss from crude oil and refined product forward contracts, including fair value measurement according to accounting standards, was at US\$ 3.49/BBL due to higher crack spread for all products in line with demand recovery after COVID-19 situation improved as well as from supply tightness due to the Russia-Ukraine war. In 2021, there was a loss of US\$ 0.69/BBL.

(-) In 2022, the company recognized inventory gain (including loss on net realizable value (NRV)) decreased from 2021 due to crude oil price volatility and declining during the second half of 2022, while price increased throughout the year in 2021.

(+) BCPT traded 33.3 million barrels of crude oil and refined products, an increase of 4.4 million barrels (+15% YoY) mainly from the procurement of crude oil for the Bangchak Refinery, which increased production and maintained its run rate at a high level. The company has expanded market coverage to regions such as New Zealand, Angola, and Gabon as well as strategic access to crude oil producers and National Oil Companies. Gross profit increased from out-out trading (outside Bangchak Group) which continued to grow. In addition, in 2022, BCPT recognized gain from crude oil and refined product forward contracts resulting in EBITDA increased by +83% YoY.

In Q4/2022, Refinery and Oil Trading Business Group recorded revenue of THB 74,664 million, an increase of 20% QoQ and 32% YoY. EBITDA was recorded at THB 2,207 million, a decrease of 47% QoQ and 28% YoY. These were resulted from the following factors.

## Performance by Business Group

EBITDA -47% QoQ	EBITDA -28% YoY
<p>(o) The average crude run was at the similar rate to the previous quarter.</p> <p>(+) Operating GRM of US\$ 14.68/BBL increased by US\$ 3.48/BBL QoQ mainly as diesel crack spread improved in line with the global market and was supported by tight supply in Europe and higher demand during the winter season. Diesel is the highest portion of Bangchak refinery product yield.</p> <p>(-) Recognized gain from crude oil and oil product forward contracts, including fair value measurement according to accounting standards, declined from the previous quarter as crack spreads had the downward curve.</p> <p>(-) Recognized Inventory loss including loss on net realizable value (NRV) of US\$ 9.26/BBL, (THB 3,818 million) as the decrease in crude oil prices compared with the last quarter. In Q3/2022, Inventory loss was US\$ 4.82 BBL (THB 1,996 million).</p> <p>(+) BCPT traded 11.4 million barrels of crude oil and finished products, an increase of 3.7 million barrels (+47% QoQ) mainly from gasoline product groups and crude oil. However, gross profit declined mostly attributed to less crude oil supply tightness compared to the previous quarter. In addition, BCPT recognized profit from crude oil and oil product forward contracts, resulting in EBITDA increased of 14% QoQ.</p>	<p>(+) Average crude run increased 9% YoY due to the recovery in domestic demand as COVID-19 situations improved, resulting in a high production level.</p> <p>(+) Operating GRM increased US\$ 7.90/BBL YoY mainly from significantly higher crack spread for diesel products. In addition, crack spread for jet fuel increased after countries lifted COVID-19 restrictions and opened up, resulting in high operating GRM YoY.</p> <p>(+) Recognized gain from crude oil and oil product forward contracts, including fair value measurement according to accounting standards, of US\$ 1.22/BBL while in Q4/2021 recognized a loss of US\$ 0.72/BBL.</p> <p>(-) Recognized inventory loss in this quarter as global crude oil price declined while in Q4/2021 recognized inventory gain of US\$ 3.91 /BBL (THB 1,355 million).</p> <p>(+) BCPT's transaction of crude oil and finished products increased by 3.4 million barrels (+43% YoY), mainly from gasoline products and crude trading. The higher volume of crude trading was due to procurement for Bangchak refinery, which increased production and maintained its run rate at a high level. Gross profit increased mainly from crude oil and fuel oil trading transactions as the demand increased after lifting COVID-19 restrictions, resulting in BCPT's EBITDA increased 30% YoY.</p>

## Performance by Business Group



### 2) Marketing Business Group

#### Marketing Business Group Performance

Unit: Sites	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Service Stations	1,343	1,320	23	1,277	66	1,343	1,277	66
EV Chargers	179	107	72	70	109	179	70	109
Inthanin Coffee Shop	1,002	931	71	817	185	1,002	817	185
Dakasi Shop <sup>1/</sup>	51	51	0	15	36	51	15	36
<b>Marketing Business Performance</b>								
Revenue (THB Million)	53,892	44,694	21%	36,362	48%	184,938	117,268	58%
EBITDA (THB Million)	120	203	-41%	255	-53%	2,909	2,614	11%
Marketing Margin (Baht / liter) <sup>2/</sup>	0.81	1.13	-29%	0.69	17%	0.93	0.88	5%
Net Marketing Margin (Baht / liter) <sup>3/</sup>	0.68	0.62	10%	0.83	-18%	0.94	1.03	-9%
<b>Sales Volume (Million Liters)</b>								
Retail (via Service Stations)	1,248	1,096	14%	1,142	9%	4,636	4,091	13%
Industrial	464	290	60%	237	96%	1,340	762	76%
<b>Total</b>	<b>1,713</b>	<b>1,386</b>	<b>24%</b>	<b>1,379</b>	<b>24%</b>	<b>5,977</b>	<b>4,854</b>	<b>23%</b>
<b>Sales volume in each product category (Million liters)</b>								
LPG	34	31	11%	28	22%	116	97	20%
Gasoline	11	7	72%	4	168%	29	23	28%
Gasohol	453	434	4%	412	10%	1,690	1,474	15%
Jet Fuel	146	80	82%	60	143%	403	163	148%
Diesel	1,025	787	30%	829	24%	3,546	2,917	22%
Fuel Oil and Others	43	47	-8%	46	-5%	194	180	8%
<b>Total</b>	<b>1,713</b>	<b>1,386</b>	<b>24%</b>	<b>1,379</b>	<b>24%</b>	<b>5,977</b>	<b>4,854</b>	<b>23%</b>

Note: 1/ Dakasi pearl milk tea shop under the business expansion and rights of BCR

2/ Marketing Margin of Bangchak and BGN (excluding Inventory gain/(loss) and NRV)

3/ Marketing Margin of Bangchak and BGN (including Inventory gain/(loss) and NRV)

For the year 2022, Marketing Business Group recorded revenue of THB 184,938 million, an increase of 58% YoY. EBITDA was recorded at THB 2,909 million, rose of 11% YoY. These were resulted from the following factors.

#### EBITDA +11% YoY

(+) Marketing margin per unit increased 5% YoY to 0.93 baht/litre, mainly from higher industrial marketing margin as demand for diesel and lube oil increased, while retail marketing margin rose slightly from efficient sales management during the controlled marketing margins period.

(+) Total sales volume increased 23% YoY from the economic recovery after COVID-19 situations improved which drove domestic oil demand, together with marketing efforts to meet customer needs. In addition, jet fuel sales volume increased 148% YoY from the most countries reopening.



## Performance by Business Group

(-) Recognized lower inventory gain compared to the previous year, as refined product prices declined during the second half of 2022 while prices increased throughout 2021.

In Q4/2022, Marketing Business Group recorded revenue of THB 53,892 million, an increase of 21% QoQ and 48% YoY. EBITDA was recorded at THB 120 million, a decrease of 41% QoQ and 53% YoY. These were resulted from the following factors.

EBITDA -41% QoQ	EBITDA -53% YoY
<p>(-) Marketing margin per unit decreased 29% QoQ to 0.81 baht/litre mainly from lower retail marketing margin as the Government continued to limit retail diesel price. In addition, in this quarter, the company relaunched “Dust reducing oil” or EURO 5 standard for low-sulfur diesel for the 4<sup>th</sup> consecutive year to alleviate PM2.5 dust pollution problem sold at normal diesel price. Furthermore, the company helped to ease travelling expenses for customers by freezing retail oil prices at services stations during December 24<sup>th</sup>, 2022, to January 2<sup>nd</sup>, 2023 as a New Year’s gift to our customers.</p> <p>(+) Total sales volume of Marketing Business was 1,713 million liters, up 24% QoQ, and sales hit a record high in December. The volume was accelerated by retail expansion plan, continual development of high-quality products and traveling season. Together with industrial diesel volume from diesel-LNG switching, and higher jet volume as travel demand recovered.</p> <p>(-) Higher inventory loss compared to last quarter due to lower refined product prices.</p> <p>(-) Typically, the 4<sup>th</sup> quarter has seasonally high selling and administrative expenses. This is mainly from the expenses related to employees and marketing promotion corresponding to the higher sales volume.</p>	<p>(+) Marketing margin per unit increased 17% YoY. The increase in industrial marketing margin corresponded with the expansion of diesel demand in the industry and efficient sales management. Retail marketing margin also increased as the Q4/2022 cost of refined products rose significantly, especially during October 2022, and biodiesel (B100) cost was higher than Q4/2022.</p> <p>(+) Total sales volume increased 24% YoY coming both from retail and industrial segments as COVID-19 situations improved and economic activities recovered, which increased domestic demand.</p> <p>(-) Recorded inventory loss in this quarter where as in Q4/2021 recognized inventory gain.</p> <p>(-) In Q4/2022, there were an increase in sales and service expenses which corresponds to the increase in sales volume as well as employee related expenses, advertising, and marketing promotions.</p>

## Performance by Business Group



The company aims to continually develop high-quality fuels to deliver the best products for customers. This quarter, the newest premium EURO 5 standard gasohol, Bangchak Hi Premium 97 Gasohol, was launched to serve premium vehicles drivers who want high octane fuel. The product was also developed for general vehicles that want to increase performance and extend engine life. The company continued to expand the number of service stations to cover the entire country. In quarter, the company opened 25 new service stations, as a result at the end of Q4/2022 there were 1,343 service stations. The company maintains a policy to develop service stations to meet all lifestyles under the concept of **“Your Greenovative Destination of Intergeneration”** and continues to focus on developing and expanding non-oil business in order to create modern lifestyle community in Bangchak service stations. In quarter, the company has additionally partnered with famous local chain restaurants such as Nub Cal, Hong Pao, Siam Steak, Decha Fried Chicken, NOODLEBOX and Por Ubon, etc. As well as expanding the number of charging stations for electric vehicles to meet the increasing number of EV users. EV chargers are currently available at 179 service stations covering 57 provinces across the country. The company continue to expand the number of branches for Inthanin coffee shops, resulting in record new high revenue in this quarter. There were 78 new Inthanin branches this quarter, and 1,002 branches at the end of Q4/2022. BCR targets to expand Inthanin nationwide through franchises with “Bonding, Blooming, and Sustainable” concept of “Green Coffee Shop.” In addition, Bangchak has received Superbrands Thailand award for the 5<sup>th</sup> consecutive year and BCR has received Superbrands Thailand award for the 2<sup>nd</sup> consecutive year for Inthanin coffee brand in 2022. This represents the commitment Bangchak and Inthanin Coffee provide good experiences and create customer engagement which has brought consumers’ royalty to the brands.

## Performance by Business Group



### 3) Power Plant Business Group

Power Plant Business Performance (THB Million)								
	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Revenue from sales and rendering of services	1,267	1,544	-18%	1,232	3%	5,405	4,669	16%
EBITDA	1,003	1,209	-17%	1,038	-3%	6,400	4,193	53%
Share of profit (loss) from associated companies*	14	(17)	183%	152	-91%	130	600	-78%
BCPG Group's contracted capacity (Equity MW)								
Solar Power Plant - Thailand	173.7	173.7	0%	171.8	1%	173.7	171.8	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%	34.7	130%	79.7	34.7	130%
Hydropower Plant - Lao PDR	114.0	114.0	0%	114.0	0%	114.0	114.0	0%
Geothermal Power Plant - Indonesia	-	-	N/A	157.5	N/A	-	157.5	N/A
Wind Power Plant - Philippines	14.4	14.4	0%	14.4	0%	14.4	14.4	0%
<b>Total</b>	<b>390.7</b>	<b>390.7</b>	<b>0%</b>	<b>501.4</b>	<b>-22%</b>	<b>390.7</b>	<b>501.4</b>	<b>-22%</b>
Electricity sales volume (GWh)								
Solar Power Plant - Thailand	81.6	75.6	8%	80.1	2%	327.4	317.0	3%
Wind Power Plant - Thailand	2.2	3.4	-34%	3.3	-33%	10.7	13.4	-20%
Solar Power Plant - Japan	21.5	33.1	-35%	8.6	149%	105.1	22.2	373%
Hydropower Plant - Lao PDR	118.4	208.4	-43%	142.2	-17%	504.7	522.6	-3%
<b>Total</b>	<b>223.8</b>	<b>320.5</b>	<b>-30%</b>	<b>234.2</b>	<b>-4%</b>	<b>947.9</b>	<b>875.2</b>	<b>8%</b>

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

For the year 2022, the Power Plant Business Group's revenue was THB 5,405 million, an increase of 16% YoY and its EBITDA was THB 6,400 million, increasing 53% YoY from the following factors.

#### EBITDA +53% YoY

- (+) Recognition of the gain from the disposal of all investments in SEGHPL of THB 2,031 million in Q1/2022.
- (+) The electricity sales volume of solar power plants in Thailand increased 3% YoY due to the additional COD of the solar rooftop project at CMU Project in this year. In addition, the increase in the Ft rate alleviated the impact of the expiration of the adder scheme in July and October 2022 of 40 MW solar power plants.
- (-) Total electricity sales volume of wind power plants in Thailand dropped 20% YoY as the lower wind speed.
- (+) The electricity sales volume in solar power plants in Japan increased 373% YoY. This was due to the COD of 3 new solar power plants, including Chiba 1 (COD on 1<sup>st</sup> November 2021), Komagane (COD on 29<sup>th</sup> March 2022) and Yabuki (COD on 15<sup>th</sup> April 2022).
- (-) The electricity sales volume of hydropower plants in Lao PDR decreased 3.4% YoY due to the pause of power plants' operation.

## Performance by Business Group

(-) Share of profit from associated company is recorded THB 130 million, decreasing THB 470 million YoY. mainly from share of profit from the geothermal power plants for only two months as the disposal of such investment in March 2022.

In Q4/2022, the Power Plant Business Group's revenue was THB 1,267 million, a decrease of 18% QoQ but an increase of 3% YoY. The EBITDA was THB 1,008 million, decreasing 17% QoQ and 3% YoY, with factors affecting operations as follows:

EBITDA -17% QoQ	EBITDA -3% YoY
<p>(+) From a seasonal factor, the electricity sales volume of solar power plants in Thailand increased 8% QoQ. The third quarter is the low season for solar power plants in Thailand.</p> <p>(-) The electricity sales volume of wind power plants in Thailand decreased 34% QoQ from the seasonal decline in wind speed at the project.</p> <p>(-) The electricity sales volume of solar power plants in Japan fell 35% QoQ due to lower irradiation from a seasonal factor.</p> <p>(-) The electricity sales volume of hydropower plants in Lao PDR dropped 43% QoQ as the operation was paused in December to prepare for transmission of electricity to Vietnam Electricity (EVN) and the hydropower plants entered the low season.</p> <p>(-) The share of profit from investments in the associated company of THB 20 million increased by THB 31 million from the previous quarter. This was mainly from the share of profit from wind power plants in the Philippines increased THB 33 million from the prior quarter due to the high season of the Philippine monsoon and a recognized insurance claim.</p>	<p>(+) The electricity sales volume of solar power plants in Thailand increased 2% YoY due to the additional COD of the solar rooftop project at CMU Project in this year. Additionally, the increase in the Ft rate alleviated the impact of the expiration of the adder scheme in October 2022 of 10 MW solar power plants.</p> <p>(-) The electricity sales volume of wind power plants in Thailand dropped 33% YoY due to lower wind speed.</p> <p>(+) The electricity sales volume of solar power plants in Japan increased 149% YoY, due to the COD of 3 new solar power plants as stated earlier.</p> <p>(-) Total electricity sales volume of hydropower plants in Lao PDR decreased 17% YoY due to the pause of power plants' operation.</p> <p>(-) The share of profit from investments in associated company decreased THB 138 million as no recognition of profit sharing from the geothermal power plants in Indonesia due to the disposal of all investment in SEGHPPL in March 2022.</p>

## Performance by Business Group



### 4) Bio-Based Product Business Group

Bio-Based Products Business Performance (THB Million)	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Sales Revenue	3,270	2,951	11%	4,001	-18%	13,373	14,095	-5%
EBITDA	146	35	321%	255	-43%	617	1,863	-67%
<b>BBGI Performance</b>								
Gross Profit/(loss)	112	(4)	N/A	227	-51%	464	1,030	-55%
Selling and Administrative expenses	(85)	(72)	19%	(83)	2%	(309)	(276)	12%
<b>Sales Volume (Million Liters)</b>								
Ethanol	37.60	40.21	-7%	51.71	-27%	141.17	179.93	-22%
Biodiesel	63.94	46.89	36%	58.04	10%	208.49	239.14	-13%

For the year 2022, Bio-Based Product Business Group recorded revenue of THB 13,373 million, a decrease of 5% YoY. EBITDA was recorded at THB 617 million, a decrease of 67% YoY. These were resulted from the following factors.

#### EBITDA -67% YoY

(-) The decrease in performance was partially impacted by recognition of the gain on fair value adjustment of THB 616 million in 2021.

(-) For production and distribution of ethanol business, recorded revenue decreased THB 645 million or 14% YoY. This was mainly due to an increase in the price of main raw materials for ethanol production, which caused a decreased 22% YoY in ethanol sale volume.

(-) Revenue from production and distribution of Biodiesel business (B100) decreased by THB 78 million or 1% YoY, mainly due to the Committee on Energy Policy Administration (CEPA) announcement to decrease biodiesel blending in high-speed diesel from B7 to B5 from February to September 2022 and increased to B7 in October 2022. Meanwhile, the biodiesel blending in high-speed diesel was B10 as a standard grade throughout 2021, resulting in a decrease of 13% YoY in biodiesel sales volume. In addition, costs associated with chemicals and energy have also increased.

(+) For high-value bio-based products, recorded revenue increased by THB 2 million or 86% YoY, from an increase in the launch of new products related to health and well-being under the brand B nature+ (B Nature Plus) more than the previous year, including “Calcium-LT plus UC-II” and 4 “Probiotics” formulations, and expanded more distribution channels both online, on TV, and at Bangkok Drug Store. Moreover, we are launching the Oat & Soy milk under the brand “More Day” for health lovers as well.

## Performance by Business Group

(-) Selling and administrative expenses increased by THB 34 million or 12% YoY due to an increase in expenses relate to the Initial Public Offerings (IPO) and listing on the stock of exchange as well as expenses of promoting high-value bio-based products and developing new products.

In Q4/2022, Bio-Based Product Business Group recorded revenue of THB 3,270 million, an increase of 11% QoQ but a decrease of 18% YoY. EBITDA was recorded at THB 146 million, an increase of 321% QoQ but a decrease of 43% YoY. These were resulted from the following factors.

EBITDA +321% QoQ	EBITDA -43% YoY
<p>(+) For production and distribution of ethanol business, recorded revenue increased by THB 16 million or 1% QoQ. This was mainly due to an increase in the selling price which reflected the higher cost of raw materials.</p> <p>(+) For production and distribution of Biodiesel business (B100), recorded revenue increased THB 303 million or 17% QoQ. This was mainly due to the Committee on Energy Policy Administration (CEPA) announcement to increase biodiesel blending in high-speed diesel from B5 to B7 from 10<sup>th</sup> October to 31<sup>st</sup> December 2022.</p> <p>(-) Selling and administrative expenses increased THB 13 million or 19% YoY due to an increase in expenses related to promoting high-value bio-based products.</p>	<p>(-) For production and distribution of ethanol business, recorded revenue decreased THB 150 million or 12% YoY. This was mainly due to lower sales volume from the cost of raw materials for ethanol production. However, expenses related to production decreased.</p> <p>(-) Revenue from production and distribution of Biodiesel business (B100) decreased THB 582 million or 22% YoY, mainly due to the decreased selling price of biodiesel in accordance with a drop in crude palm oil price. Moreover, the selling price of Glycerin which is a byproduct has also declined.</p>



## Performance by Business Group



### 5) Natural Resources Business and New Business Development Group

Natural Resources Business and New Business Development (THB Million)	Q4/2022	Q3/2022	QoQ	Q4/2021	YoY	2022	2021	YoY
Revenue	5,486	7,776	-29%	6,271	-13%	23,583	10,093	134%
EBITDA	3,769	6,064	-38%	4,832	-22%	17,625	8,251	114%
Share of profit (loss) OKEA*	N/A	N/A	N/A	N/A	N/A	N/A	371	N/A
<b>OKEA Performance</b>								
Revenue from crude oil and gas sales	5,408	7,702	-30%	6,247	-13%	23,349	14,201	64%
EBITDA	4,044	6,074	-33%	4,827	-16%	17,951	9,850	82%
Production volume – Net to OKEA (kboepd)	19.89	16.06	24%	16.04	24%	16.74	15.53	8%
Sales volume – Net to OKEA (kboepd)	16.32	17.26	-5%	18.10	-10%	16.25	15.84	3%
Realized liquids price (US\$/BBL)	95.20	106.60	-11%	78.00	22%	98.40	65.30	51%
Realized gas price (US\$/mmbtu)	20.06	34.71	-42%	31.44	-36%	24.68	17.56	41%

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

For the year 2022, Natural Resources Business and New Business Development Group's revenue was THB 23,583 million, increasing 134% YoY. The EBITDA was THB 17,625 million, increasing 114% YoY due to the following factors.

#### EBITDA +114% YoY

(+) OKEA's average selling price of crude oil and gas (liquid price) and natural gas price (gas price) increased 51% YoY and 41% YoY, respectively, in corresponded to the market's growing demand.

(+) The sales volume increased 3% YoY, mainly from Yme field, starting the operation in October 2021. Therefore, in 2022, the group recognized the revenue from Yme field for the full year while in 2021, it only recognized the revenue in the latter half.

(+) The increase in EBITDA was partially supported by the changing recognition of OKEA's performance to the consolidated method since Q3/2021. As a result, in 2022, Natural Resources Business group recognized OKEA's EBITDA for the full year, while in 2021, it recognized the EBITDA only from the year's second half.

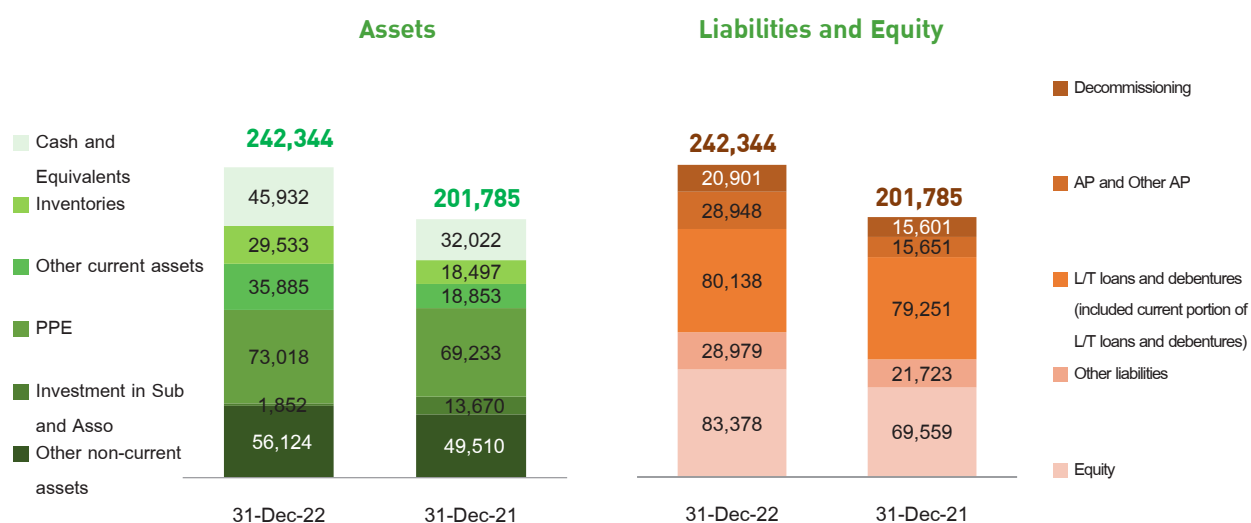
In Q4/2022, Natural Resources Business and New Business Development Group's revenue was THB 5,486 million, decreasing 29% QoQ and 13% YoY. The EBITDA was THB 3,769 million, a decrease of 38% QoQ and 22% YoY. The factors impacting the performance are as follows.

## Statement of Financial Position

EBITDA -38% QoQ	EBITDA -22% YoY
<p>(-) OKEA's average selling price of crude oil and gas (liquid price) and natural gas price (gas price) decreased, particularly the gas price dropped by 42% QoQ since the winter season in Europe came abnormally late. The natural gas storage level was relatively high because they continuously stocked the inventory since the middle of last year to prepare for the sanctions on imports from Russia.</p>	<p>(-) The selling price of natural gas (gas price) decreased 36% YoY following the global market as a resulted from the high level of natural gas storage continuously stocking since the middle of last year.</p> <p>(-) The sales volume declined 10% YoY, mainly from Ivar Aasen.</p>

# Statement of Financial Position

Unit: THB Million



## Assets

As of 31<sup>st</sup> December 2022, Bangchak Group had total assets in the amount of THB 242,344 million, an increase of THB 40,559 million compared to 31<sup>st</sup> December 2021. Changes in assets are as follow:

- Inventory increased THB 11,039 million, mainly from higher volume of crude oil and finished products and higher average costs for crude oil and refined products.
- Other current assets increased by THB 17,032 million mainly from:
  - (1) Accrued oil fund compensation increased THB 8,766 million as the government raised subsidy for diesel fuel from average 2.43 baht/liter in 2021 to 3.99 baht/liter in 2022.
  - (2) Trade and other current receivables increased THB 6,965 million due to:
    - (+) Trade account receivables increased from higher volume and average selling prices of finished product.
    - (+) Other receivables of the Natural Resources business (OKEA) increased from the recognition of accrued income (Underlift).
- Property, plant, and equipment increased THB 3,785 million mainly from:
  - (+) The increase in shareholding and additional investment in OKEA's resources (Draugen, Ivar, Aasen, Brage, and Nova) of THB 11,174 million.
  - (-) Depreciation of property, plant, and equipment of THB 7,190 million
  - (-) Asset impairment of THB 1,761 million from the adjustment in reserve volume of Yme field.

## Statement of Financial Position

- Investments in subsidiaries and associated companies decreased THB 11,818 million, mainly due to the divestment of SEGHPL in Q1/2022.
- Other non-current assets increased by THB 6,614 million, mainly from an increase in leasehold assets of THB 3,300 million and an increase in goodwill of THB 1,765 million.

### Liabilities

As of 31<sup>st</sup> December 2022, the company and its subsidiaries had total liabilities THB 158,966 million, an increase of THB 26,740 million, changes in liabilities are as follow:

- Trade and other current liabilities increase THB 13,297 million mainly from:
  - (+) Trade account payable of oil business increased due to higher purchase volume of crude oil and finished products as well as higher average purchase prices.
  - (+) Other payables of natural resources business (OKEA) increased due to creditor contract from Joint Venture
- Provisions related to decommission costs increased by THB 5,300 million mainly due to the additional investment in OKEA's resources (Ivar, Aasen, Brage, and Nova).
- Other liabilities increase by THB 7,256 million, mainly from the Natural Resources business (OKEA) as a result of Special Petroleum Tax implemented by Norway as of January 1<sup>st</sup>, 2022 resulting in an increase in deferred tax liabilities of THB 4,000 million and an increase in lease liabilities of THB 3,000 million

### Equity

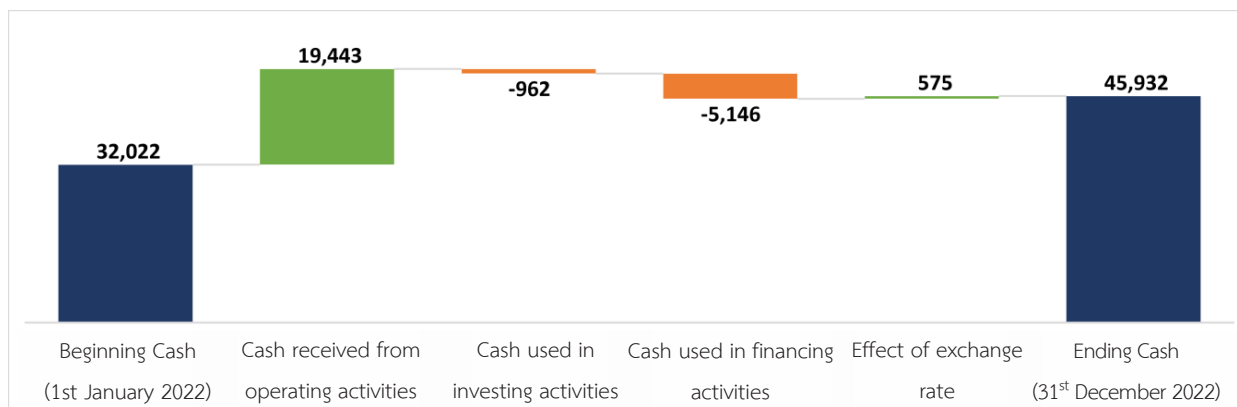
As of 31<sup>st</sup> December 2022, the Bangchak Group had total equity in the amount of THB 83,378 million, an increase of THB 13,819 million mainly from:

- (+) Profit for the year of THB 15,153 million
- (+) Changes in stakes in subsidiaries of THB 4,582 million
- (-) Dividend payment of THB 4,261 million
- (-) Interest expenses for perpetual subordinated bonds of THB 500 million

Total equity attributed to owners of the parent was THB 62,704 million and book value per share (excluding perpetual subordinated bonds) was THB 38.86.

## Statement of Cash Flows

Unit: THB Million



As of 31<sup>st</sup> December 2022, the company and its subsidiaries had cash and cash equivalents in the amount of THB 45,932 million, details for each activity are as follow:

- **Net Cash received from operating activities** was THB 19,443 million, main items consist of EBITA of THB 44,724 million and change in working capital. The main items that increased cash flow included the increase in trade and other payables increasing THB 13,533 million and main items that decreased cash flow included trade accounts receivable and other current receivables which increased THB 17,590 million, increase in inventory of THB 11,283 million, and income tax paid in the amount of THB 10,465 million.
- **Net Cash used in investing activities** was THB 962 million, mainly from cash paid for (1) property, plant, and equipment THB 7,526 million as detailed in the assets section (2) business acquisition of THB 4,306 million (3) intangible assets of THB 1,379 million (4) right-of-use asset THB 997 million (5) investments in subsidiaries and associated companies net of cash received THB 988 million while cash received from the sale of investment in associated companies of THB 14,551 million.
- **Net Cash used in financing activities** was THB 5,146 million, mainly from (1) repayment of debentures THB 9,634 million (2) repayment of long-term loans THB 8,258 million (3) dividend payment THB 4,261 million (4) finance costs THB 2,819 million and (5) payment in accordance with lease agreement THB 2,083 million. Cash received from (1) bond issuance THB 13,000 million (2) long-term loans from financial institution THB 5,144 million, and (3) issuance of ordinary share of subsidiary THB 3,991 million.

## Financial Ratio

	Q4/2022	Q3/2022	Q4/2021	2022	2021
<b>Profitability Ratios (%)</b>					
Gross Profit Margin	7.71%	12.41%	13.91%	14.82%	11.87%
EBITDA Margin	8.22%	15.36%	13.90%	14.33%	12.95%
Net Profit Margin	1.48%	3.89%	3.84%	4.85%	4.94%
Return of Equity (ROE)	21.65%	24.11%	15.27%	21.65%	15.27%
<b>Efficiency Ratio (%)</b>					
Return on Assets (ROA)	14.40%	15.76%	9.51%	14.40%	9.51%

	2022	2021
<b>Liquidity Ratios (Times)</b>		
Current Ratio	2.33	2.03
Quick Ratio	1.45	1.40
AR Turnover	27.42	26.29
Collection Period (days)	13	14
AP Turnover	19.21	18.61
Payment Period (days)	19	20
<b>Leverage Ratios (Times)</b>		
Debt to Equity	1.91	1.90
Interest bearing Debt to Equity	0.97	1.16
Net Interest-bearing Debt to Equity	0.41	0.69
<b>Release of Debenture Ratio (Times)</b>		
Net Debt to Equity	0.37	0.59

### Financial Ratios Calculation

#### Profitability Ratios

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

#### Efficiency Ratio

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



## Financial Ratio

### Liquidity Ratios

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

### Financial Policy Ratios

- Debt to Equity (Times) = Total debt / Equity
- Interest Bearing Debt to Equity (Times) = Interest bearing debt / Total equity
- Net Interest-Bearing Debt to Equity (Times) = (Interest bearing debt - Cash and cash equivalents - Short-term investments) / Total equity

### Issuance of Debenture Ratio

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

### Note:

1/ Average total equity attributable to owners of the parent

- Yearly = (Total equity attributable to owners of the parent of the year before + Total Equity attributable to owners of the Company of this year) / 2
- Quarterly = (Total equity attributable to owners of the parent of the quarter of the year before + Total equity attributable to owners of the parent of the quarter this year) / 2

2/ Average total assets

- Yearly = (Total assets of the year before + Total assets of the Company of this year) / 2
- Quarterly = (Total assets of the quarter of the year before + 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 = (Accounts receivable before doubtful debt of the year before + Accounts receivable before doubtful debt of the Company of this year) / 2
- Quarterly = (Accounts receivable before doubtful debt of the quarter of the year before + Accounts Receivable before doubtful debt of the quarter this year) / 2

6/ Average accounts payable

- Yearly = (Accounts payable of the year before + Accounts payable of the Company of this year) / 2
- Quarterly = (Accounts payable of the quarter of the year before + 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 2022

The company has always placed importance on sustainability performance through management of environmental, social, and good governance and economic performance. To bolster confidence in the company's sustainability management, the company participates in the Stock Exchange of Thailand's (SET) Thailand Sustainability Investment (THSI) and the DJSI Corporate Sustainability Assessment (DJSI/CSA 2022), which is assessed by S&P Global. In addition, the company was also evaluated by Morgan Stanley Capital International (MSCI) ESG Research Rating, an organization with expertise and credibility in ESG indices internationally. The assessment process is designed to measure a company's resilience to environmental, social and governance risk (ESG risks) relevant to their respective industries. Those risks are comprised of five factors: the environment, customers, human rights and the community, labor rights and the supply chain, and governance. Results from ESG assessments are as follow:

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

- The company has been included in the Thailand Sustainability Investment (THSI) for the eighth consecutive year (2015 - 2022).
- The company received an award in the Sustainability Excellence group for the sixth consecutive year as well as received an honorary award for listed companies for sustainability, Sustainability Awards of Honor, for the third consecutive year.

- **International ESG Assessments**

- The company continues to participate in the S&P Global Corporate Sustainability Assessment (S&P Global CSA) by S&P Global; in 2022, S&P Global changed the assessment timeframe; the assessment results will be announced in early 2023.
- The company received MSCI ESG Ratings of AA rating for the fifth consecutive year (2018-2022).

The company's ESG management focuses on these five areas:

### 1) Risks from economic uncertainties and high energy prices

Energy and consumer goods prices have increased as a result of supply constraints and the Russia-Ukraine conflict. In many countries around the world, inflation exceeds the target rate, prompting central banks to tighten their monetary policies. In addition, governments have implemented stabilization mechanisms to support domestic retail energy prices. As a result, the company has put in place a risk management plan to accommodate uncertainties by focusing on developing the High Value Specialty Products Refinery, diversifying crude oil sourcing, raising the level of service to create maximum customer satisfaction to maintain no. 1 in the Net Promoter Score (NPS) through customer understanding, customer empathy, and customer relationship management as well as developing services and utilizing digitalization to deliver a good experience to customers under the concept of "Your Greenovative Destination." In addition, the company continues to expand non-oil business together with business partners. This year, Inthanin coffee aimed to expand the number of branches both inside and outside of the service station. Thus, by the end of 2022, there were 1,002 Inthanin Coffee branches. BBGI is modifying its biodiesel production to reflect shifting market dynamics as the government modifies Diesel mixtures.

## Sustainability Performance in 2022

### 2) Risks from changes in digital technology and cyber threats

Changes in digital technology and cyber threats are external factors that have developed and evolved very rapidly. In today's environment, due to competition and business development, it is crucial that businesses rely more on the use of modern technology and connectivity of information from various devices and work processes via the internet to increase business efficiency and create good experiences for customers while considering the security of the information technology system of the organization. Therefore, the company has prepared to support such developments and technological changes, as well as consider technology risks that may have a significant impact on current business disruptions, through the establishment of a digital technology center in order to plan, monitor, and provide tools to prevent risks and continue to manage the Refinery Cyber Security System project. The company is certified to ISO/IEC 27001 (Information Security Management) for the distribution control system of the refinery.

### 3) Risks from the implementation of the Personal Data Protection Act B.E. 2562

In accordance with the Personal Data Protection Act, B.E. 2562, which was announced in the Government Gazette on May 27, 2019, and took effect on June 1, 2022, to comply with the Act, the company has appointed a personal data protection officer (DPO) and DPO office, which consists of representatives from relevant departments, to provide consultation and advice on personal data protection, review operations regarding the processing of personal data, and coordinate and cooperate with the Office of the Personal Data Protection Commission and the owner of personal data.

### 4) Risks from climate change, environment, and greenhouse gas reduction

The company has managed business operations that may affect global warming by focusing on reducing energy consumption, reducing the causes and amount of carbon dioxide and greenhouse gas emissions as follows:

- Demonstrate commitment to low-carbon business operations and take the lead in the energy transition by continually increasing the proportion of green business to reduce carbon emissions. The company established the Carbon Markets Club to promote carbon credit trading.
- Set carbon neutrality target by 2030 and Net Zero GHG Emissions target by 2050, in accordance with the BCP 316 NET concept covering 4 key approaches, namely: B = Breakthrough Performance by focusing on high-efficiency production processes, improving and increasing efficiency in work processes, lowering carbon emissions, and being environmentally friendly; C = Conserving Nature and Society by supporting ecological balance through natural based solutions; P = Proactive Business Growth and Transition through the utilization of clean energy and technology to support sustainable growth. Bangchak receives low-carbon and sustainable business award from Thailand Greenhouse Gas Management Organization (TGO) for the second consecutive year. The award takes into account good

## Sustainability Performance in 2022

governance, sustainability reports, and the size of the organization in accordance with economic, environmental, and social indicators that support the nation's sustainable development goals.

- Use natural gas to generate electricity and steam through a cogeneration power plant as the primary energy source in the refinery process, as opposed to fuel oil, will increase the refinery's energy efficiency and reduce carbon emissions.
- The company becomes part of the effort to alleviate pollution from dust and PM 2.5 by selling "Dust Reducing Oil." By producing 5 times lower sulfur diesel with less than 10 PPM sulfur, reducing sulfur content can help reduce dust from combustion and sulfur dioxide released in the Bangkok Metropolitan area during the dust crisis.
- Improve resource use through the implementation of the 3R strategy - Reduce, Reuse, and Recycle - and focusing on conducting environmentally friendly and sustainable business practices such as setting up plastic bottles collection points in the service stations to make products for society, creating a project to recycle engine oil containers to make recycled pellets to be used in the production of new engine oil containers to preserve the value of resources, reduce waste generation, and promote the circular resources to generate the highest benefits to the environment, society, and communities.
- Reduce plastic usage in non-oil business by using plastic sip cap to reduce the use of straws as well as switching to bio-degradable cups. Additionally, the company encourages customers to collect used cups in exchange for discounts and has delivered over one million biodegradable cups to the Royal Forest Department as part of the "Cups for saplings" initiative.
- "Orphan Waste" Project - The company continues to maintain its commitment to environmental stewardship, and societal sustainability by encouraging proper waste management in line with the circular economy as well as reducing waste at its origins can help lessen the social impact from the amount of waste in open dumps and the amount of air pollution from landfills. The company joins an alliance to support the environment by utilizing areas in the Bangchak service station as "orphan waste" pick-up points. In 2022, over 65 tons of orphaned waste were collected from donations through service stations in Bangkok. In addition to waste management, Bangchak is also 1 of the 14 partners of the "Green Shelter" campaign by providing the space to receive the donation of used beverage cartons. The collected carton is recycled into new construction materials, such as Eco Roof, Eco Door Frame, Eco Wood, and Eco Brick, which are then presented to Friends in Need (of "PA") Volunteers Foundation and Thai Red Cross to build homes for the victims of natural disasters, those in need, and those who continue to face housing challenges.

## Sustainability Performance in 2022

### 5) Risks from water scarcity

The unpredictability of water supplies is exacerbated by global warming, making the water crisis a potential threat on a global scale in the future. Along with the rise in population, the demand for consumable water resources has also risen. The company therefore sees the importance of managing the production process to reduce the use of water resources as follows:

- Risks associated with climate change, such as drought, should be tracked and monitored along with the water situation update from the Metropolitan Waterworks Authority on a daily basis to assess the risk of water scarcity that may affect production processes. Procure emergency water sources to mitigate water shortage risks and implement measures to monitor and cope with the risks of the low water level in the Chao Phraya river that may affect navigation. This is achieved by taking precautions to ensure that related measures do not negatively impact stakeholders. In addition, during the rainy season, the company monitors and maintains a flood watch on the main river, checks the readiness of flood protection equipment in high-risk areas, and establishes a risk management plan based on the probability of occurrence and severity level to ensure business continuity.
- Through the use of a micro-filtration system, reverse osmosis system, and water reuse from condensate water and stripped water to be reused in the production process, the company was able to reduce water consumption in the production process by approximately 1,290,335 cubic meters in 2022. Additionally, the company was able to recycle an additional 203,167 cubic meters of water by using a reverse osmosis system to improve the quality of treated water from the wastewater treatment unit. The amount of water saved by all 3Rs measures was equivalent to the amount of water used by 4,120 households.
- In addition, the company conducted a water stress assessment through the AQUEDUCT program in 2022 and determined that the Bangchak refinery area is in the medium-high (20-40%) water stress area, which is not designated as a significant water tension area.
- The cooling units at the refinery have been upgraded for greater efficiency, which will help reduce water loss from the cooling system and thus reduce the use of water supply.
- Encourage affiliated companies to reduce water consumption in the production process, beginning with the bio-products business group reusing process water. The company has also established a project to drill raw water wells to reserve more water for use in the factory area.

## Management Outlook towards the Business in 2023

### Economy Outlook

In 2023, the global economy is still highly uncertain. Although inflation is expected to grow at a slower pace, it remains above target. Despite the slowdown in inflations in major economies as a result of tightening monetary policy, the International Monetary Fund (IMF) forecasts the global economic growth of 2.7%, a slower rate than in 2022, supported by the services and tourism sectors as well as the recovery in private investment. In addition, Chinese economy is expected to gradually recover in line with the lifting of Zero-Covid measures. However, negative factors remain from the prolonged conflicts between Russia and Ukraine, persistently high energy prices, high level of public debt globally, and the risks of recessions in Europe and the United States.

The Thai economy is expected to continuously expand in 2023., but growth is uneven and has not yet reached businesses with financial fragility. Tourism is expected to be the main driver of economic growth. The Bank of Thailand expects the economy to recover back to the same level as pre-Covid. However, risks to economic growth remain from exports slowdown, as seen during the end of 2022, due to slow global economy and persistently high energy prices.

Summary of Thai Economic Projections			
(%)	2021	2022*	2023*
Economic growth rate	1.5	3.2	3.7
Inflation rate	1.2	6.3	3.0

Source: Bank of Thailand

\* Projections

### Crude Oil Price Outlook

The International Energy Agency (IEA) expects crude oil prices to rise in 2023 due to tight supply conditions in the market. The IEA forecasts global oil demand to increase by 1.7 million barrels per day in 2023 to 101.6 million barrels per day supported by the recovery in demand for oil from China. Production from Russia is expected to decline 14% to 9.6 million barrels per day at the end of Q1/2023 as a result of European sanctions and price cap on Russian oils, which became effective at the end of 2022. In addition, OPEC+ group's policy which is ready to adjust crude oil production to support prices.

Average Dubai crude oil price in 2023 is forecasted to move between 75 – 85 US\$/BBL range as demand is pressured by the global economy recession following interest rate increases of central banks. However, a rebound in Chinese economic activities will support oil demand.

Dated Brent and Dubai (DTD-DB) spread in 2023 is expected to be at 3 - 4 US\$/BBL, a decline compared to 2022 due to the expected economic recovery and demand for heavy crude oil rally after the Chinese government



## Management Outlook towards the Business in 2023

lifted the Zero COVID-19 policy and opens up the country. As a result, Dubai price is expected to increase, resulting in the decrease in DTD-DB gap.

The refining margin of cracking refineries in Singapore is expected to decline from 2022 as the refining margin is pressured by increase supply of refined products as well as new refineries commencing operation. While demand remains uncertain due to recession fears pressuring economic activities. However, negative pressures are constrained by the uncertainties in the refined product supply from Europe sanction over Russian products. In addition, light distillate crack spread is supported by higher demand from increase driving activities after China lockdown easing and the country opening up.

### Performance Outlook

Due to the current uncertainties in economic and business environment from COVID-19 and Russia-Ukraine conflict that began in 2022 which causes the increase in oil and natural gas prices resulting in soaring inflation. In addition, tightening monetary policy and rising interest rates to combat inflation have tempered the growth of global and Thai economy. As Thailand has a high proportion of income from tourism and exports this has impacted the country's GDP as well as the demand and refinery margin of Oil Business. The Bangchak Group is prepared to adapt to uncertain situations and is focusing on work processes that are efficient, effective, and flexible to changing circumstances by:

**The Refinery and Oil Trading Business** has plans for business development and opportunities as well as reducing costs and expenses associated with the crude oil procurement & production process, storage tanks, oil distribution pipes including oil tankers to be able to efficiently optimize distillation process. As a result, the average production volume was higher than 120 thousand barrels per day. The refinery is transforming towards becoming a High Value Specialty Products Refinery, emphasizing to increase the production capacity of UO (Unconverted Oil), which is used in the production of lube base oil and to prepare another Euro 5 quality oil production unit by 2023. In addition, the refinery is concentrating on increasing energy efficiency in the production process by utilizing electricity and steam from cogeneration power plant powered by natural gas which is more environmentally friendly than fuel oil to optimize the production potential of the company. Moreover, the companies in the refinery and oil trading group have goal to expand and develop the business in line with the organization's goal as follows:

- The fuel pipeline transportation and logistics network, Bangkok Fuel Pipeline and Logistics Co., Ltd. ("BFPL") targets and plans to expand its business to support a fully integrated fuel transportation system.
- BCP Trading Pte. ("BCPT") aims to continuously develop its international oil trading business by focusing on the strategy of expanding the proportion of out-out oil trading business (oil procurement and trading with entities outside of Bangchak). In addition, BCPT also has strategy to proactively procuring crude oil directly from national oil companies, enhancing capability

## Management Outlook towards the Business in 2023

development with low sulfur fuel oil partners, capturing new revenue opportunities in the biofuels market, and building good relationships with trading partners.

- BSGF Co., Ltd., (“BSGF”) funding has been accelerated to prepare the area for the construction of a Sustainable Aviation Fuel (SAF) unit to be able to deliver products to both domestic and international airlines by Q4/2024, thereby contributing to the reduction of greenhouse gas emissions and meeting the organization's BCP 316 NET objective.

**Marketing Business** has committed to the goal of having the second-ranked market share for oil sales through service stations by focusing on providing maximum customer satisfaction through service station improvements, service standards, high-quality environmentally friendly products, and developing non-oil businesses to meet customers’ needs and expectations in order for Bangchak service stations to become “Your Greenovative Destination for Intergeneration.” The company continues to expand non-oil businesses both inside and outside of service stations, as well as lube oil businesses. In addition, the company values the digitalization process to improve customer service delivery and business processes. In 2023, the company aims for approximately 80 new service stations. In addition, Inthanin Coffee business will be developed under the concept of “Inthanin Green Coffee Shop” to increase customer and brand loyalty as well as improve value chain toward a circular economy by allowing customers to be part of the solutions to take care of the society and the environment. The plan is to add another 250 Inthanin Coffee branches.

**Power Plant Business:** BCPG aims to further invest in renewable energy power business, both domestically due to the new Thailand Power Development Plan, PDP, and internationally following the global energy transition to clean energy. As well as future potential businesses such as battery and energy storage business, energy technology services, new energy sources, and other low carbon businesses.

**Bio-Based Product Business:** BBGI expanded its business into High-Value Products (HVP) by focusing on the development of health-related products using synthetic biology (SynBio), aiming to selectively design and develop products with specific requirements, especially healthcare and beauty products in line with global consumer trend. In addition, BBGI continues to grow its biofuel business, especially Sustainable Aviation Fuel for the aviation industry.

**Natural Resources Business and new business development** continues to focus on enhancing energy security along with seeking opportunities for further development and create opportunities for growth and increase revenue streams as follows:

- OKEA ASA in Norway, where Bangchak Group is the majority shareholder, continues to focus on enhancing energy security through business expansion in the natural resources group. By managing

## Management Outlook towards the Business in 2023

production costs and seeking opportunities for M&A as well as contemplating future expansion of natural resources into other potential areas.

- For the lithium business, the company holds the rights to purchase lithium according to the lithium purchase agreement with Lithium Americas Corp., along with finding opportunities to develop related businesses such as batteries.
- Liquefied natural gas (LNG) business by BTPG Company Limited (BTPG) plans to expand business domestically by targeting industrial customers to meet growing demand for LNG which is a relatively cleaner and environmentally friendly fuel source.
- Bangchak Group Initiative and Innovation Center (BiIC) plans to establish additional internal startups through an in-house innovation promotion program to generate growth opportunities and increase company's revenue channels. There is a plan to expand the number of "Krating Kiosks" (digital refueling kiosks), as well as in the future, there are plans for additional lifestyle-related services together with partnerships with external organization both government and private organizations to drive innovation in synthetic biology technology. In accordance with the Bio-Circular-Green (BCG) economy, further development of Biosphere to build human resource capacity and incubate entrepreneurs in synthetic biology technology will sustainably increase competitiveness. In addition, there are plans to diversify investments beyond green energy to include clean energy such as hydrogen economy and carbon capture and carbon utilization (CCUS).
- In addition, there are plans to expand the business by leveraging existing businesses or the potential for growth business such as Winnonie, an electric motorcycle service platform with battery swapping network and new s-curve businesses in line with the company's policy.

## Research, Development, and Innovation

This year the R&D group installed and commissioned a prototype plant to make high-value products derived from microalgae and test the efficiency of high-value substances derived from the plant. In addition, it engages in academic cooperation and project development with research institutions and universities, including the National Nanotechnology Center (NANOTEC), Thailand Institute of Scientific and Technological Research (TISTR), Thailand Science Research and Innovation (TSRI), Chulalongkorn University, and the Asian Institute of Technology (AIT).

In 2022, the Company has expenditures for research and development of technology and innovations as follows. Development and improvement to increase efficiency in various processes i.e., Algae cultivation process and astaxanthin production, Efficiency in the testing process of obtained substances, Development of new products and Preliminary market test Baht 5.8 million.

## 5. General Information and Other Key Information

### 5.1 General information



#### Registration No.

0107536000269

#### Registered capital (as of December 31, 2021)

1,376,923,157 THB, of which THB 1,376,923,157 was paid up, dividing into 1,376,923,157 shares, at 1 THB per share.

#### Company establishment

November 8, 1984

#### Commercial operation

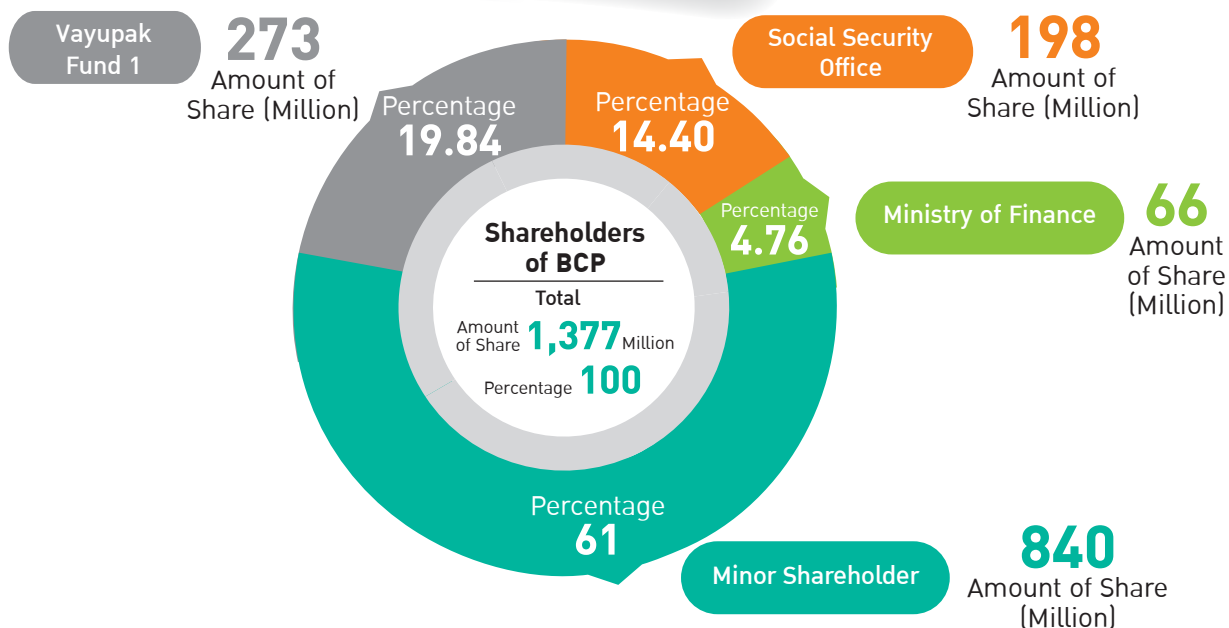
April 1, 1985

#### Nature of business

Refinery Oil and Trading Business, Marketing Business, Power Plant Business, Bio-based Products Business, Natural Resource Business and Business Development



### Shareholders of BCP



#### Contact

- Internal Audit Department  
Tel. 0 2335 4566  
E-mail: ico@bangchak.co.th
- Investor Relations Division  
Tel. 0 2335 8663 Fax 0 2335 8000  
E-mail: ir@bangchak.co.th
- The Secretary to the Board of the Directors Division  
Tel. 0 2335 4000  
Fax 0 2016 3982  
E-mail: bcpsecretary@bangchak.co.th
- Company Website  
www.bangchak.co.th



## Office and Terminals

### Northern Region Business Office

87/9 Starwork Building, 3<sup>rd</sup> Floor, Thung Hotel Road, Tambon Wat Ket, Amphoe Muang, Chiang Mai 50000  
 Tel. 053 300 484  
 Fax 053 300 485

### Phichit Oil Terminals

99/8 Moo 9 Tambon Banna, Amphoe Wachirabarami, Phichit 66140  
 Tel. 0 2335 8728  
 Email: bphcenter@bangchak.co.th

### Samut Sakhon Oil Distribution Center

100/149 Moo 1, Tambon Tha Chin, Amphoe Muang, Samut Sakhon 74000  
 Tel. 034 820 519-20

### Southern Region Business Office

126/70, Moo 6, Bypass Road, Tambon Makham Tia, Amphoe Muang, Surat Thani 84000  
 Tel. 077 224 792  
 Fax 077 224 793

### Surat Thani Oil Distribution Center

104/1 Moo 2, Surat-Pak Nam Road, Tambon Bang Kung, Amphoe Muang, Surat Thani 84000  
 Tel. 077 275 056-8

### Song Kla Oil Distribution Center

3/26 Moo 6, Tambon Sa Ting Mor, Amphoe Singha Nakorn, Song Kla 90280  
 Tel. 074 332 782  
 Fax 074 332 783

### Rayong Oil Distribution Center

1, 3B Road, Tambon Map Ta Phut, Amphoe Muang, Rayong 21150  
 Tel. 038 609 389  
 Fax 038 609 413

### Northeastern Region Business Office

499 Moo 12, Mitrphab Road, Tambon Muang Kao, Amphoe Muang, Khon Kaen 40000  
 Tel. 043 261 751-52  
 Fax 043 261 790

### Sri Racha Oil Distribution Center

115/14 Moo 10, Tambon Thung Sukhla, Amphoe Si Racha, Chon Buri 20230  
 Tel. 038 493 179  
 Fax 038 493 129

### Central Region Business Office and Bang Pa-In Terminal

99 Moo 9, Tambon Bang Krasan, Amphoe Bang Pa-in, Ayutthaya 13160  
 Tel. 035 350 289, 035 350 292  
 Fax (Central Region Business Office) 035 350 290  
 Tel. (Bang Pa-In Terminal) 035 276 999

### Head Office

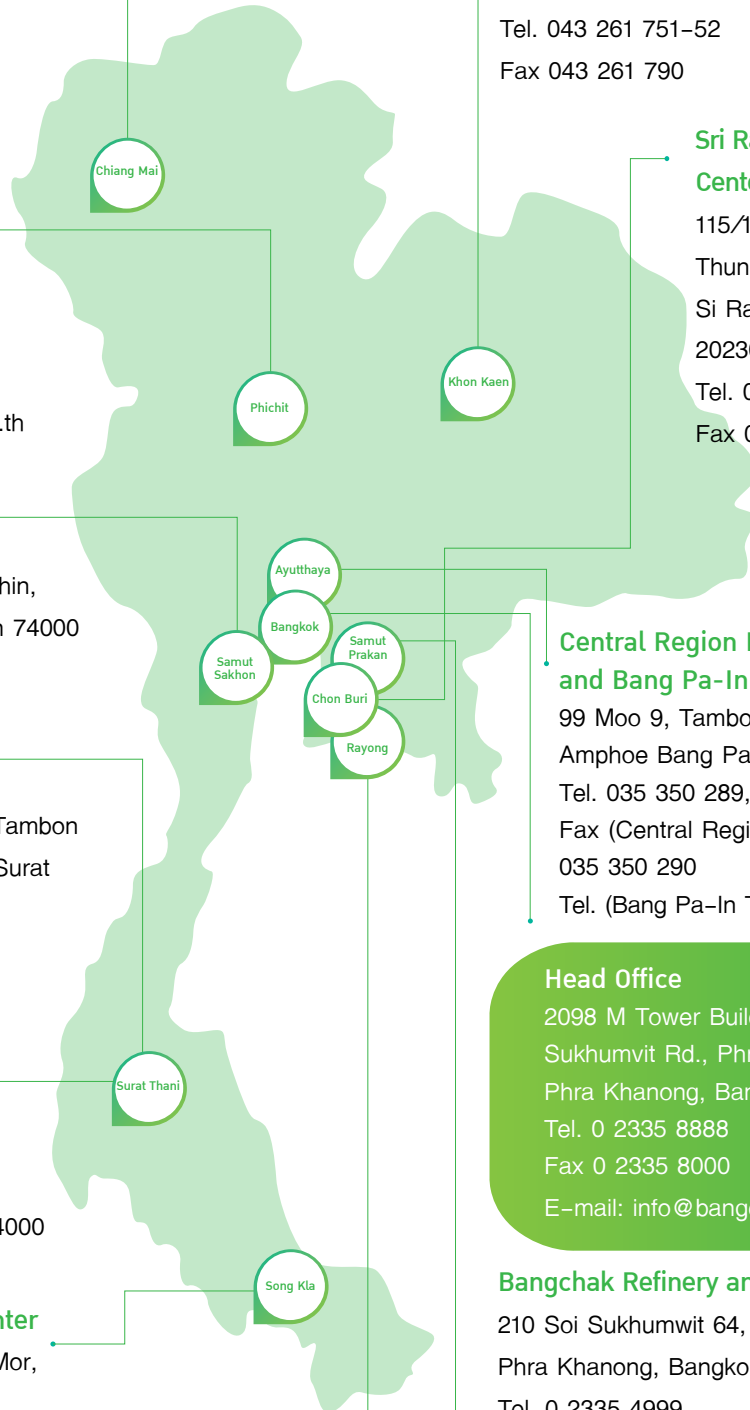
2098 M Tower Building, 8<sup>th</sup> Floor Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260  
 Tel. 0 2335 8888  
 Fax 0 2335 8000  
 E-mail: info@bangchak.co.th

### Bangchak Refinery and Terminal

210 Soi Sukhumvit 64, Phra Khanong Tai, Phra Khanong, Bangkok 10260  
 Tel. 0 2335 4999  
 Fax 0 2335 4009

### Suksawat Lubricant Oil Distribution Center

196 Moo 1, Suksawat Road, Tambon Pak Khlong Bang Pla Kot, Amphoe Phra Samut Chedi, Samut Prakan 10290  
 Tel. 0 2815 6997-8





## Subsidiaries

### BCPG Public Company Limited (BCPG)

2098 M Tower Building, 12<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel.0 2335 8999

Fax. 0 2335 8900

E-mail: info@bcpggroup.com

Website: www.bcpggroup.com

### BBGI Public Company Limited

2098 M Tower Building, 5<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel.0 2335 8899

Fax. 0 2335 8800

E-mail: info@bbgigroup.com

Website: www.bbgigroup.com

### Bangchak Retail Co., Ltd. (BCR)

2098 M Tower Building, 17<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 8400

Fax. 0 2016 3963

### Bangchak Green Net Co., Ltd. (BGN)

2098 M Tower Building, 17<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2367 2699

Fax. 0 2745 7945

### BCPR Co., Ltd.

2098 M Tower Building, 8<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 8654

### BCV Bio Based Co., Ltd.

### BCV Innovation Co., Ltd.

### BCV Energy Co., Ltd.

### BTSG Co., Ltd.

2098 M Tower Building, 20<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 4999

Fax. 0 2335 4572

### Winnonie Co., Ltd.

2098 M Tower Building, 8<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 4007

Fax. 0 2335 8000

### General Energy Manning Co., Ltd.

2098 M Tower Building, 18<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 8888

### Bangkok Fuel Pipeline and Logistics Co., Ltd.

99 Moo 9, Bang Krasan, Bang Pa-in District, Phra Nakhon Si Ayutthaya Province

Tel. 0 2335 4038

### BCP Innovation Pte. Ltd.

### BCPR Pte. Ltd.

8 Marina Boulevard #05-02, Marina Bay Financial Centre, Singapore 018981

### BCP Trading Pte. Ltd.

160 Robinson Road # 25-03, Spore Business Federation CTR, Singapore 068914

### OKEA ASA

Oslo, Tordenskioldsgate 8-10, 0160 Oslo, Norway

## Others

### Bangchak Initiative Innovation Center (BiIC)

2098 M Tower Building, 5<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Email: biic@bangchak.co.th

### Happiness Sharing Foundation

2098 M Tower Building, 18<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 4608

Fax. 0 2016 3969

### Oam Suk Social Enterprise Co., Ltd.

2098 M Tower Building, 18<sup>th</sup> Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel. 0 2335 4600

Fax. 0 2016 3969

## 5.2 Other key information

### Reference Persons

#### Securities Registrar

**Thailand Securities Depository Co., Ltd.**

93 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400 Thailand  
Tel. 0 2009 9000  
Fax. 0 2009 9991

#### Auditor

**KPMG Phoomchai Audit Limited**

48<sup>th</sup> – 51<sup>st</sup> Floors, Empire Tower  
195 South Sathorn Road, Yannawa, Sathorn, Bangkok 10120 Thailand  
Tel. 0 2677 2000  
Fax. 0 2677 2222

#### Legal Counsel

**Baker & McKenzie Ltd.**

25<sup>th</sup> Floor, Abdulrahim Place  
990 Rama IV Road, Silom, Bangrak,  
Bangkok 10500 Thailand  
Tel. 0 2636 2000 Fax. 0 2636 2111

**Thakoon Chantarangsi Law Office Company Limited**

133/415 Pruksa Ville Village 33 Moo 3,  
Plai Bang, Bang Kruai, Nonthaburi 11130

**LS Horizon Limited**

14<sup>th</sup> Floor, GPF Witthayu Tower,  
A 93/1 Wireless Road, Lumpini, Phatumwan,  
Bangkok 10330 Thailand  
Tel. 0 2627 3443 Fax. 0 2627 3250

**SRPP Ltd.**

622 Emporium Tower, 18/2–3 Floor, Sukhumvit Road,  
Klongton, Khlong Toei District, Bangkok  
Tel: 0 2029 1700

**Chandler MHM Law Officers Limited**

20 Bubhajt Building, 7<sup>th</sup> – 9<sup>th</sup> Floor,  
North Sathorn Road, Silom, Bangrak,  
Bangkok 10500 Thailand  
Tel. 0 2266 6485 Fax. 0 2266 6483

**Law Alliance Ltd.**

1168/22 14<sup>th</sup> Floor, Lumpini Tower, Rama IV Road, Thung  
Maha Mek, Sathon, Bangkok 10120  
Tel: 0 2651 5490

#### Others

- Investor support service
- Reporting share certificates losses
- Change of investor's information

#### Contact

**Issuer Support Unit****Thailand Securities Depository Co., Ltd.**

93 Ratchadaphisek Road, Din Daeng Bangkok 10400  
Tel: 0 2009 9000  
Fax: 0 2009 9991

## 5.3 Legal Disputes

Bangchak is a party to a lawsuit involving an ongoing legal dispute that may render a significant effect on Bangchak's business operation and arose outside the ordinary course of business. Details of the case as at December 31, 2022, were as follows:

1. One company ("debtor company") incurred an outstanding aviation fuel payment to Bangchak and later filed a petition for business reorganization, approved by the Central Bankruptcy Court on September 14, 2020, directing it to reorganize its business and appoint a planner. On October 8, 2020, Bangchak filed an application for receipt of payment to the official receiver in the amount of USD 31,707,494.94. Later, the receivership officer ordered that Bangchak receive USD 29,710,516.39 along with interest payment of 7.5 percent per year on the USD 29,086,460.59 principal from the date the court issued business rehabilitation to the end of payment. The planner submitted such plan to the receivership officer and held a creditors' meeting, which endorsed the plan on May 19, 2021. Under the plan, Bangchak belonged to the creditor group entitled to the principal repayment without interest for a series of eight consecutive payments (the debtor makes two repayments per year). The first such payment would begin in the second half of 2024. Then on June 15, 2021, the Central Bankruptcy Court issued its endorsement of the debtor company's business rehabilitation plan.
2. On July 30, 2021, a Bangchak subsidiary was the party to a dispute with a claimant company, which filed the dispute to the Thai Arbitration Institute, Arbitrator Bureau, Office of the Judiciary, accusing the subsidiary of breaching a glycerin refinery construction contract and demanding compensation worth Baht 121,183,444.65. The subsidiary, in return, filed an objection and petitioned for compensation worth Baht 232,147,449.35 from the claimant. The case is currently under the Thai Arbitration Institute's deliberation. The subsidiary confirmed its honoring of all contract terms.
3. Bangchak became a defendant in a case where a property was claimed under land title deed No. 2465 in Tambon Bang Chak, Amphoe Phra Khanong, Bangkok Metropolis. Bangchak was demanded to remove buildings and return such land, for which the claimant sought compensation of Baht 5 billion if such action is not taken. In 1995, the Ministry of Finance, Treasury Department, and Bangchak had faced litigation under the same land title deed, which in 2016 the Supreme Court dismissed, considering all the land under the title deed already eroded by the Chao Phraya River. So, this exercise represented resurrected litigation, for which Bangchak contested. On December 28, 2022, a lower court dismissed the claim in agreement with the facts previously decided by the Supreme Court that all the land had been eroded and had become public property. The verdict is currently under appeal by February 28, 2023.
4. Bangchak and its subsidiary received the notice of arbitration from the counterparty claiming that Bangchak and its subsidiary have breached the investment agreement, in turn, Bangchak and its subsidiary have to deliver a payment of a sum of approximately USD 23 million including interest of such sum and other related costs and damages. Bangchak and its subsidiary insist that it has performed and complied with the terms and conditions of the disputed agreement, and make a payment of the sum which Bangchak and its subsidiary believe to be the amount due and payable by it according to such agreement. In this regard, Bangchak and its subsidiary have filed a defense denying the excess and unfair claims against it, and proceeded to appoint an arbitrator in order to settle such dispute in accordance with the relevant procedure.

## 5.4 Contact financial institution

Debenture Registrar and Payment Agent  
(for BCP273A, and BCP303A)

**Bangkok Bank Public Company Limited**

333 Silom Road, Silom, Bangrak, Bangkok 10500 Thailand

Tel. 0 2230 1478

Fax. 0 2626 4545-6

Website: [www.bangkokbank.com](http://www.bangkokbank.com)

Debenture Registrar, Payment Agent, and Debenture  
Holders' Representative (for BCP19PA)

**Krung Thai Bank Public Company Limited**

Capital Market Services Department

977/2 SM Tower, 3<sup>rd</sup> Floor, Phahonyothin Rd, Samsen Nai,

Phaya Thai, Bangkok 10400

Tel. 0 2298 0835

Website: [www.krungthai.com](http://www.krungthai.com)

Payment Agent, and Debenture Holders'  
Representative (for BCP260A)

**Krung Thai Bank Public Company Limited**

Capital Market Services Department

977/2 SM Tower, 3<sup>rd</sup> Floor, Phahonyothin Rd, Samsen Nai,

Phaya Thai, Bangkok 10400

Tel. 0 2298 0835

Website: [www.krungthai.com](http://www.krungthai.com)

Debenture Registrar and Payment Agent  
(for BCP244A)

**Bank of Ayudhya Public Company Limited**

1222 Rama III Road, Bang Phongphang, Yan Nawa, Bangkok

10120 Thailand

Tel. 0 2296 5715

Fax. 0 2683 1298

Website: [www.krungsri.com](http://www.krungsri.com)

Debenture Registrar, Payment Agent and Debenture  
Holders' Representative  
(for BCP238A BCP258A BCP275A BCP28DA BCP305A  
BCP23NA BCP26NA BCP29NA BCP31NA BCP258B  
BCP278A and BCP328A)

**Bank of Ayudhya Public Company Limited**

1222 Rama III Road, Bang Phongphang, Yan Nawa, Bangkok

10120 Thailand

Tel. 0 2296 5715

Fax. 0 2683 1298

Website: [www.krungsri.com](http://www.krungsri.com)



Part



Corporate Governance





# Corporate Governance

Foundation for Success  
of Sustainable Business Development





## 6. Corporate Governance Policy

### 6.1 Overview of Corporate Governance Policy and Practices

Bangchak Corporation Plc. has instituted its corporate governance policy in writing since 2003 as a result of a workshop engaging all employees where everyone played a part in contributing ideas for the Company's practical guidelines. To date, the Company has focused on cultivating an understanding of good corporate governance as well as awareness of how to apply such principles in their daily life. This has turned into a company culture. The Company has constantly evolved its corporate governance practices by way of studying domestic and international governing guidelines for such practices. The Board has decided to annually revise its policy.

#### 6 Key Principles of Corporate Governance

**A****Accountability**

Action or decision-making undertaken with care and prudence supported by bona fide rationale as adequate, marked by responsibility for its consequences.

**R****Responsibility**

Full commitment and dedication to one's responsibility in Bangchak's best interests. This responsibility includes recognition of one's duty to always learn and enhance one's competency.

**T****Transparency**

Commitment to business conduct with integrity, auditability, and transparency, with valid references.

**E****Equitable Treatment**

Treatment of others fairly and righteously, without discrimination.

**V****Vision to Create Long-term Value**

Business execution to enable Bangchak to supplement value to stakeholders and lead it toward inclusive and sustainable growth, including avoidance of any action undermining such value.

**E****Ethics**

Moral behavior founded on conscience and propriety and meant to create virtue and ultimately form Bangchak's employee culture of "To be virtuous, knowledgeable, and contributive to society".

### 6.1.1 Policies and guidelines on the Board of Directors

As corporate leaders and ultimately responsible parties, the Board of Directors not only plays a key role in ensuring sound long-term business performance and credibility among shareholders and stakeholders in Bangchak's best interests, but also forges sustainable business values. Working independently of the management, the Board of Directors is to perform its duties with responsibility, care, and integrity, while complying with the law, Company objectives and regulations, its own article of association, and those of the shareholders' meetings. Bangchak has set policies and guidelines for the Board of Directors as follows:

#### • Composition and appointment

- The Board of Directors is composed of a minimum of 5 and a maximum of 15 members. At least a half of the Board must be residents in Thailand. Each director must be qualified by the law and Company regulations without sexual discrimination.
- The Board consists of at least one-third being Independent directors
- The Board consists of directors who are knowledgeable, skillful, and experienced in the oil business, retail sales business, energy business, other related businesses (like petroleum exploration and production, power generation, and alternative energy), international business, accounting and finance, internal control, law, organizational development and innovation in information and digital technology, social / environmental / safety matters, and risk and crisis management. At least one of them must be adequately knowledgeable or experienced in accounting and finance. At least one non-executive director must possess experience in the core business or industry operated by Bangchak.
- The Chairman of the Board should be an Independent Director and must not be the same person as the President and Chief Executive Officer. Additionally, the Chairman must not hold any position in the appointed Sub-committee (sometimes called Committee) in view of clear-cut responsibilities and duties. If the Chairman is not an Independent Director, the number of Independent Directors must exceed half of the Board; alternatively, an Independent Director must be appointed to jointly decide the Board agenda.
- Each newly elected Director must attend an orientation course to ensure appreciation of objectives, main goals, vision, missions, corporate values, business characteristics and approach, applicable regulations, corporate governance policy, and other essential information for efficient performance.
- Attend at least one training course organized by Thai Institute of Directors Association (IOD), such as Director Accreditation Program (DAP) or Director Certification Program (DCP) or equivalent, to increase expertise at work.

#### • Independent Directors

There is a need to ensure that independent directors are critical to good governance, looking after the interests of Bangchak and its shareholders by imposing checks and balances on Board decision-making and commanding awareness of their duties with due regard for righteousness and free views from any party's influence. The Board therefore devised definitions and qualifications of independent directors in the corporate governance policy, with stricter shareholding requirements than those of SEC and SET, not exceeding 0.5% against the legal maximum of 1% of the total eligible voting shares of Bangchak, its parent company, subsidiaries, associates, major shareholder or controller, and independent directors' related parties.

## • Policy on Director Nomination

To nominate Directors, the Company focuses on people with knowledge, capability, experience, sound career profile, leadership, vision, morality, ethics and good attitude toward the organization, who can dedicate adequate time for the Company's benefit. Moreover, consideration was also given to Board diversity and Board skill matrix in order to nominate the directors' qualifications by considering skills which have been missing and also appropriate qualifications in compliance with the structure of Directors and in line with the Company's strategic directions. Bangchak will also use Director Pool from the Thai Institute of Directors (IOD) to nominate directors through transparent procedures to bolster the confidence of shareholders.

## • Policy on Board Diversity

Nomination of directors takes into account diversity in several aspects, including educational background, career experience, skills, and expertise without any regard for gender, age, nationality, origin, religious belief, or other differences.

## • Board Meetings

- The Board schedules its meetings at least once a month (every third Thursday) and as deemed necessary. The meeting schedule and agendas are agreed in advance for the year. The invitation letters accompanied by relevant documents are sent to the directors at least seven days in advance of each meeting.
- Meetings among the non-management directors and the independent directors at least twice a year, these preceded the Board meetings. The intention is to freely discuss general issues on management or corporate governance, with subsequent notification to the President and chief executive officer so that the management may take actions on such issues.
- Each Board meeting should be attended by at least three-quarters of all directors. Additionally, at least three-fourths of all board members are needed to vote on an issue.
- Each year, directors should attend no less than 75% of all Board meetings. (Directors should attend the meeting at least 9 of 12 times a year)

## • Terms of Directorship

In every Annual General Meeting (AGM), one-third of the Directors must retire; moreover, if this number is not a multiple of three, then the number nearest to one-third. The directors who have completed their terms may be re-appointed. The appropriate term for directorship is no more than three consecutive terms (from 2008 onward) except for when a director is deemed suitable to hold the position for a longer period. The Board will consider the independence and effectiveness of the director who is under consideration and defend their decision to the shareholders. Independent directors do not hold their positions for more than three consecutive terms from the date of the first appointment of their independent directorship. The Board will consider their reappointment based on reason and necessity and will consider them non-independent directors.

## • Board Assessments

The Board of Directors set an evaluation form for the Board's performance at least once a year. The Board conduct the evaluation in three forms, namely individual evaluation (Self-Evaluation), individual evaluation (cross-evaluation) and group evaluation, for the Board's review of performance outcomes and problems for performance development.

## • Board Remuneration

Decision on Directors' compensation (monthly & meeting fees and bonuses) aligns with Bangchak's long-term strategies and goals. Such compensation is comparable to industry practices, experience, accountability and responsibility, and expected benefits from each Director that has assumed additional duties and responsibilities. The remuneration is enough to attract qualified directors who can complete their duties to achieve a desirable goal and direction for the Company. The remuneration process is transparent and creates shareholders' confidence.

• **The Board’s terms on the succession planning and development of executives**

Ensuring a succession plan for the positions of the President and Chief Executive Officer and senior management, the Board requires annual reporting on compliance with this plan as a minimum. On the recruitment policy for the President and Chief Executive Officer, for optimal purposes, qualified outsiders or senior executive vice presidents upward may enter the selection process. The Board also assigned the Nomination and Remuneration Committee to review the criteria and procedure for recruitment, development, and assessment of the President and Chief Executive Officer, including the criteria and compensation structure for the position.

• **Oversight of subsidiaries, associates, and joint-venture companies**

Bangchak runs its businesses through subsidiaries, associates, and joint-venture companies, as detailed under “Shareholding Structure”. The Board commands a mechanism for supervising the management and the responsibility of subsidiaries, associates, and joint-venture companies to safeguard the interests of Bangchak’s investment capital.

• **The sub-committees**

The Board appoints four committees to consider significant matters, consist of the Audit Committee, Nominating and Remuneration Committee, Enterprise-wide Risk Management Committee, and Sustainability and Corporate Governance Committee.

**6.1.2 Policies and practices related to shareholders and stakeholders**

• **Rights and Equitability of Shareholders**

**1. Rights of shareholders**

The shareholders are entitled to Bangchak’s ownership by exercising their rights to appoint directors to perform on their behalf and the right to make decisions on key changes. The Board recognizes and values such rights by promoting such exercise and refraining from violating or depriving their rights.

**2. Equitable Treatment of Shareholder**

All shareholders are entitled to receive fair treatment. The Board is to ensure such fair treatment and safeguard their fundamental rights.

• **The Company’s Role toward Stakeholders**

Bangchak is committed to looking after stakeholders, whose rights are provided by applicable laws. The Board establishes a process promoting cooperation between Bangchak and stakeholders in creating wealth, financial security, and business sustainability. The Board recognizes and values the rights of stakeholders as defined by laws, human rights and fair labor treatment to ensure that the stakeholders’ rights are protected and well-treated. It also establishes suitable communication channels for all stakeholders and whistleblowing channels for employees and other stakeholders so that stakeholders may more efficiently participate in maintaining Bangchak’s interests as follows:

1 Responsibility to the shareholders

2 Responsibility to employees

3 Responsibility to customers

4 Responsibility to business partners

5 Responsibility to competitors

6 Responsibility to creditors

7 Responsibility to the public sector

8 Responsibility to communities around the refinery, society, and the environment

## • Disclosure of Information and Transparency

Bangchak discloses key information, whether financial or non-financial, in an accurate through readily accessible channels that are equitable and credible. This policy on disclosure of information forms part of the Company's good corporate governance policy. The Company is committed to the fair disclosure of information to the shareholders, financial institutions, securities companies, investors, those needing financial information, and the public. It highly values communication practices that are open, complete, accurate, timely, and regular for past information and future value addition without bias against positive or negative information. The Company recognizes the need to maintain sensitive information for critical business information and operating strategies. This policy aligns with the SET and SEC criteria and terms for information disclosure.

## • Safety, Health, Environment, and Energy

Bangchak values the stewardship of safety, occupational health, the environment, and energy to ensure that all activities fall under an international-standard management system that does not harm the environment, society, and communities. The Company is committed to raising its management excellence by the approach of the Thailand Quality Awards, which values social responsibility; protection of health, safety, and the environment; and business conduct and employees. In addition, the Company values resource conservation, which encompasses all activities, products, and services—all with key business roles; loss prevention; and compliance with the law and public regulations. Viewing these regulations as opportunities for improvement over and beyond what need to be complied with, the Company devises the SHEE policy, and all executives and rank-and-file employees including all contractors working on behalf of the Company are held directly responsible

## • Risk management, internal control, and internal audit

Bangchak has established risk management and internal control systems to enable business to achieve its objectives, while complying with related laws and regulations and lowering corruption-related risks. An internal audit system is in place to ensure achievement of Bangchak's goals.

## • Anti-Corruption

Bangchak has defined business ethics against corruption in every form and integrated the ethics in the corporate governance policy. Also, it has waged a campaign to stress anti-corruption within the Company. At the same time, Bangchak has integrated the anti-corruption policy into its corporate governance policy to reiterate its intention to operate business by abiding by the law and regulations relevant to corporate governance, refusing all forms of fraud and covering all businesses in all applicable countries and agencies. It has defined anti-corruption measures to implement the policy and has regularly reviewed them to comply with changes in laws and business circumstances and uphold Bangchak's reputation by ensuring that directors, executives, and employees implement them. The relevant implementing measures apply to all subsidiaries, associates, and other companies that the Company has control over, as well as its business agents. Bangchak became one of the first 22 companies to gain membership certification for CAC (Thai Private Sector Collective Action Coalition against Corruption).





## 6.2 Code of Conducts

Bangchak commands a written code of conduct as part of the Corporate Governance Policy, regarded as its definition of business standard and personnel behavior together with governance of its key corporate culture. The code of conduct states guidelines for good practices reflecting awareness of responsibility and work ethics, which are linked to and support Bangchak's vision, objectives, goals, and strategies. As role models and CG leaders, the Board ensures that management commands tools for establishing and driving a corporate culture firmly underlined by ethics and a code of conduct in all work processes. Bangchak's Code of Conduct consists of:

### 6.2.1 Code of Conduct for Business

- **Respect for the law and human rights principles**

In all its operations worldwide, Bangchak values and is committed to compliance with the law. Employees strictly honor laws, customs, traditions, and culture of each locality. In addition, they honor human rights principles under international laws and standards.

- **Anti-corruption of all forms**

Conduct business with a commitment to opposing corruption of all forms. Institute a risk management process and scrutiny to prevent and suppress corruption and malfeasance. Support the establishment of a company culture where people are firmly committed to integrity and ethics.

- **Moral and ethical behavior at every organization level**

Morality and ethics are important elements of good corporate governance principles. It is the work ethics at every level of the organization.

- **Responsibility to society and stakeholders**

In conducting its business, Bangchak shows due regard for duties and responsibility in line with society, the environment, and the good of all. It is committed to treating all stakeholders shareholders, employees, customers, business partners, competitors, the public sector, and neighbors around the refinery in line with their respective needs.

- **Strive for excellence**

Bangchak is committed to upgrading its standards for management excellence under the Thailand Quality Award criteria by promoting, for optimal outcomes, its business and employees' best performance with propriety and transparency. Also, it constantly drives curiosity and innovation.

- **Transparency and disclosure of information**

Management, financial records and financial reports are properly handled to comply with laws and regulations and meet international standards. Accurate, clear and timely information is disclosed to ensure confidence of investors, shareholders and related lenders.

### 6.2.2 Employee Code of Conduct

- **Conduct and behavior among employees**

Carry out all duties with integrity, attentiveness, and seriousness to foster quality, and efficiency. Strictly comply with relevant laws, rules, regulations, goals, and plans under the approved budget. Also, refrain from engaging in any business or investment that could potentially compete so with the Company.

- **Treatment of colleagues**

Respect others' rights and refrain from slandering others. Jointly forge and maintain unity among the workforce.

- **Executives' duties**

Executives serve as director of other companies or any other position in a business organization must have a prior approval. In addition to, executives wishing to engage in the trading of Company securities must notify Secretary to the Board of Directors Division at least one day in advance for the quarterly reporting to the Audit Committee's meeting and refrain from securities trading at least one month before the announcement of the Company's financial statements and at least three days after such announcement.

- **Acceptance or giving of gifts**

Refrain from requesting, accepting or agreeing to accept, undue extra benefits or improper payment with customers, business partners, contractors, agents, and sellers of products and services to the Company, or from any parties engaging in businesses with it.

- **Entertainment, gifts, and other expenses**

Employees must not accept or sponsor entertainment and other expenses beyond necessary extents, or those unsuitable for public officials or those engaging in business with Bangchak. Employees must never accept gifts or other tokens of any value.

- **Preparation of financial reports and financial statements**

Accounting entries and preparation of financial reports and financial statements must reflect actual transactions under generally accepted accounting principles. Disclosure of information must be accurate, clear, and updated so that relevant parties may examine it.



- **Maintaining the Company's reputation**

Refrain from any act that could potentially harm the Company's reputation or pose problems for it and uphold their own dignity in society.

- **Stewardship of properties**

Make the best use of Company properties, jointly care for them against defects and losses, and refrain from using them for other businesses. as well as respect others' property.

- **Respect for intellectual properties**

Maintain and safeguard Bangchak's intellectual property rights, while respecting and maintaining others' intellectual property rights.

- **Use of information technology (IT)**

Strictly comply with applicable laws governing and guidelines for Bangchak's IT applications and include IT as part of the strategies and operation.

- **Use of inside information**

Maintain and ensure that information recipients maintain confidentiality and market-sensitive information through suitable access methods and keep it from other employees or unrelated parties. Also, Employees must not use inside information and information regarded as Bangchak's or affiliates' confidential information for or the benefit of oneself or others wrongfully.

- **Conflicts of interest**

Refrain from any act posing conflicts of interest with the Company, that is, any act potentially depriving the Company of its fair interests, or from sharing benefits with the Company.

## 6.2.3 Procurement Code of Conduct

- **Acceptance of gifts, tokens, entertainment, and preferential treatment**

Employees must never accept gifts or other tokens of any value and must avoid getting excessively friendly with one particular supplier or vendor that others could mistake for bias and therefore avoid bidding against those preferred.

- **Injustice arising from procurement and hiring processes**

Procurement should not be based on the specifications of any particular product or deliberately biased toward such products unless adequately justified and necessary.

- **Conduct toward suppliers or vendors**

The relationship between buyers and sellers should bolster mutual confidence through goodwill and justice, with continuous treatment toward each other.

- **Purchasing priority**

Locally available products must receive first priority. In addition to supporting domestic industries, buying such products is less costly. Unless absolutely necessary, the Company shall buy products available from the Company and its affiliates and available in the market, except when those items are unavailable.

**bangchak**

บริษัท บางจาก คอร์ปอเรชั่น จำกัด (มหาชน)  
มีนโยบาย ขอความร่วมมือ  
"งดการให้และรับของขวัญ" ในช่วงเทศกาลและในโอกาสอื่นใด  
ขอขอบคุณในไมตรีจิตที่มีต่อบางจาก

**BANGCHAK**

Bangchak Corporation Public Company Limited  
kindly requests your cooperation to  
**refrain from giving and accepting gifts on all occasions.**  
Your kind cooperation is highly appreciated.

## 6.3 Milestones of policy, guidelines, and corporate governance of this past year

### 6.3.1 Milestones of policy, guideline, or corporate governance system

The Board recognizes the importance of upgraded corporate governance (CG) practices to become comparable with leading domestic and international companies, which would benefit its pursuit of sustainable growth. It therefore annually reviews the suitability and adequacy of the policy and guidelines for its CG and code of conduct to align with its business model and prevailing circumstances, which include laws, rules, guidelines, and stakeholders’ views.

In 2022, the Board of Directors reviewed and considered the Company’s policies, guidelines and good corporate governance systems and has resolution that the good corporate governance policy of the Company is still appropriate and in line with the requirements of the Corporate Governance Report (CGR) of listed companies, the Thai Private Sector Collective Action against Corruption (CAC), the S&P Global Corporate Sustainability Assessment (S&P Global CSA), and leading companies’ operating standards on corporate governance, while suiting the current business model. Therefore, there is no amendment to the good corporate governance policy of the Company.

### 6.3.2 Compliance with CG Code

The Board reviewed the SEC–developed CG Code of 2017 and recognized its role as corporate leaders in the application of CG to create sustainable business value. It assessed compliance with each item of the code of Bangchak’s policies, CG practices, and business context, concluding that its overall policies, measures, and business processes aligned with CG Code guidelines and proved appropriate for its business growth directions, except the following matters which are the aspects not yet applied, which will in time be adapted as seen fit.

CG Code guideline	Bangchak’s justification or alternative measure
The appropriate number of directors is between 5 and 12 (Guideline 3.1.2)	Bangchak’s articles of association requires 5–15 directors. Since 2014 it had appointed 15 directors in keeping with its articles of association and business model of continued investment in new businesses. As a result, Bangchak has needed diversity in directors’ background, meaning qualifications and competencies fitting business expansion.

### 6.3.3 Other practices under CG Code

Thanks to its firm commitment and intention to operate with CG, Bangchak continually ranked high among companies, with CG accolades including

- The excellent ranking (five emblems) under the 2022 CGR (Corporate Governance Report) survey of listed companies, organized by IOD and SET. Bangchak was among those in Thailand with high scores.
- ASEAN Asset Class and ASEAN Top 20 ranking under the ASEAN CG Scorecard Project, presented by Thai–IOD and SEC

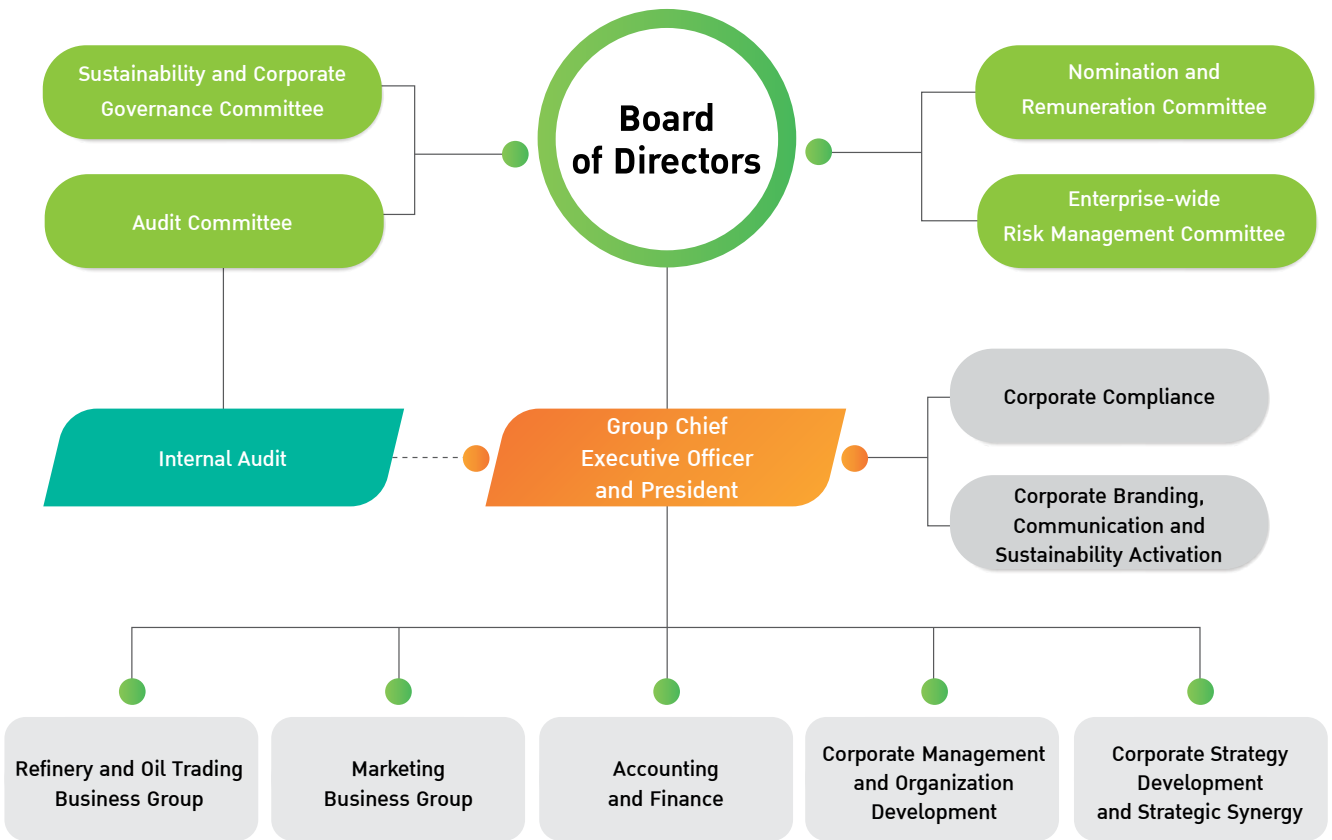


QR Code  
 Corporate Governance Policy Full Version  
<https://www.bangchak.co.th/en/cg/corporate-governance>

# 7. Corporate Governance Structure and key information about the board, Sub-committees, management, employees, and others

## 7.1 Corporate Governance Structure

The Board of Directors and the management perform in the best interests of Bangchak and its shareholders under a clear, balanced, and accountable management structure. The Board monitors and ensures that the management implements its policies, plans and strategies, and that there is clear distinction of roles and responsibilities between the Board and the management. The Board appoints sub-committees to consider significant matters, consist of the Audit Committee, Sustainability and Corporate Governance Committee, Nomination and Remuneration Committee and Enterprise-wide Risk Management Committee. Group Chief Executive Officer and President is the top executive.



- Remark :
- The Audit Committee considers, appoints, transfers, dismisses, and undertakes annual evaluation of the Chief Audit Executive and review the independence of Internal Audit.
  - On August 18, 2022, President and Group Chief Executive Officer change the position name to Group Chief Executive Officer and President



The Board of Directors



**Mr. Pichai Chunchavajira**  
Chairperson of the Board and Director with Authorized Signature (Independent Director)

**Mr. Suthep Wongvorazathe**  
Vice Chairperson and Director with Authorized Signature

**Dr. Poramete Vimolsiri**  
Independent Director and Chairperson of the Audit Committee



**Mr. Prasong Poontaneat**  
Independent Director and Chairperson of the Enterprise-wide Risk Management Committee

**Mrs. Prisana Praharnkhasuk**  
Independent Director and Chairperson of the Nomination and Remuneration Committee

**Mr. Narin Kalayanamit**  
Independent Director and Chairperson of the Sustainability and Corporate Governance Committee

**Gen. Songwit Noonpackdee**  
Independent Director and Director with Authorized Signature



**Pol.Lt.Gen. Chaiwat Chotima**  
Independent Director and Director with Authorized Signature

**Pol.Lt.Gen. Samran Nualma**  
Independent Director

**Mr. Achporn Charuchinda**  
Independent Director and Director with Authorized Signature

**Mr. Chaovalit Ekabut**  
Independent Director



**Mr. Chamroen Phothiyod**  
Director

**Dr. Kulaya Tantitemit**  
Director

**Mr. Boonchob Suthamanuswong**  
Director

**Mr. Chaiwat Kovavisarach**  
Group Chief Executive Officer, President, Executive Director and Director with Authorized Signature



## 7.2 The Board of Directors

### 7.2.1 The Board Composition (as of December 31, 2022)

- The Board consists of 5–15 directors, for whom Bangchak’s Board Diversity governs. Such diversity includes educational background, professional experience, as well as skills and knowledge, without restrictions for gender, age, nationality, origin, religious belief, or other differences.
- The Board consists of knowledgeable, skilled, and experienced individuals in the oil, retail, energy, international, or other applicable businesses, including petroleum exploration and production, power plant, renewable energy, accounting and finance, management, law, organizational development and innovation, IT and digital, socio-environmental and safety, and risk and crisis management businesses. At least one director must be well-versed in accounting and finance; at least another non-executive director must command experience in Bangchak’s core business or industry.
- At year-end 2023, Bangchak had 15 directors, two of whom were females. One director served as an executive director. Directors’ skills matched Bangchak’s business strategies, as seen in the Board Skills Matrix. They are diverse in educational background, experience, and skills required by the matrix. (Board details appear in Attachment 1.)
- Independent directors account for more than one-third of the Board. There are 10 of them, which exceeds half of the Board, thus conforming to good governance.
- The Chairman cannot be the same person as the President and Chief Executive Officer and does not belong to any Sub-Committee in view of clear-cut responsibilities and duties.

#### Board Skills Matrix

Name/Specific Expertise	Knowledge of company business	International business	Accounting and finance	Management	Compliance	Organizational development and innovation	Information and digital technology	Society, environment, and safety	Risk and crisis management
1. Mr. Pichai Chunhavajira	x	x	x	x		x		x	x
2. Mr. Suthep Wongvorazathe	x	x	x	x					x
3. Gen. Songwit Noonpackdee	x			x		x		x	x
4. Pol.Lt.Gen. Chaiwat Chotima	x			x				x	x
5. Pol.Lt.Gen. Samran Nualma	x			x	x			x	x
6. Dr. Porametea Vimolsiri	x	x	x	x		x		x	x
7. Mr. Prasong Poontaneat	x	x	x	x	x	x			x
8. Mrs. Prisana Praharnkhasuk	x	x	x	x		x	x		x
9. Mr. Narin Kalayanamit	x	x	x	x		x			x
10. Mr. Achporn Charuchinda	x	x		x	x	x			x
11. Mr. Chaovalit Ekabut	x	x	x	x	x				x
12. Mr. Chamroen Phothiyod	x	x	x	x	x				x
13. Dr. Kulaya Tantitemit	x	x	x	x			x		x
14. Mr. Boonchob Suthamanuswong	x			x	x	x		x	x
15. Mr. Chaiwat Kovavisarach	x	x	x	x		x	x	x	x
<b>Total</b>	<b>15</b>	<b>11</b>	<b>10</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>3</b>	<b>7</b>	<b>15</b>

## 7.2.2 The board information and the authorized director

**Board of Directors** There were 15 directors (As of December 31, 2022) as follows:

Name	Position	Appointment date
1. Mr. Pichai Chunhavajira	- Chairperson (Independent director)	April 24, 2012 (Independent director since June 1, 2017)
2. Mr. Suthep Wongvorazathe	- Vice Chairperson - Member of the Sustainability and Corporate Governance Committee	October 30, 2012
3. Gen. Songwit Noonpackdee	- Independent director - Member of the Enterprise-wide Risk Management Committee - Member of the Nomination and Remuneration Committee	October 1, 2021
4. Pol.Lt.Gen. Chaiwat Chotima	- Independent director - Member of the Nomination and Remuneration Committee	April 9, 2014
5. Pol.Lt.Gen. Samran Nualma	- Independent Director - Member of the Sustainability and Corporate Governance Committee	April 8, 2022
6. Dr. Poramete Vimolsiri	- Independent director - Chairperson of the Audit Committee	June 7, 2018
7. Mr. Prasong Pootaneat	- Independent director - Chairperson of the Enterprise-wide Risk Management Committee	November 1, 2021
8. Mrs. Prisana Praharnkhasuk	- Independent director - Chairperson of the Nomination and Remuneration Committee - Member of the Audit Committee	April 5, 2016
9. Mr. Narin Kalayanamit	- Independent Director - Chairperson of Sustainability and Corporate Governance Committee - Member of the Audit Committee	April 8, 2022
10. Mr. Achporn Charuchinda	- Independent Director - Member of the Audit Committee	January 4, 2022
11. Mr. Chaovalit Ekabut	- Independent director - Member of the Enterprise-wide Risk Management Committee	January 27, 2022
12. Mr. Chamroen Phothiyod	- Director (Representative of Ministry of Finance) - Member of the Enterprise-wide Risk Management Committee	October 1, 2021
13. Dr. Kulaya Tantitemit <sup>1/</sup>	- Director (Representative of Ministry of Finance) - Member of the Sustainability and Corporate Governance Committee	April 8, 2021



Name	Position	Appointment date
14. Mr. Boonchob Suthamanuswong	<ul style="list-style-type: none"> <li>- Director (Representative of Social Security Office)</li> <li>- Member of the Sustainability and Corporate Governance Committee</li> </ul>	October 28, 2021
15. Mr. Chaiwat Kovavisarach	<ul style="list-style-type: none"> <li>- Group Chief Executive Officer and President</li> <li>- Member and Secretary of Sustainability and Corporate Governance Committee</li> <li>- Member and Secretary of Enterprise-wide Risk Management Committee</li> <li>- Secretary of the Board of directors</li> </ul>	October 30, 2012

Note: <sup>1/</sup> Resigned on January 1, 2023

At its meeting No.2/2023, the Board of Directors of the Company resolved to appoint Mr. Chanvit Nakburee as a director effective on January 27, 2023, replacing Dr. Kulaya Tantitemit.

The Profile of the new director appears on the Company's website.

[www.bangchak.co.th/en/management/board-of-directors](http://www.bangchak.co.th/en/management/board-of-directors)

### Directors whose terms were completed and resigned directors in 2022

Name	Position	Appointment date
1. Gen. Vitch Devahasdin	<ul style="list-style-type: none"> <li>- Vice Chairperson</li> <li>- Independent director</li> <li>- Chairperson of the Sustainability and Corporate Governance Committee</li> <li>- Chairperson of the Nomination and Remuneration Committee</li> </ul>	<p>April 5, 2016</p> <p>(Resigned on February 18, 2022)</p>
2. Adm. Sucheep Whoungmaitree	<ul style="list-style-type: none"> <li>- Independent director</li> <li>- Member of the Nomination and Remuneration Committee</li> </ul>	<p>May 26, 2015</p> <p>(Term completed on April 8, 2022)</p>

### The names and number of the authorized directors who have authority to sign on behalf of the Company are:

Mr. Pichai Chunchavajira jointly with Mr. Chaiwat Kovavisarach with affixation of the Company's seal or any one of these two directors signs jointly with Mr. Suthep Wongvorazathe or Pol.Lt.Gen. Chaiwat Chotima or Gen. Songwit Noonpackdee or Mr. Achporn Charuchinda, being two persons, with affixation of the Company's seal.

## 7.2.3 Roles, Duties, and Responsibilities of the Board of Directors

1. Carry out duties under laws, objectives and regulations of the Company as well as resolutions of shareholders' meetings with honesty, protect the Company's benefit and have accountability to the shareholders.
2. Establish Clear Leadership Role and Responsibilities of the Board
  - 2.1 The board should demonstrate a thorough understanding of its leadership role, assume its responsibilities in overseeing the company, and strengthen good governance, including:
    - (1) defining objectives;
    - (2) determining means to attain the objectives; and
    - (3) monitoring, evaluating, and reporting on performance.

- 2.2 To achieve sustainable value creation, the board should exercise its leadership role and pursue the following governance outcomes:
- (1) competitiveness and performance with long-term perspective;
  - (2) ethical and responsible business;
  - (3) good corporate citizenship; and
  - (4) corporate resilience.
- 2.3 The board should ensure that all directors and executives perform their responsibilities in compliance with their fiduciary duties, and that the company operates in accordance with applicable law and standards.
- 2.4 The board should demonstrate a thorough understanding of the division of board and management responsibilities. The board should clearly define the roles and responsibilities of management and monitor management's proper performance of its duties.
3. Define Objectives that Promote Sustainable Value Creation
- 3.1 The board should define objectives that promote sustainable value creation and governance outcomes as a framework for the operation of the company.
- 3.2 The board should ensure that the company's annual and medium-term objectives, goals, strategies, and plans are consistent with the long-term objectives, while utilizing innovation and technology effectively.
4. Strengthen Board Effectiveness
- 4.1 The board should be responsible for determining and reviewing the board structure, in terms of size, composition, and the proportion of independent directors so as to ensure its leadership role in achieving the company's objectives.
- 4.2 The board should select an appropriate person as the chairman and ensure that the board composition serves the best interest of the company, enabling the board to make its decisions as a result of exercising independent judgement on corporate affairs.
- 4.3 The board should ensure that the policy and procedures for the selection and nomination of directors are clear and transparent resulting in the desired composition of the board.
- 4.4 When proposing director remuneration to the shareholders' meeting for approval, the board should consider whether the remuneration structure is appropriate for the directors' respective roles and responsibilities, linked to their individual and company performance, and provide incentives for the board to lead the company in meeting its objectives, both in the short and long term.
- 4.5 The board should ensure that all directors are properly accountable for their duties, responsibilities and (in-) actions, and allocate sufficient time to discharge their duties and responsibilities effectively.
- 4.6 The board should ensure that the company's governance framework and policies extend to and are accepted by subsidiaries and other businesses in which it has a significant investment as appropriate.
- 4.7 The board should conduct a formal annual performance evaluation of the board, its committees, and each individual director. The evaluation results should be used to strengthen the effectiveness of the board.
- 4.8 The board should ensure that the board and each individual director understand their roles and responsibilities, the nature of the business, the company's operations, relevant law and standards, and other applicable obligations. The board should support all directors in updating and refreshing their skills and knowledge necessary to carry out their roles on the board and board committees.
- 4.9 The board should ensure that it can perform its duties effectively and have access to accurate, relevant and timely information. The board should appoint a company secretary with necessary qualifications, knowledge, skills and experience to support the board in performing its duties.

## 5. Ensure Effective CEO and People Management

- 5.1 The board should ensure that a proper mechanism is in place for the nomination and development of the chief executive officer and key executives to ensure that they possess the knowledge, skills, experience, and characteristics necessary for the company to achieve its objectives.
- 5.2 The board should ensure that an appropriate compensation structure and performance evaluation are in place.
- 5.3 The board should consider its responsibilities in the context of the company's shareholder structure and relationships, which may impact the management and operation of the company.
- 5.4 The board should ensure the company has effective human resources management and development programs to ensure that the company has adequate staffing and appropriately knowledgeable, skilled, and experienced employees and staff.

## 6. Nurture Innovation and Responsible Business

- 6.1 The board should prioritize and promote innovation that creates value for the company and its shareholders together with benefits for its customers, other stakeholders, society, and the environment, in support of sustainable growth of the company.
- 6.2 The board should encourage management to adopt responsible operations, and incorporate them into the company's operations plan. This is to ensure that every department and function in the company adopts the company's objectives, goals, and strategies, applying high ethical, environmental, and social standards, and contributes to the sustainable growth of the company.
- 6.3 The board should ensure that management allocates and manages resources efficiently and effectively throughout all aspects of the value chain to enable the company to meet its objectives.
- 6.4 The board should establish a framework for governance of enterprise IT that is aligned with the company's business needs and priorities, stimulates business opportunities and performance, strengthens risk management, and supports the company's objectives.

## 7. Strengthen Effective Risk Management and Internal Control

- 7.1 The board should ensure that the company has effective and appropriate risk management and internal control systems that are aligned with the company's objectives, goals and strategies, and comply with applicable law and standards.
- 7.2 The board shall establish an audit committee that can act effectively and independently.
- 7.3 The board should manage and monitor conflicts of interest that might occur between the company, management, directors, and shareholders. The board should also prevent the inappropriate use of corporate assets, information, and opportunities, including preventing inappropriate transactions with related parties.
- 7.4 The board should establish a clear anti-corruption policy and practices (including communication and staff training), and strive to extend its anti-corruption efforts to stakeholders.
- 7.5 The board should establish a mechanism for handling complaints and whistleblowing

## 8. Ensure Disclosure and Financial Integrity

- 8.1 The board must ensure the integrity of the company's financial reporting system and that timely and accurate disclosure of all material information regarding the company is made consistent with applicable requirements.
- 8.2 The board should monitor the company's financial liquidity and solvency.
- 8.3 The board should ensure that risks to the financial position of the company or financial difficulties are promptly identified, managed and mitigated, and that the company's governance framework provides for the consideration of stakeholder rights.
- 8.4 The board should ensure sustainability reporting, as appropriate.
- 8.5 The board should ensure the establishment of a dedicated Investor Relations function responsible for regular, effective and fair communication with shareholders and other stakeholders (such as analysts and potential investors).

- 8.6 The board should ensure the effective use by the company of information technology in disseminating information.
9. Ensure Engagement and Communication with Shareholders
- 9.1 The board should ensure that shareholders have the opportunity to participate effectively in decision-making involving significant corporate matters.
- 9.2 The board should ensure that the shareholders' meetings are held as scheduled, and conducted properly, with transparency and efficiency, and ensure inclusive and equitable treatment of all shareholders and their ability to exercise their rights.
- 9.3 The board should ensure accurate, timely and complete disclosure of shareholder resolutions and preparation of the minutes of the shareholders' meetings.
10. Maintain the Company's inside information obtained from their job performance and refrain from exploiting such information for personal or other parties' gains. Undertake no securities transactions at least one month prior to announcement of financial statements and at least three days after such announcement.
11. Directors wishing to engage in the trading of Company securities must notify Secretary to the Board of Directors Division at least one day in advance for the quarterly reporting to the Audit Committee meeting.
12. Report on one's own portfolio of securities, as well as those of their spouses, cohabitation partners, and minor children under legal age, including legal entities where they have more than 30% shareholding of the number of all voting rights to the monthly Board meeting and must report to the Company without delay in the following cases:
- Directors or related person with vested interests in the Company's or its subsidiaries' management
  - Hold shares or debentures in the Company or subsidiary companies.
13. Each Director cannot hold the position of Director in more than other two listed companies in the Stock Exchange of Thailand (SET), excluding Directors' current positions (as of August 19, 2016), the policy-amending date. This excludes the executive director or CEO in the capacity of board director for companies in the group.

**Roles and Responsibilities of the Chairman, leader of the Board**

- Steer, monitor, and ensure efficient performance of the Board in fulfilling the Company's objectives and main goals.
- Ensure full participation by the Directors in advocating a corporate culture of ethics and good corporate governance.
- Set Board meeting agenda in consultation with the President and Chief Executive Officer, with measures to ensure that essential matters are included.
- Allocate adequate time for the management to table matters and for Directors to thoroughly discuss important matters.
- Promote Directors' exercising of full discretion, their attention to all matters brought to the meetings, and corporate governance matters.
- Promote sound relations between the Board and the management. Support the management's management without interfering in day-to-day affairs.

**The Board is authorized to approve various matters, including:**

- Vision, short-term and long-term strategic plans
- Annual plans and budgets
- Investment and operation of key projects for Bangchak and affiliates
- Management restructuring
- Dividend policy
- Performance assessment of itself and the President and Chief Executive Officer
- Decision on the President and Chief Executive Officer's compensation
- Appointment of Directors who resign during the year and that of sub-committees
- Designation of Directors authorized to sign and bind Bangchak

- Appointment of executive vice presidents upward
- Appointment of Directors serving on Bangchak's affiliates and setting of oversight guidelines for such companies.

**Matters involving shared responsibility of the board and management:**

- Formulating and reviewing policies and strategies, plans and targets.
- Ensuring robust system for risk management and internal control.
- Clearly defining management's responsibilities.
- Overseeing appropriate policies and plans for resource allocation, including HR, IT, and budgeting.
- Monitoring and evaluating financial and non-financial corporate performance.
- Ensuring integrity of financial and non-financial information disclosures.

**Matters that the board should delegate or not get involved with:**

- Engaging in activities which under normal circumstances are not expected roles of the board, including day-to-day management and decisions (such as procurement and staffing), ongoing monitoring that conduct and operations are in compliance with the company's policies, strategies, plans, and applicable law and standards.
- Not getting involved in or influencing matters in which a director may have vested interests

The President & CEO is authorized to execute his core duty of running Bangchak's day-to-day business as assigned by the Board. To this end, he must strictly follow the Board-approved policies, plans, and budgets with integrity and care in the best interests of Bangchak and its shareholders.

## 7.3 Sub-Committees

### 7.3.1 Sub-Committees

The Board of Directors elected Sub-committees (or Committees) to facilitate the Company's business, undertaking with four sub-committees. The Committees can serve for three years in each term. Details about sub-committee charters as follows:

#### 1. Audit Committee (AC)

The Audit Committee must be made up of independent directors. At least three independent directors form the Audit Committee, and at least one of them must be adequately knowledgeable or experienced in accounting, finance, or audit to review the credibility of financial statements.

#### Roles and Responsibilities

- 1) To ensure accuracy and adequacy of the Company's financial reporting according to Accounting Principles governed by laws.
- 2) To ensure that the Company has a suitable and efficient internal control system and internal audit and to ensure the efficiency and adequacy of the risk management system.
- 3) To review the performance of the Company to ensure compliance with the securities and exchange law, regulations of the exchange or laws relating to business of the Company.
- 4) To review a connected transaction or transaction that may lead to conflict of interest or acquisition and disposition of assets transaction to ensure compliance with the laws and regulations of the Stock Exchange of Thailand (SET), and that it is reasonable and brings the highest benefit to the Company.
- 5) To inspect and consider with the management on the defects that have been found and on the responses from the management.

- 6) To empower the auditing and investigating of all related parties under the authorization of the Audit Committee and also to authorize hiring of an expert so as to audit and investigate in compliance with the Company's regulations.
- 7) To prepare a report of the Audit Committee and disclose it in the annual report of the Company, and have such report signed by Chairman of the Audit Committee.
- 8) To consider, select, nominate the person who is independent to be the Company's auditor, recommend remuneration of the Company's auditor, recommend the removal of the Company's auditor and, at least once a year, attend the private meeting with an auditor without management.
- 9) To consider auditing scopes and plans of the external auditor and the Internal Audit so that they are contributory to each other and to reduce double operations as concerns financial auditing.
- 10) To approve the Charter, audit work plans, budget, training plans and manpower of the Internal Audit.
- 11) To appoint, transfer, dismiss, and undertake annual evaluation of the Chief Audit Executive and review the independence of Internal Audit.
- 12) To review the efficiency and effectiveness of internal control and risk management focusing on the issue of information technology.
- 13) In performing the duty of the Audit Committee, if there is transaction or act which could extremely affect the Company's financial status and the Company's performance, namely
  - Transaction which leads to conflict of interest
  - Dishonest, extremely unusual or remiss internal control system
  - Breaking the securities and exchange law, regulations of the exchange or laws relating to business of the CompanyThe Audit Committee has to report it to the Board of Directors so as to modify and revise within prescribed time. If the Audit Committee or executives does not modify and revise within the prescribed time, the Audit Committee is able to report this transaction or act to the Securities and Exchange Commission or the Stock Exchange of Thailand.
- 14) To review and consider the Self-Evaluation Tool for Countering Bribery of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC).
- 15) To perform any other act assigned by the Board of Directors with approval of the Audit Committee.

## 2. Nomination and Remuneration Committee (NRC)

The Nomination and Remuneration Committee is made up of at least three persons, and more than half must be independent directors. At least one member must be knowledgeable or experienced in personnel management. The Chairman of the committee must be an independent director.

### Roles and Responsibilities

- 1) Define qualifications needed for potential Directors, and President and Chief Executive Officer.
- 2) Recommend qualified candidates for the positions of Directors, and President and Chief Executive Officer to the Board of Directors.
- 3) Define criteria of remuneration for Directors, and the President and Chief Executive Officer.
- 4) Submit the remuneration for Directors to the Board of Directors and then for the shareholders for approval.
- 5) Submit the remuneration for the President and Chief Executive Officer to the Board of Directors for approval.
- 6) Review and summarize the President and Chief Executive Officer's succession plan every year and report it to the Board of Directors.
- 7) Perform other tasks as assigned by the Board of Directors.



### 3. Enterprise-wide Risk Management Committee (ERMC)

The ERMC is made up of at least three members, at least one of whom must be knowledgeable in risk management. Qualified external parties can serve as members.

#### Roles and Responsibilities

- 1) Set policy, strategies and objectives of the enterprise-wide risk management.
- 2) Develop enterprise-wide risk management system in view of continuous efficiency.
- 3) Promote enterprise-wide risk management at all levels of the organization.
- 4) Ensure that the Company has appropriate and efficient risk management.
- 5) The Chairman of the Enterprise-wide Risk Management Committee reports the findings to the Board of Directors' next meeting.
- 6) Perform other tasks as assigned by the Board of Directors

### 4. Sustainability and Corporate Governance Committee (SCGC)

The Sustainability and Corporate Governance Committee is made up of at least three directors, and at least one of whom must be knowledgeable in sustainability and corporate governance practices by international standards. An independent director must serve as Chairman of this committee.

#### Roles and Responsibilities

##### Corporate Governance

- 1) Recommend the implementation of corporate governance to the Board of Directors
- 2) Monitor the work of the Committee and the management in compliance with the principles of corporate governance.
- 3) Review the implementation of corporate governance by comparing it with international standards and recommend it to the Board of Directors for continual follow-ups.
- 4) Provide the corporate governance policy to the Company's corporate governance working team.
- 5) Perform other tasks as assigned by the Board of Directors

##### Sustainability

- 1) Recommend the implementation of sustainability to the Board of Directors.
- 2) Monitor the work of the Committee and the management in compliance with the principles of sustainable development.
- 3) Review the implementation of sustainability by comparing it with international standards and recommend it to the Board of Directors for continual follow-ups and respond to the needs of stakeholders.
- 4) Give the policy of sustainability to the Company's sustainability committee.
- 5) Perform other tasks as assigned by the Board of Directors.

## 7.3.2 List of Sub-Committee

### 1. Audit Committee (AC)

Name	Position
1. Dr. Porametee Vimolsiri	Chairperson and Independent Director with expertise in accounting and finance
2. Mrs. Prisana Praharnkhasuk	Member and Independent Director with expertise in accounting and finance
3. Mr. Achporn Charuchinda	Member and Independent Director
4. Mr. Narin Kalayanamit	Member and Independent Director
5. Vice President, Internal Audit Department	Secretary

### 2. Nomination and Remuneration Committee (NRC)

Name	Position
1. Mrs. Prisana Praharnkhasuk	Chairperson and Independent Director
2. Gen. Songwit Noonpackdee	Member and Independent Director
3. Pol.Lt.Gen. Chaiwat Chotima	Member and Secretary, Independent Director

### 3. Enterprise-wide Risk Management Committee (ERMC)

Name	Position
1. Mr. Prasong Poontaneat	Chairperson and Independent Director
2. Gen. Songwit Noonpackdee	Member and Independent Director
3. Mr. Chamroen Phothiyod	Member and Non-executive Director
4. Mr. Chaovalit Ekabut	Member and Independent Director
5. Mr. Chaiwat Kovavisarach	Member and Secretary, Executive Director

### 4. Sustainability and Corporate Governance Committee (SCGC)

Name	Position
1. Mr. Narin Kalayanamit	Chairperson and Independent Director
2. Mr. Suthep Wongvorazathe	Member and Non-executive Director
3. Dr. Kulaya Tantitemit	Member and Non-executive Director
4. Mr. Boonchob Suthamanuswong	Member and Non-executive Director
5. Pol.Lt.Gen. Samran Nualma	Member and Independent Director
6. Mr. Chaiwat Kovavisarach	Member and Secretary, Executive Director



Executive Management



**Mr. Chaiwat Kovavisarach**  
Group Chief Executive  
Officer and President



**Mr. Pativat Tivasasit**  
Chief Operation Officer,  
Refinery Business Group



**Mr. Somchai Tejavanija**  
Chief Marketing Officer and  
Senior Executive Vice President,  
Marketing Business Group



**Mr. Surachai Kositsareewong**  
Senior Executive Advisor



**Mr. Chokchai Atsawarangsali**  
Senior Executive Vice President,  
Corporate Management and  
Organization Development



**Mr. Kittiphong Limsuwanarot**  
Senior Executive Vice President,  
appointed to BBGI Public  
Company Limited



**Mr. Phuwadon Suntornwipart**  
Senior Executive Vice President,  
appointed to BCPG Public  
Company Limited



**Mr. Thamarat Paryoosuk**  
Senior Executive Vice President,  
Refinery Business Group



**Mr. Bundit Hansapaiboon**  
Senior Executive Vice  
President, Corporate  
Sustainability Development  
and Strategic Synergy



**Ms. Phatpuree Chinkulkitnivat**  
Senior Executive Vice President,  
Accounting and Finance



## 7.4 Executive Management

### 7.4.1 Names and Positions of Executives

The Board has set the roles and duties of the management in Bangchak's day-to-day business management in line with the company's policies, plans, goals, regulations, and rules, as well as Board resolutions, within the approved budget. To this end, they are to conform strictly with integrity and care to maintain Bangchak's and its shareholders' interests to the best of their ability under corporate governance. They are to report updates on conformance to such resolutions together with key performance outcomes to the Board at least monthly. Today the management consists of 10 persons, whom are regarded as executives under SEC's definition (As of December 2022):

Name	Position
1. Mr. Chaiwat Kovavisarach <sup>1/</sup>	Group Chief Executive Officer and President
2. Mr. Pativat Tivasasit	Chief Operation Officer, Refinery Business Group
3. Mr. Somchai Tejavanija	Chief Marketing Officer & Senior Executive Vice President, Marketing Business Group
4. Mr. Surachai Kositsareewong	Senior Consultant
5. Mr. Chokchai Atsawarangsalit	Senior Executive Vice President, Corporate Management and Organization Development
6. Mr. Kittiphong Limsuwannarot	Senior Executive Vice President, appointed to BBGI Public Company Limited
7. Mr. Phuwadon Suntornwipart	Senior Executive Vice President, appointed to BCPG Public Company Limited
8. Mr. Thamarat Paryoonsuk	Senior Executive Vice President, Refinery Business Group
9. Mr. Bundit Hansapaiboon	Senior Executive Vice President, Corporate Sustainability Development and Strategic Synergy
10. Ms. Phatpuree Chinkulkitnivat <sup>2/</sup>	Senior Executive Vice President, Accounting and Finance

Note: <sup>1/</sup> On August 18, 2022, President and Group Chief Executive Officer change the position name to Group Chief Executive Officer and President

<sup>2/</sup> Effectives on January 1, 2023

#### Directors and executives assigned to other companies

The Board appoints representative directors of subsidiaries, associates, and joint ventures under **the guidelines for appointment of representative directors in joint ventures**. To this end, the President and Chief Executive Officer selects fully qualified persons under such guidelines for the Board's appointment. Each subsequent change is to be reported by the President and chief executive officer for the Board's acknowledgment. Today, the following directors and executives are assigned as directors of subsidiaries, associates, and joint ventures:



## Subsidiary Companies

- 1 BCPG Plc. (BCPG)
- 2 BBGI Plc. (BBGI)
- 3 Bangchak Retail Co., Ltd. (BCR)
- 4 Bangchak Green Net Co., Ltd. (BGN)
- 5 Bangchak Solar Energy Co., Ltd. (BSE)
- 6 Bangchak Solar Energy (Prachinburi) Co., Ltd. (BSE-PRI)
- 7 Bangchak Solar Energy (Chaiyaphum 1) Co., Ltd. (BSE-CPM1)
- 8 Bangchak Solar Energy (Buriram) Co., Ltd. (BSE-BRM)
- 9 Bangchak Solar Energy (Buriram 1) Co., Ltd. (BSE-BRM1)
- 10 Bangchak Solar Energy (Nakhon Ratchasima) Co., Ltd. (BSE-NMA)
- 11 Thai Digital Energy Development Co., Ltd. (TDED)
- 12 BCPG Indochina Co., Ltd (BIC)
- 13 BSE Power Holdings (Thailand) Co., Ltd. (BSPH)
- 14 BSE Power (Kanjanaburi) Co., Ltd. (KAN)
- 15 BSE Power (Kanjanaburi1) Co., Ltd.d (KAN1)
- 16 BSE Power (Lopburi) Co., Ltd. (Lop)
- 17 BSE Power (Prachinburi) Co., Ltd. (CPRS)
- 18 BSE Power Co., Ltd. (BSP)
- 19 Prathumwan Smart Cooling District Co., Ltd. (PSDC)
- 20 Indochina Development Operation and Holdings Pte. Ltd. (IDO)
- 21 NamSan 3A Sole Power Co.,Ltd. (NS3A)
- 22 NamSan 3B Sole Power Co.,Ltd. (NS3B)
- 23 BCPG Wind Cooperatief U.A. (BCPG Wind)
- 24 Greenergy Holdings Pte. Ltd. (Greenergy Holdings)
- 25 Greenergy Power Pte. Ltd. (Greenergy Power)
- 26 Huang Ming Japan Co., Ltd. (Huang Ming)
- 27 BSE Energy Holdings Pte. Ltd.
- 28 BCPG Investment Holdings Pte. Ltd.
- 29 BBGI Biodiesel Co., Ltd. (BBGI-BI)
- 30 BBGI Bioethanol (Chachoengsao) Co., Ltd. (BBGI-PS)
- 31 BBGI Bioethanol Plc. (BBGI-NP, BBGI-BP)
- 32 BBGI Utility and Power Co., Ltd. (BUP)
- 33 WIN Ingredients Co., Ltd. (WIN Ing.)
- 34 Win Ingredients Singapore Pte. Ltd.
- 35 BCPR Co., Ltd. (BCPR)
- 36 BCPR Pte. Ltd. (BCPR SG)
- 37 BCP Trading Pte. Ltd. (BCPT)
- 38 BCP Innovation Pte.Ltd. (BCPI)
- 39 BCV Energy Co., Ltd. (BCVE)
- 40 BCV Innovation Co., Ltd. (BCVI)
- 41 BTSG Co., Ltd. (BTSG)
- 42 BCPG Japan Corporation (BCPG Japan)



- 43 BCPG Engineering Company (BCPG Engineering)
- 44 WINNONIE Co., Ltd. (Winonie)
- 45 General Energy Manning Co., Ltd. (GEM)
- 46 BSGF Co., Ltd. (BSGF)
- 47 OKEA ASA (OKEA)
- 48 Lomligor Co.,Ltd. (LLG)
- 49 Bangkok Fuel Pipeline and Logistics Co.,Ltd. (BFPL)
- 50 Monsoon Wind Company Limited (MWP)
- 51 BCPG Formosa Company Limited

### Associated Companies

- 1 Ubon Bio Ethanol Plc. (UBE)
- 2 PetroWind Energy Inc. (PWEI)
- 3 Impact Energy Asia Development Limited (IEAD)
- 4 Star Phoenix Geothermal JV B.V.(Star Phoenix)
- 5 Star Energy Group Holdings Pte. Ltd. (Star Energy Holding)
- 6 Star Energy Geothermal Pte Ltd. (Star Energy1)
- 7 Star Energy Geothermal Holdings (Salak – Darajat) B.V. (Star Energy2)
- 8 Star Energy Geothermal (Salak – Darajat) B.V.(Star Energy3)
- 9 Data Café Co., Ltd. (Data Café)
- 10 Mee Tee Mee Ngern Co., Ltd.
- 11 Oam Suk Social Enterprise Co., Ltd. (OamSuk)
- 12 Biome Co., Ltd.
- 13 Transitus Energy Ltd.

### Other Company

- 1 Fuel Pipeline Transportation Co., Ltd. (FPT)
- 2 Bangkok Aviation Fuel Services Plc. (BAFS)
- 3 Bonumose LLC.
- 4 Enevate Corporation
- 5 Geltor, Inc.
- 6 Manus Bio Inc., (Manus Bio)
- 7 Sharge Management Co., Ltd.
- 8 Thai Special Gas Co.,Ltd. (TSG)

### Others

- 1 Happiness Sharing Foundation (Bai Mai Pun Suk)

## 7.4.2 Remuneration of Executives

- 1) Executives shall receive short-term remuneration, i.e. salary and bonus, and long-term remuneration, including the Employee Stock Ownership Program and the Employee Joint Investment Program which the Board will consider on a case-by-case basis. These payments motivate executives, are on a par with industry practice, correlate to the Balanced Scorecard principles and to each person's key performance indices (KPIs), and connect compensation with performance.
- 2) Executives who serve as a director in a joint venture will be compensated according to the Company's regulations on the appointment of directors of joint ventures. As for the President and chief executive officer who is tasked with additional roles and responsibilities, as a subcommittee member for instance, will be paid according to the Board's decision based on merit of that task or responsibility.
- 3) The Board has ordered a report on the remuneration of executives including the disclosure of payments made to executives who are appointed a role in a subsidiary to be included in the Company's annual report in compliance with the Corporate Governance Policy.

## 7.4.3 Total executives' remuneration

Remuneration for Executives as defined by the SEC (President & Chief Executive Officer and Senior Executive Vice Presidents)

Remuneration	2021		2022	
	Persons	Baht	Persons	Baht
Salary	8	71,543,790.00	10	78,543,293.00
Bonus & Retirement pay	8	55,684,416.13	10	75,469,580.26
Provident fund and Social Security	8	5,811,666.00	10	6,401,445.00
<b>Total</b>	<b>8</b>	<b>133,039,872.13</b>	<b>10</b>	<b>160,414,318.26</b>

In 2019 the Board approved a Treasury Stock buyback project for 19,238,000 stocks, or 1.40% of all stocks sold. In 2022 the Board approved the sale of such stocks through automatic matching conducted through the stock trading system at market prices for 1,238,000 stocks; the remaining 18,000,000 stocks were to come under the employee stock ownership program, designed to inspire and give moral support to employees to efficiently devote themselves to their duties and develop a sense of belonging. The move was also designed to retain capable employees with recognized performance for the long term to drive Bangchak to sustainable growth while contributing to the optimal benefit of the shareholders.

For this year, the criteria for the stipulation of the price is market price deducted by 10% (Baht 28.14 per stock). A total of 9,807,900 stocks were sold to executives who exercised their rights to buy Bangchak's common stocks under the program.

Name			Number of Shares
1.	Mr. Chaiwat	Kovavisarach	450,000
2.	Mr. Pativat	Tivasasit	51,000
3.	Mr. Somchai	Tejavanija	51,000
4.	Mr. Surachai	Kositsareewong	51,000
5.	Mr. Chokchai	Atsawarangsalit	34,200
6.	Mr. Kittiphong	Limsuwannarot	73,800
7.	Mr. Phuwadon	Suntornwipart	38,400
8.	Mr. Thamarat	Paryoonsuk	140,400
9.	Mr. Bundit	Hansapaiboon	130,500
10.	Ms. Phatpuree	Chinkulkitnivat	133,800

## 7.5 Personnel

On December 31, 2022, the Company had a total headcount of 1,098:

Employee	Persons
Corporate Management and Organization Development	107
Accounting and Finance	61
Corporate Strategy and Business Development	48
Marketing Business Group	253
Refinery and Oil Trading Business Group	556
Group Chief Executive Officer and President	60
BCPG Plc.	8
BBGI Plc.	5

### Significant changes in number employee for the past three years

The number of employees in 2022 is a decrease of approximately 8% compared to the average number of employees over the past 3 years (1,103 in year 2021, 1,230 persons in year 2020 and 1,251 in year 2019), partly due to Mutual Preparation Plan in 2021

## Remuneration of employee

Bangchak's policy provides for suitable compensation to employees in line with their performance outcomes. For the short term, this compensation is the bonus, in turn linked to company performance. For the long term, this compensation means the provident fund, a form of welfare that gives employees financial guarantee.

Employee receive remuneration in the form of salary; shift, night shift, overtime, and upcountry pay; operation at the refinery; discipline remuneration; special bonus and other welfare. Employees have the right to apply for membership of "Bangchak Corporation Public Company Limited Provident Fund" by choosing the accumulated at a rate of five percent or ten percent or fifteen percent of the salary and the Company will pay the same rate but not over ten percent to the Fund. In 2022 the Company paid remuneration as follows.

Remuneration	Baht
Salary	1,082,349,788.17
Overtime	64,032,881.00
Bonus	879,378,513.42
Provident Fund	95,988,146.00
Social Security	6,844,511.00
<b>Total</b>	<b>2,128,593,839.59</b>

The remuneration for Group Chief Executive Officer and President and Senior executive vice presidents upward is 7.54% of total remuneration of employee.

As of December 31, 2022, there are 1,072 employees participating in the provident fund, representing 97.6% of the total number of employees.

## Personnel Development

Bangchak focuses on continuing personnel development for greater operating capability matching corporate goals, policies, and directions apart from international competitiveness to accommodate the growth of AEC (ASEAN Economic Community). To this end, it appointed a Management Development Committee to endorse personnel development, define guidelines for personnel administration, define an approach for corporate culture development, and forge a sound employee attitude so that the efficiency of Bangchak's corporate administration may be on a par with business peers and in keeping with its business status and goals.

This year the number of training hours in various courses averaged 29.08 hours/person (detailed under 3. Driving a Sustainable Business), including environmental training and seminars. These included training on safety, health, and work environment for workers in general and newly hired workers, safety officers (executives and supervisors), beginners' firefighting, advanced firefighting (for product tanks); organizational carbon footprint assessment, and GHG Reduction & Calculating Your Carbon Footprint (greenhouse gas reduction project management).

## 7.6 Other Key Information

### 7.6.1 Responsible Executives

#### Company Secretary

Under the Securities and Exchange law (Articles 89/15 and 89/16), Board Meeting No. 1/2022 appointed Ms. Wannasiri Trongtrakulwong, Senior Vice President, Corporate Compliance, as Company Secretary, effective from February 1, 2022. Details of the company secretary profile appear in Attachment 1.

#### Roles and Responsibilities

- Prepare and maintain key documents, including the Board roster, meeting notices, minutes of Board meetings and shareholders' meetings, annual reports, and reports of vested interests
- Schedule Board meetings and shareholders' meetings under the law and company regulations. Coordinate conformance to the resolutions of Board and shareholders' meetings
- Advise and support the performance of directors and the management under the law and relevant regulations
- Coordinate between the Chairman and the President and chief executive officer together with his management team, which includes coordination between Bangchak and its shareholders
- Encourage the directors, management, and employees to conform to corporate governance
- Perform other lawful tasks and Board-assigned tasks.

#### Accounting Supervisor

The Company assigned Ms. Chantip Wongchieowittaya Vice President, Financial Accounting to be directly responsible for the supervision of accounting, effective from June 10, 2019 Please see information of the head of Internal Audit in Attachment 1.

#### Head of Internal Audit

The Audit Committee meeting No. 6/2020 of June 18, 2020, selected Ms. Pornjit Sojsunsanee as Vice President, Internal Audit Department, citing her solid knowledge and understanding of Bangchak's businesses, complemented by her internal audit expertise, skills, and experience, and those in corporate governance, risk assessment, and internal control at the business and overall levels. As a result, the committee regarded her as suitable and sufficient for such duties.

The Audit Committee considers, appoints, transfers, and assesses the performance of the head of Internal Audit. Please see information of the head of Internal Audit in Attachment 3.

#### Head of the Compliance Department

In 2017, the Company has restructured its organization by establishing a legal and Compliance Department which the Company has assigned Ms. Pakawadee Junrayapes as Executive Vice President, effective from January 1, 2018. Please see information of the head of Corporate Compliance in Attachment 3.

### 7.6.2 Head of Investor Relations

Investors and related parties can make queries or ask for the Company's information at Ms. Tipwadee Sudwayha, Investor Relations Manager, Tel. 0 2335 8663 or e-mail address: ir@bangchak.co.th

### 7.6.3 Audit Fee

For the fiscal year 2022, the Company and its subsidiaries paid for audit fees amounting to 12.32 Million Baht to KPMG in Thailand and KPMG member firms in overseas, which the auditors worked for, and to persons or businesses related to the auditors and audit firm. This audit fee amount excluded the remuneration paid by associates. In this regard, KPMG in Thailand, and KPMG member firms in overseas and its auditors do not have any relationships or interests involving the Company, management, or major shareholders, including their related persons.

#### Audit fees for the year 2022

1. Fees for annual audit and quarterly review of the Company and consolidated financial statements amounted to 2.00 Million Baht to KPMG.

Audit fees of the Company	
1. Annual audit fee for the Company's financial statement	0.39 Million Bath
2. Fees for annual audit and quarterly review of the Company and consolidated financial statements	1.61 Million Bath
<b>Total audit fees of the Company</b>	<b>2.00 Million Bath</b>

2. Fees for the annual audit of subsidiaries and quarterly review of listed subsidiaries performed by KPMG Thailand and KPMG overseas in which the fees were absorbed by the subsidiaries were as follows

Audit fees of subsidiaries	
1. Fees for annual audit of the subsidiaries' financial statements and quarterly review of listed subsidiaries	
– Number of subsidiaries	26 Companies
– Amount	5.94 Million Bath
2. Fees for annual audit of the overseas subsidiaries' financial statements	
– Number of subsidiaries	5 Companies
– Amount (equivalent)	4.38 Million Bath
<b>Total audit fees of subsidiaries</b>	<b>10.32 Million Bath</b>

#### Non-audit Fee

The Company paid for other fees amounting to 0.65 Million Baht, and the subsidiaries paid for auditing compliance with the conditions of the BOI Promotion Certificate amounting to 0.84 Million Baht to the audit firm and persons or businesses related to the auditors and the audit firm.



## 8. Highlights of Corporate Governance

### 8.1 Performance of the Board of Directors

#### 8.1.1 Recruitment, Development, and Performance Assessment of the Board of Directors

##### (1) Independent Directors

The Board consists of at least one-third being independent directors, each of whom must comply with the following:

- (1) An Independent Director must hold no more than 0.5% of all the voting shares of Bangchak and its parent company, subsidiaries, affiliates, major shareholders or Corporate Governance Policy, Bangchak Corporation Public Company Limited controlling persons. An Independent Director's shares must include those held by related person to that Independent Director.
- (2) An Independent Director must not be nor ever have been a director who is involved with management, an employee, a salaried adviser, or a controlling individual of Bangchak, its parent company or any of its subsidiaries, affiliates, peer companies under the same parent company, major Shareholders or controlling individuals/entities. An exception is made in the case of a candidate who used to hold one of the positions mentioned above but left it at least two years prior. An individual who was a civil servant of or an adviser to a government agency that was a Bangchak major shareholder or controlling entity is not forbidden from being a Bangchak Independent Director.
- (3) Independent Directors must not have familial (blood ties or legal) relations to individuals such as a parent, spouse, sibling, child, spouse of the child of another Director, an Executive, a major Shareholder, a controlling individual or an individual who is about to be nominated as a Director, an Executive or a controlling individual of Bangchak or any of its subsidiaries.
- (4) Independent Directors must not have nor ever had a business relationship with Bangchak, its parent company or any of its subsidiaries, affiliates, major Shareholders or controlling individuals/entities in a manner that might obstruct their independent use of discretion. In addition, they must not be nor have ever been a significant Shareholder or a controlling individual of an entity having a business relationship with Bangchak, its parent company or any of its subsidiaries, affiliates, major Shareholders or Bangchak controlling individuals/entities. An exception is made in the case of a candidate who used to have such a relationship or hold one of the positions mentioned above but ended it or left it at least two years prior.
- (5) An Independent Director must not be nor ever have been an auditor of Bangchak, its parent company or any of its subsidiaries, affiliates, major Shareholders or controlling individuals/entities. In addition, he/she must not be a significant Shareholder, a controlling individual or a partner of the audit firm where the auditors of Bangchak, its parent company, or any of its subsidiaries, affiliates, major Shareholders or controlling individuals/entities work. An exception is made in the case of a candidate who used to hold any of the positions mentioned above but left it at least two years prior.
- (6) An Independent Director must not be nor ever have been a provider of any professional service (including services as a legal or financial adviser) who receives compensation to the amount of over two million baht per year from Bangchak or any of its subsidiaries, affiliates, major Shareholders or controlling individuals/entities. In addition, he/she must not be a significant Shareholder, a controlling individual, or a partner of a provider of such professional services. An exception is made in the case of a candidate who used to hold any of the positions mentioned above but left it at least two years prior.
- (7) An Independent Director must not be appointed as an agent of another Bangchak Director, a major Bangchak Shareholder or a Bangchak Shareholder connected with a major Bangchak Shareholder.
- (8) Independent Directors must not own businesses that are in the same industry and significant competition to the business of Bangchak or any of its subsidiaries. They must not be significant partners in a limited partnership or

directors who are involved in management, employees, and salaried advisers or own more than one percent of all voting shares of another firm that runs a business that is in the same industry as and is in significant competition with the business of Bangchak or any of its subsidiaries.

- (9) An Independent Director must not have any other characteristics that might hinder the free expression of their opinions about Bangchak operations.

After being appointed an Independent Director who meets the nine criteria stated above, might be tasked by the Board of Directors with making decisions in regard to the operations of the Company, its parent company or any of its subsidiaries, affiliates, peer companies under the same parent company, major Shareholders or controlling individuals/entities. They must be able to make collective decisions. The definitions in regard to Independent Directors are in line with the regulations of definitions in the notification of the Capital Market Supervisory Board on the issuance and offering of securities.

## (2) Nomination and Appointment of Directors and the President & CEO

As of December 31, 2022, Bangchak has 15 directors, 10 of whom are independent ones. Ten are SEC-defined executives, with the President & CEO serving as the top executive. Appointment of directors and the President must be reviewed by the Nomination and Remuneration Committee. Bangchak has made it possible for directors and shareholders to play a part in nominating qualified directors, in addition to using the Director Pool of Thai IOD.

### Directors' Nomination

1. Bangchak allows minor shareholders to nominate directors by submitting their names to it.
2. The Nomination and Remuneration Committee (NRC) reviews Board structure for suitability and Bangchak's strategic needs.
3. NRC defines the competency and experience for directors to be nominated by using Director Qualifications and Skill Matrix so that they may match Bangchak's goals and strategies
4. NRC proceeds with nomination and tables qualified persons for directors in place of those whose terms expire or for additional directors, using IOD's Director Pool as part of the nomination process. NRC is also to nominate directors to its secretary.
5. NRC selects those qualified to be directors and tables their names for the Board's endorsement.
6. The Board endorses the list of directors for subsequent approval by the AGM

## Appointment and Dismissal of Directors

1. Shareholder's meetings elect Directors through majority voting with one shareholder holding one vote per share held and can elect Directors individually. The candidates with the most votes are to be appointed Directors up to the number open at the meeting. If more candidates receive equal votes than the number of Directors required, the Chairman of the meeting must cast a deciding vote.
2. In every Annual General Meeting (AGM), one-third of the Directors must retire. If this number is not a multiple of three, then the number nearest to one-third. The names of the Directors to retire during the first and second year after the Company was registered are to be drawn by lots if not agreed otherwise. For subsequent years, those with the longest terms must retire. The retired Directors can be re-elected.
3. Other than the completion of term, a director may retire for to the following reasons:
  - death
  - resignation
  - lack of qualifications according to the Public Company Limited Act and the Securities and Exchange Act
  - decision of the shareholders' meeting to resign according to the Public Company Limited Act
  - court order

4. In case a director's position is vacant due to other reason than the completion of term, the Board of Directors is to elect a candidate with qualifications according to the Company's regulations in the next meeting except when the Director's term is to be completed in less than two months. At least, a three-quarters vote of the Directors present at the meeting is required. The elected Director holds the position until the completion of the term of the Director they have replaced.

### New Directors' Orientation

Bangchak stages lectures and company visit and prepares a directors' manual for new directors to be informed of its business nature and approaches, organizational structure, business strategies, performances, relevant laws and regulations, corporate governance policy, directors' role and responsibility and other essential information that will prove useful to their efficient performance. In this regard, the company secretary is the coordinator.

In 2022, information has been prepared for the orientation of 4 new directors, namely Mr. Achporn Charuchinda, Mr. Chaovalit Ekabut, Mr. Narin Kalayanamit and Pol.Lt.Gen. Samran Nualma.

### Directors' Development

Bangchak encourages its Board to undergo additional study and training to enhance their knowledge of Board roles and duties in efficient management under corporate governance. To this end, it applied for IOD memberships on behalf of all directors to benefit from related intelligence and knowledge accrual. This year the following directors took advantage of such training and study visits:

- Talk on "IT Governance" by speaker from Thai Institute of Directors (IOD) on January 27, 2022, to the board of directors.
- Talk on "New Paradigm & Energy Transition" by speaker from JP Morgan at the 2022 annual seminar on corporate strategies on September 2, 2022, to the board of directors.
- Talk on "Energy Storage System (ESS) and EV Battery Industry" by speaker from BCPG Public Company Limited on October 20, 2022, to the board of directors.
- Pol.Lt.Gen. Samran Nualma attended Director Certification Program (DCP322/2022), Thai Institute of Directors (IOD)
- Mr. Narin Kalayanamit attended The Board's Role in Mergers and Acquisitions Program (BMA 1/2022), Thai Institute of Directors (IOD)
- Mr. Chamroen Phothiyod attended Ethical Leadership Program (ELP27/2022), Thai Institute of Directors (IOD)
- Gen. Songwit Noonpackdee attended Director Certification Program (DCP319/2022), Thai Institute of Directors (IOD)
- Mr. Boonchob Suthamanuswong attended Director Accreditation Program (DAP196/2022), Thai Institute of Directors (IOD)

As of December 31, 2022, four directors have attended IOD's Director Accreditation Program (DAP) and twelve have attended its Director Certification Program (DCP). Training details appear under Attachment 1.

## Assessment of directors' performances

The Board completes business performance assessment forms at least once a year, which the Company Secretary will arrange for delivery and collection for making an executive summary or the results for presentation at a Board meeting. Directors jointly consider business performance and suggest improvements. Assessment scores are given in percent, with >85% = excellent, >75% = very good, >65% = good, >50% = fair, and ≤50% = need improvement. The assessment is summarized below:

### 1) Individual directors

- **Self-assessment** relies on three topics, namely responsibility for their roles, training and self-development, and conformance to the corporate governance policy. The overall summary of assessment findings showed an average score of 95.8%, regarded as excellent.
- **Cross-assessment** by group (3–4 unnamed directors assessing another director) relies on two topics, namely responsibility for their roles and directors' independence. The overall summary of assessment findings showed an average of 95.6%, regarded as excellent.

2) **Entire Board** relies on topics, namely Structure and Skills, Strategic Direction and Planning, Policy, Monitoring and Supervision, Accountability, Meeting and Development. The overall summary of assessment findings showed an average score of 96.2%, regarded as excellent.

3) **Sub-committees** rely on responsibilities and meetings; the evaluations of all Committees were as follows:

- Audit Committee, the group evaluation had an average score of 97.3%, rated excellent.
- Nomination and Remuneration Committee, the group evaluation had an average score of 97.2%, rated excellent.
- Sustainability and Corporate Governance Committee, the group evaluation had an average score of 93.3%, rated excellent.
- Enterprise-wide Risk Management Committee, the group evaluation had an average score of 95.3%, rated excellent.

Bangchak analyzed the topics of assessment, assessment outcomes, and reviewed performances, problems, and obstacles over the past year so as to improve the performance efficiency and effectiveness of the Board and its committees.

## Succession Planning and Management Development

Under the Board's policy on the President and Chief Executive Officer's nomination, if he or she is suitable, an external or internal person may enter the selection process under Bangchak's given circumstances. Suitable persons are selected by NRC, which defines the nomination criteria and method.

To optimize benefit in the selection of the President and Chief Executive Officer, the Board assigns the management to appoint a Management Development Committee to oversee training and competency development of senior executives. Also, the Board has laid down additional development guidelines for rotation of duties of senior management team members to promote all-round understanding, experience, and preparedness for corporate administration. Any executive from Senior Vice President and Chief Executive Officer upward may apply for nomination as President and Chief Executive Officer if they command the required qualifications.

### Procedure

1. Define management positions requiring succession planning (President and chief executive officer and all senior executive vice presidents)
2. NRC defines the required competency and experience for each position
3. NRC specifies the qualified executives to succeed each position
4. Assign the President and chief executive officer to assess the performance and competency of qualified executives matching the required competencies needed so as to develop individual development plans (IDPs) to close the competency gaps

5. Assign PDA to look after the training and competency development of qualified executives
6. The President and chief executive officer institutes rotation of duties of qualified executives and lets senior executive vice presidents attend Board meetings so that they may understand and gain experience to be prepared for corporate administration as a whole.
7. The President and chief executive officer periodically reports to NRC the performances and development outcomes under IDPs of qualified executives.
8. Each year, NRC revises and summarizes succession planning outcomes for the President and chief executive officer and senior executive vice presidents for the Board's acknowledgment.

### **Nomination and Appointment of the President and Chief Executive Officer**

NRC nominates and reviews the qualifications of senior executives and others under NRC-set guidelines for the Board to appoint as President & CEO. These include the legally required director qualifications and those required by Bangchak's regulations, together with essential skills and experience in Bangchak's best interests and alignment with Bangchak's business directions. The Board appointed Mr. Chaiwat Kovavisarach, Group Chief Executive Officer and President, effective from January 1, 2015, on account of his knowledge of investment in new businesses abroad and his sound financial knowledge, both of which align with Bangchak's business directions, with four-year term from 1 January 2023 to 31 December 2027.

### **Performance Appraisals of the President and Chief Executive Officer, and Senior Executives**

Bangchak measures performance outcomes as KPIs (key performance indexes), including its own performance, common practices of peer listed companies of comparable sizes, roles and responsibilities, executive development, and overall economic circumstances. The President & CEO must annually present his performance in various aspects, including the management of the refinery and marketing business units, business development, and organizational development, while discussing current management outcomes covering successes and obstacles, including the ability to expand business opportunities and competition, social and environmental policies, together with responses to public policies. The performance of the year 2022 is in line with the organization's goals. NRC and the board will approve the performance indicators and organizational goals of the President & CEO annually. NRC is to decide on the President & CEO's compensation, which is then forwarded to the Board for approval. The President & CEO earn benefits as the top management executive in addition to the compensation as a director.

## **8.1.2 Meeting Attendance and Remuneration of Individual Directors**

In 2022, the Board held 13 meetings at Company's Head Office with exclusive meetings of the independent directors in March and July and meetings of the non-executive directors in April and September, and one annual seminar on corporate strategies with the management to review and revise the corporate vision on annual basis under Bangchak's vision, mission, and values, together with an assessment of business circumstances. The Board of Directors reviewed and resolved that the Company's Vision, mission, and core value shall remain unchanged.

## Summary of Board and Sub-committees meeting attendance

Names	Meeting attendance / total (times)								Note
	Board of Directors			Sub-Committees					
	Meeting	Seminar	Total	AC	NRC	ERMC	SCGC	Vision	
1. Mr. Pichai Chunhavajira <sup>1/</sup>	13/13	1/1	14/14	-	-	-	-	-	
2. Mr. Suthep Wongvorazathe	13/13	1/1	14/14	-	-	-	3/3	-	
3. Gen. Songwit Noonpackdee <sup>2/</sup>	10/13	1/1	11/14	-	2/2	4/6	-	-	
4. Pol.Lt.Gen. Chaiwat Chotima <sup>3/</sup>	13/13	1/1	14/14	4/4	4/5	-	-	-	
5. Pol.Lt.Gen. Samran Nualma <sup>4/</sup>	10/10	1/1	11/11	-	-	-	2/2	-	Appointed on April 8, 2022
6. Dr. Porameteer Vimolsiri	13/13	1/1	14/14	12/12	-	-	-	3/4	
7. Mr. Prasong Poontaneat	13/13	1/1	14/14	-	-	6/6	-	-	
8. Mrs. Prisana Praharnkhasuk <sup>5/</sup>	13/13	1/1	14/14	12/12	5/5	-	-	4/4	
9. Mr. Narin Kalayanamit <sup>6/</sup>	10/10	1/1	11/11	8/8	-	-	2/2	-	Appointed on April 8, 2022
10. Mr. Achpom Charuchinda <sup>7/</sup>	12/13	1/1	13/14	12/12	-	-	-	-	Appointed on January 4, 2022
11. Mr. Chaovalit Ekabut <sup>8/</sup>	12/12	1/1	13/13	-	-	6/6	-	-	Appointed on January 27, 2022
12. Mr. Chamroen Phothiyod	13/13	1/1	14/14	-	-	6/6	-	-	
13. Dr. Kulaya Tantitemit	13/13	1/1	14/14	-	-	-	2/3	3/4	
14. Mr. Boonchob Suthamanuswong	13/13	1/1	14/14	-	-	-	3/3	-	
15. Mr. Chaiwat Kovavisarach	13/13	1/1	14/14	-	-	6/6	3/3	4/4	
<b>Directors whose terms were completed and resigned directors in 2022</b>									
1. Gen. Vitch Devahasdin	2/2	0/0	2/2	-	3/3	-	1/1	-	Resigned on February 18, 2022
2. Adm. Sucheep Whoungmaitree	3/3	0/0	3/3	-	3/3	-	-	-	Term completed on April 8, 2022

- Note:
- <sup>1/</sup> Chairman did not join any Sub-Committee as Member
  - <sup>2/</sup> Appointed as Member of NRC on April 21, 2022
  - <sup>3/</sup> Dismissed from Member of AC on April 21, 2022
  - <sup>4/</sup> Appointed as Member of SCGC on April 21, 2022
  - <sup>5/</sup> Appointed as Chairman of NRC on April 21, 2022
  - <sup>6/</sup> Appointed as Member of AC and Chairman of SCGC on April 21, 2022
  - <sup>7/</sup> Appointed as Member of AC on January 4, 2022
  - <sup>8/</sup> Appointed as Member of ERMC on January 27, 2022



## Board Remuneration

- 1) The Board's remuneration comes in three forms: monthly (retainer) remuneration, meeting allowances, and bonus. Such remuneration, made comparable to those of the same industry, is linked to the performance of the Company and individual directors.
- 2) Directors with additional responsibilities, including subcommittee service, shall receive additional remuneration in proportion to such responsibilities.
- 3) In line with good corporate governance, the Board has instituted the reporting of individual directors' remuneration and the management's remuneration – which includes disclosure of the remuneration of directors or executives, or both, if they are appointed to other positions in subsidiaries – in the annual report.

## Policy on Director Remuneration

In setting directors' compensation, Bangchak takes into account suitability for duties, assigned responsibility, and parity with SET-listed industry and business peers of comparable sizes. Such compensation must be attractive enough to inspire quality performance to achieve Bangchak's goals and business directions under a transparent process to bolster shareholders' confidence.

**Director Remuneration** approved by 2022 AGM of April 8, 2022, are as follows:

### 1) Monthly remuneration and meeting allowance

The Board of Directors	Monthly Remuneration (Baht/person)	Meeting Allowance (Baht/person/time) (Only for attending directors)
The Board of Directors	30,000	30,000
The Sub-Committees		
1. The Audit Committee	10,000	15,000
2. The Nomination and Remuneration Committee	–	15,000
3. Enterprise-wide Risk Management Committee	–	15,000
4. Sustainability and Corporate Governance Committee	–	15,000
5. Other committees that may be appointed in the future by the Board as seen fit and necessary	–	15,000

The Chairman of the Board of Directors and the Chairman of the Sub-Committees shall receive monthly remuneration and meeting allowances higher than those of members by 25 percent, whilst the Vice Chairman of the Board of Directors shall receive monthly remuneration and meeting allowances higher than those of members by 12.5 percent respectively.

### 2) Bonuses for Directors

0.75 percent of the net profit, but not over 3,000,000 Baht/year per director. The calculated amounts are to reflect individual periods of service. Moreover, the Chairman and Vice Chairman shall receive the bonus higher than those of members by 25 percent and 12.5 percent respectively.

### 3) Other Remuneration

Group health insurance

IPD+OPD treatment with annual health insurance not exceeding 50,000 Baht (excluding VAT) per one director

## Directors' Other Expenses

### 1) Other Essential Business Expenses

- Position car for the Chairman's business convenience
- Credit card for the Chairman's business use (credit limit 500,000 Baht)
- Fleet card for each director's business use (up to 400 liters/month/director)

### 2) Others

- Annual physical check-ups
- Directors' & Officers' liability insurance (limit of liability: 250 million Baht)



## Comparison of Remuneration of Directors in 2021 and 2022

Remuneration	2021		2022	
	Directors	Baht	Director	Baht
Monthly remuneration and meeting allowance	15	13,779,782.26	15	14,451,926.55
Bonus	15	45,604,109.58	15	45,533,219.18
<b>Total</b>		<b>59,383,891.84</b>		<b>59,985,145.73</b>

Note: Bonus for 2022 performance under the resolution of the 2022 AGM, held on April 8, 2022 (0.75 percent of the net profit, but not over 3,000,000 Baht/year per director. The calculated amounts are to reflect individual periods of service. Moreover, the Chairman and Vice Chairman shall receive the bonus higher than those of members by 25 percent and 12.5 percent respectively.)

This year the directors whose names appear below exercised their rights according to Employee Stock Ownership Program for the treasury stocks that Bangchak bought back in 2019.

Names	Number of Shares
1. Mr. Pichai Chunhavajira	450,000
2. Mr. Suthep Wongvorazathe	375,000
3. Gen. Songwit Noonpackdee	300,000
4. Pol.Lt.Gen. Chaiwat Chotima	300,000
5. Pol.Lt.Gen. Samran Nualma	300,000
6. Dr. Porametee Vimolsiri	150,000
7. Mr. Prasong Poontaneat	-
8. Mrs. Prisana Praharnkhasuk	300,000
9. Mr. Narin Kalayanamit	300,000
10. Mr. Achporn Charuchinda	-
11. Mr. Chaovalit Ekabut	300,000
12. Mr. Chamroen Phothiyod	300,000
13. Dr. Kulaya Tantitemit	300,000
14. Mr. Boonchob Suthamanuswong	-
15. Mr. Chaiwat Kovavisarach <sup>1/</sup>	-

Remark: <sup>1/</sup> Mr. Chaiwat Kovavisarach exercised Employee Stock Ownership Program rights as an executive.

## Directors' Remuneration due to Directorship of subsidiaries, associates, and joint ventures in 2022

Companies	Name	Total remuneration (Baht)				
		Monthly remuneration	Meeting allowance	Bonus	Sub-Committee remuneration	Net Total
BCPG	Mr. Pichai Chunhavajira	450,000	487,500	1,540,150	-	2,477,650
	Mr. Chaiwat Kovavisarach	405,000	405,000	1,386,135	300,000	2,496,135
BBGI	Mr. Pichai Chunhavajira	450,000	300,000	1,054,945	-	1,804,945
	Mr. Chaiwat Kovavisarach	360,000	327,500	843,956	87,500	1,531,456
OKEA	Mr. Chaiwat Kovavisarach	542,926	117,000	126,009	14,000	799,935
		NOK	NOK	NOK	NOK	NOK

- Note:
- BCPG: BCPG Public Company Limited
  - BBGI: BBGI Public Company Limited
  - OKEA: OKEA ASA
  - Exchange rate NOK 1 equivalent to approximately Baht 3.54

### 8.1.3 Oversight of subsidiaries, associates, and joint-venture companies

Bangchak runs its businesses through subsidiaries, associates, and joint-venture companies, as detailed under "Shareholding Structure". The Board commands a mechanism for supervising the management and the responsibility of subsidiaries, associates, and joint-venture companies to safeguard the interests of Bangchak's investment capital, including.

#### 1) Supervised by the Board

- Define directions and policies
- Review critical matters, including strategies, business plans, and items required by SEC
- Monitor performance outcomes through Board meetings
- Delegate Board-appointed individuals to represent Bangchak as directors and executives under its equity ratios

#### 2) Supervised by management

- Map out plans and implement policies
- Monitor and ensure plan and policy implementation
- Report performance outcomes via quarterly meetings of the Management Committee
- Set planning guidance and promote collaborative processes through quarterly meetings of the Subsidiary Synergy & Strategic Alignment Steering Committee : SSS to drive work under Bangchak Group's direction and strategies
- Set affiliate governance guidance for representative directors so that subsidiaries, associates, and joint ventures may operate in a uniform direction. Voting or actions on critical matters need approval from the Group CEO & President, the Board, or shareholders (as applicable)
- Prepare a Bangchak Group Way of Conduct and require subsidiaries to develop corporate governance policies and internal-control systems that are comprehensive, suitable, and adequate
- Oversee disclosure of financial standing and performance outcomes as well as key transactions to ensure their propriety in line with Bangchak's criteria

#### 3) Monitoring and audit process

- External auditor
- Internal auditor

## 8.1.4 Monitoring Compliance of Corporate Governance Policy and Guidelines

### 1) Policy

Bangchak has instituted its corporate governance policy in writing since 2003 as a result of a workshop engaging all employees where everyone played a part in contributing ideas for the Company's practical guidelines. This year the Board endorsed the revision of the CG Policy to align it with the requirements of the Corporate Governance Report (CGR) of listed companies, the Thai Private Sector Collective Action against Corruption (CAC), the DJSI, and leading companies' operating standards on corporate governance, while suiting the current business model.

### 2) Communication

The Sustainability and Corporate Governance Committee agreed on Bangchak's annual corporate governance plan by requiring the Company to constantly communicate its corporate governance code and its performance to employees and stakeholders via various channels to raise awareness and communicate to stakeholders on the Company's intention to elevate corporate governance and set a standard for conducting business such as:

- Communication of good deeds, morality and ethics, and anti-corruption, as well as guidelines of corporate governance policy through Tone from the Top, prepared as the executive's CG Motto, on the Company's Intranet.
- Developed a CG Policy (Booklet) as an eBook for easy learning and more accurate adaptation.
- Developed CG e-Learning on the corporate governance policy to illustrate relevant case studies in a more concrete way for employees to study by themselves.
- Group Chief Executive Officer and President gave an interview to Collective Action against Corruption (CAC) as CAC had prepared and disseminated the contents on social media to publicize Bangchak's success in joining the CAC Project as a Change Agent and encouraging business organizations in their concrete anti-corruption efforts and measures to prevent bribes to government officials.
- Participated online in the annual Anti-corruption Day 2022 activities organized by ACT.
- On December 19, 2022, Bangchak organized the 17th annual CG Day activities with its affiliates to foster awareness of the importance of compliance with the corporate governance code nowadays. This year BBGI Plc hosted the activities under the topic of "Digital Transformation and Corporate Governance" with Asst. Prof. Torpass Yomanak, Director of the Political Economics Studies Center, Faculty of Economics, Chulalongkorn University, as the guest speaker. Bangchak employees participated in coining slogans and drawing for a contest to foster awareness, develop employees' capability, and enhance their mastery of corporate governance.

### 3) Measures and Guidelines

- Require all employees to acknowledge and observe the CG Policy, and to provide personal data along with a Conflict of Interest Report through the online HR-Services annually and with data change with circumstances. Also, take a test on the CG Policy through the online BCP KMS. In 2022 Bangchak enhanced the mastery of corporate governance and a sound internal-control system under the scope of the Committee of Sponsoring Organizations of the Treadway Commission (COSO), as well as the essences of personal data usage under the Personal Data Protection Act of 2019. The average assessment score was 95%.
- Political neutrality without rendering assistance to any political party, directly or indirectly.
- Donation is strictly for charity, including sponsorship for the Company's business, which is not to be used as excuses for corruption and requires clearly documented proofs in line with the Company's regulations.
- No acceptance of gifts or objects of any value on all occasions. No acceptance of and no giving of entertainment and other unnecessary and inappropriate expenses to government officials or those dealing with the Company's business. If any is received, employees must refuse and report the incident to their superiors for acknowledgment.
- Annual notification to stakeholders on Bangchak's "No Gift" policy for the New Year and other occasions to elevate good corporate governance and set a standard for conducting business with all related parties fairly.

This year Bangchak detected no material issue or shortcoming concerning offenses or breaching of ethics or its Code of Conduct.

#### 4) Internal Control, Risk Management, and Internal Audit

To monitor compliance to this corporate governance policy, Bangchak instituted internal control, risk management, and internal audit systems for key business functions, such as procurement and accounting. Bangchak also closely monitored the progress of risk management plan on a regular basis as detailed under 9.1 Internal Control.

#### 5) Audit

Internal Audit formulates the annual audit plans and reports audit findings to the Audit Committee and the Board for acknowledgment as detailed under 8.2 Report of the Audit Committee.

#### 6) Anti-Corruption

Bangchak incorporated business ethics for anti-corruption in all forms into its corporate governance policy and campaigned for ongoing anti-corruption in the organization through various channels. Bangchak has integrated the anti-corruption policy into its corporate governance policy under Section 4 to reiterate its intention to operate business by abiding by the law and regulations relevant to corporate governance, refusing all forms of fraud and covering all businesses in all applicable countries and agencies. It has defined anti-corruption measures to implement the policy and has regularly reviewed them to comply with changes in laws and business circumstances and uphold Bangchak's reputation.

- Bangchak is committed to complying in full of all applicable anti-money laundering laws. Bangchak will only get involved in legitimate business activities with funds derived from legitimate sources. Bangchak is determined to prevent the Company from falling into any cycle of money laundering and will not tolerate or support any acts of money laundering, including concealing, conversion, transfer, or the handling of illegitimate assets. Also, accurate accounts and records of all transactions, financial facts, and assets must be professionally and properly maintained as stipulated by applicable laws.
- It is forbidden to hire government employees or officers, leading to conflicts of interest. Bangchak recruits personnel that used to serve as government employees under its own criteria to prevent interpretation as a return of favor for benefits; for transparency and auditability, it also discloses such information. At present, the Company does not employ government employees or officers to do work that causes conflicts of interest.
- Bangchak has established disbursement regulations by defining financial limits, approval authorities, objectives, and recipients, all of which require clear supporting documents to prevent unlawful political help and ensure that charitable donations do not go to corrupt purposes, business support funds are not excuses for corrupt practices, and receptions, gifts, and other expenses conform to the policy. Also in place is an audit process issued by Internal Audit.
- Bangchak has regularly established processes for auditing sales and marketing, purchasing, and contract administration concerning risk to corrupt practices in conformance to disbursement regulations and purchasing regulations. To this end, Internal Audit provides its comments and explores for suitable corrective actions.
- Bangchak has put in place a personnel administration process that underscores its commitment to anti-corruption measures, ranging from selection, training, performance assessment, compensation, to promotion.

Bangchak continually communicated and trained employees for their genuine mastery of its measures to combat fraud and corruption, its own expectations, and punitive measures for violators. Instances are the sign-ons of the anti-corruption policy, orientation for new hires, CG e-Learning system (fully participated), and the encouragement provided to executives and employees to attend related external training courses. This year Bangchak staged a "Role of Executives and Employees in Combating Corruption" seminar to strengthen its business foundation, marked by transparency, corporate governance,



and anti-corruption through the proper conduct of all directors, management, and employees. The seminar speaker was the CAC Director.

- Bangchak has established internal control for finance, accounting, data recording, and other company processes related to anti-corruption measures, together with control self-assessment for consultation about the findings of internal control.
- Bangchak has established risk management to ward off and suppress frauds and malfeasance, by analyzing business risks, defining the importance of risks and proper measures for assessed risks, and regularly tracking the progress of risk management plans.
- Bangchak has put in place internal audit to ensure that the defined internal control system and risk management can help it achieve goals, and to audit all units' work against requirements and regulations. Internal audit also helps detect weaknesses and provides advice on the development of business processes for greater efficiency and effectiveness under the approach of corporate governance.

The Anti-Corruption policy applies to all Bangchak directors, executives, and employees and its subsidiaries. The relevant implementing measures apply to all affiliates and other companies that the Company has control over, as well as its business agents. Bangchak commands a process for appropriate and fair punishment of employees who breach its anti-corruption measures. Direct and indirect violation of the policy call for disciplinary action under Bangchak's explicit procedures. This year it detected such an offense as shown in the whistleblowing report.

In addition, Bangchak values good corporate governance and anti-corruption alike. Bangchak also joined the UN Global Compact and in 2013 was one of the first 22 companies to achieve CAC (Collective Action Coalition against Corruption) membership certification. Achieving the first CAC membership in 2013 thanks to ongoing transparent business conduct, in 2022 it won the third membership recertification since its first membership recertification in 2016 and second one in 2019.

Bangchak continued to encourage its business partners to join the CAC project. The Company assisted with the public relations and invited the business partners who announced their intention with CAC Road to join CAC Road to Certify and SME Clinic seminar in the form of an online channel through the WebEx system to receive information and knowledge about the laws, case studies along with guidance on how to formulate policies and practices in the preparation of risk assessment methods as well as the process of submitting certification with CAC. As a result, this year Bangchak was among the five recipients of the CAC Change Agent awards in recognition of its transparent and corruption-free business network expansion.

## 7) Compliance with corporate governance for listed companies

The Stock Exchange of Thailand (SET) established "The Principles of Good Corporate Governance for Listed Companies 2012". The Securities and Exchange Commission (SEC) issued its "Corporate Governance for listed companies 2017", which contains eight major practical guidelines. This year Bangchak continued its compliance with these principles by following these five aspects:

### 1. Shareholders' rights

The Board of Directors has defined a policy on shareholders' rights in Section 3.3 of the corporate governance policy, as implemented below.

- A Record Date for the AGM was set so that shareholders may have enough time to review meeting notices and various data ahead of the meeting.
- Informed the shareholders about two months ahead of the meeting so that they may schedule meeting attendance, which exceeds what is required by law.
- The meeting notices with information for each agenda item and the proxy form were sent to shareholders for consideration in advance.
- Allowed the shareholders to submit queries needing Bangchak's explanation on certain points of the agenda for the AGM ahead of the meeting since September 1, 2022.
- Facilitated and promoted shareholders' or their proxies' participation. This year Bangchak held its first E-meeting AGM under the Electronics Media-based Meetings Act of 2020 and related laws as well as rules. In use was a program for the organization of shareholders' meetings to conduct shareholders' registration and vote-tallying for efficiency and transparency.
- Before the meeting, the Company Secretary clarified the method for voting and vote-tallying for each agenda item and requests shareholders' representatives to witness vote-tallying together with the inspector.
- During the meeting
  - Conducted the meeting by the agenda items sent to the shareholders without adding or switching the agenda items
  - Allowed the shareholders equal rights for expressing views and posing questions on each agenda item and recorded key concerns and views in the minutes.
- After the meeting
  - Publicized the resolutions and vote tallies on each agenda item through SET's channels and Bangchak's website by the evening of the meeting date.
  - Publicized the minutes through SET's channels and Bangchak's website and delivered to the shareholders that expressed views at the meeting.

At the 2022 AGM, **Bangchak invited Mrs. Nisanat Pongsawadi, an independent legal counselor, to serve as an independent inspector to validate the votes and ensure transparency and compliance with the law and the Company's article of association.** This included examination of documents of shareholders or their proxies with the right to attend the meeting, quorum, stakeholders whose voting right was not exercised, and whether the voting process followed the Company's article of association or what was announced by the chair of the meeting, as well as collection of ballots, verification of meeting resolutions, as well as ballot casting. One representative from the shareholders joined the witnesses verifying the AGM ballot-counting.

Results of Quality Assessment for AGM: 100 points and listed as "Excellent" for the 14<sup>th</sup> consecutive year in participation of the AGM Quality Assurance evaluation. The evaluation was conducted by Thai Investors Association (TIA).

## 2. Equitable Treatment of Shareholders

The Board of Directors has defined a policy on equitable treatment of shareholders in the corporate governance policy, as implemented below.

- Publicized meeting documents on its website 30 days ahead of the meeting and delivered them to the shareholders 25 days ahead of the meeting.
- Allowed the shareholders to propose additional AGM agenda items and nominate directors from September 1 to December 31, 2022. Bangchak disclosed the criteria and methods at its website and informed the shareholders through SET's channels. The Board's policy is against adding agenda items without prior notice, particularly

crucial items for which the shareholders need time to study before making a decision.

- Supported the shareholders' use of proxy forms to steer voting at the meeting (Form B) and nominated four independent directors as proxy alternatives at the meeting.
- Used ballots on every agenda item, particularly that dealing with directors' election where individual directors were voted on. To this end, the votes equaled the number of shares held for the election of one director.
- Required that directors with vested interests should have no votes and stay outside the meeting on such agenda item, as mentioned in the corporate governance policy.
- Defined practices for employees on the maintaining of Bangchak's confidential information and avoidance of benefit-seeking for themselves by exploiting such confidential information, as mentioned in the corporate governance policy.

### 3. Roles of stakeholders

In the corporate governance policy, the Board defined a policy for its roles toward the stakeholders. In the corporate governance system, several key groups of stakeholders are found, including customers, employees, business partners, shareholders, investors, creditors, and residents of neighboring areas, society, and the environment. Bangchak values the importance of the rights of all groups, which includes actions violating their rights and intellectual properties. Below are the policy and practices (detailed under 3. Driving business for sustainability).

#### Employees

- Places Individual Development Plans (IDPs) to raise staff knowledge and caliber.
- Performance assessment is based on the Balance Scorecard principles whereby all employees have Key Performance Indicators (KPIs) and will be compensated in accordance with their performance.
- Gives competitive and fair compensation, depending on the overall performance of the company, in the short term and the long term. In this regard, each year, the Company will conduct a survey of compensation and welfare benchmark between the petroleum industry and the related industry, including the surrounding environment to review and improve the compensation criteria. Bangchak, moreover, provided staff welfare exceeding what was required by law, which included the provident fund, medical welfare, shuttle-bus service, staff relations activities, as well as an employee club with various recreational activities.

#### Customers

- The Company is dedicated to improving the quality and reliability of products and services for maximum customer satisfaction. Its policy is to deliver quality goods and services which meet or exceed customers' demands under fair conditions. Bangchak brand service stations were ranked 1st (tie for 1st place) as measured by Net Promoter Score for the second consecutive year.
- The Company is also committed to consumers' safety by delivering standard-certified products and by giving accurate, adequate information about its products and services.

#### Policy on customers' confidentiality

Valuing the protection of personal data of all related parties, including customers, Bangchak aligns its activities with the Personal Data Protection Act of 2019 and applicable laws. It rolled out the Data Protection Policy and related guidelines, which set guidance for supervising and managing personal data collected, used, or disclosed by Bangchak. These data must be duly protected and must align with legal requirements. All executives, employees, or temporary hires—including third parties working on behalf of Bangchak—must strictly abide by these.

Bangchak pays attention to maintaining of the confidentiality and security of personal data. It leverages suitable and adequate technical and management measures to prevent undue losses, access, modification, or disclosure

of such data under Bangchak's custodianship. Bangchak also regularly reviews the adequacy and suitability of these security measures to ensure the efficiency and effectiveness of personal data security in line with legal requirements. If Bangchak hires third-party individuals or agencies to compile these data on its behalf, there must be an agreement governing such compilation to control activities and prevent such third parties from unduly collecting, using, or disclosing such data provided or transferred by Bangchak.

For all related parties, including customers, Bangchak develops and discloses a Privacy Statement to provide detailed personal data collected by Bangchak, objectives and legal bases for the compilation, storage period, third parties allowed by Bangchak to keep or disclose such data, rights of data owners, channels and procedures for exercising rights, and contact details for reaching Bangchak or personal data controller officials.



These have been put on the website at: <https://www.bangchak.co.th/storage/document/cookies-policy/private-statement-en.pdf> and Bangchak's application.

### **Suppliers/Contractors**

- The Company has a suppliers' code of conduct and a policy to select and treat Suppliers/Contractors with equality and fairness. It has produced a "Business Contact" manual and drawn up a "Dealer/Station Operator Policy" for distribution to business contacts and dealers/station operators so that they may have proper understanding and strictly comply with Bangchak's corporate governance and business ethics. Bangchak also firmly adheres to contract provisions. Whenever any condition cannot be complied with, Bangchak urgently informs Suppliers/Contractors in advance to jointly solve problems.
- The Company has defined strict criteria for Suppliers/Contractors selection to bolster fair and equal procurement procedures without violation of human rights. It invites those qualified to register with it. Qualified companies are allowed to make offers to compete with others in the same business. The procurement committee then proceeds with the selection, based on price and technical aspects.

### **Creditors**

The Company conducts business with ethics, transparency, and engages in fair competition with its competitors under the guidance of fair competition. It does not seek to find information about Competitors through dishonest or inappropriate means, for example, bribing a competitor's employees. The Company does not engage in slander or discrediting its competitors. In 2022, the Company has no disputes with competitors.

### **Competitors**

The Company conducts business with ethics, transparency, and engages in fair competition with its competitors under the guidance of fair competition. It does not seek to find information about Competitors through dishonest or inappropriate means, for example, bribing a competitor's employees. The Company does not engage in slander or discrediting its competitors. In 2022, the Company has no disputes with competitors.

### **Shareholders**

The Company is determined to follow the principles of corporate governance and is focused on creating a business which has financial stability and sustainability to maximize the value of shares for the benefit of the shareholders.

**Communities surrounding the refinery, society, and the environment**

- The Company conducts its business with adherence to environmental management standards, such as ISO 14000. The Company considers health and safety and the environment an integral part of the business, and has written guidelines on health, safety and the environment for the Directors, Executives, and employees to uphold. The Company also disseminated information for neighbors around the refinery to receive the Company's news as well as organized activities for communities and support assistance in various occasions.
- Environmental stewardship
  - Internally, the Company campaigned on reducing printing jobs or photocopying and reliance on electronic communication means instead of paper, including printing on both pages instead of one. It modified business processes to electronic, while educating employees on occupational health, safety, and energy, as well as providing knowledge and training for employees on occupational safety, health, and environment, as well as energy
  - External efforts by arranging for E-Procurement for business partners in making offers in procurement and E-Complaint for customers in filing their complaints or making recommendations, to reduce the use of paper.
- The Company produces “Krob Krua Bai Mai” (Leaf Family) newsletter and “Rob Rua Bangchak” (Bangchak Neighbors) magazine for distribution every other month to allow the community to know the goings-on of the Company as well as receiving interesting information, such as how to save energy, how to ensure safety in daily life, and health tips and how to protect the environment. This is another way for the Company to communicate with and take care of communities around its refinery.

**Consumption of resources**

Bangchak continually raises the efficiency of resource (energy, water and chemical) consumption, suiting the size of the business and efficiently managing waste and use it to its full potential.

**Sanctity of intellectual properties**

Bangchak has its policy on intellectual property management to define clear guidelines for the prevention and sanctity of intellectual properties. Compliance with this policy is the direct responsibility of the executives, employees, affiliates, and contractors working on behalf of Bangchak.

**Whistleblowing and complaint-filing channels**

Bangchak's Board of Directors has laid down measures regarding whistleblowing or concerns about any wrongdoing or misconduct that may lead to fraud involving people in the organization, be they staff or stakeholders. Whistleblowing can also be applied to suspicious financial statements or a lax internal control system. Bangchak has a mechanism to protect staff or whistleblowers by establishing a confidential database accessible only by authorized persons. This is to encourage cooperation from stakeholders in better protecting its interests. If a concern about wrongdoing is raised, a committee comprising members of units relevant to the issue will be set up to launch an investigation, the result of which is forwarded to the whistleblower through:

E-mail: ico@bangchak.co.th

Address: Internal Audit Department

Bangchak Corporation Public Company Limited

2098 M Tower Building, 8th Floor, Sukhumvit Rd.

Phra Khanong Tai, Phra Khanong, Bangkok 10260

Tel: 0 2335 4566

Bangchak monitored complaint and whistleblowing reports through Internal Control's channel. This year one case was reported through ICO@bangchak.co.th (Internal Audit Department) about possible corrupt or unethical practices on job inspection. Bangchak's probe outcome was that such inspection had followed procedures, standards, and terms.

- 1) Customers: Two offenses were detected. The Company meted out punishment and duly defined preventive measures.
- 2) Business process: One complaint was found caused by the operation process of the oil depot which was returned from Fuel Pipeline Transportation Company Limited in January 2022, therefore the Company applied the summary of investigation to the improvement of the related work process for efficiency improvement.

#### Contact channels

The Board of Directors   Tel: 0 2335 4000  
  Fax: 0 2016 3982  
  E-mail: bcpsecretary@bangchak.co.th

Company Secretary       Tel: 0 2335 8401  
  Fax: 0 2016 3982  
  E-mail: wannasiri.t@bangchak.co.th

Investor Relations        Tel: 0 2335 8663  
  Fax: 0 2335 8000  
  E-mail: ir@bangchak.co.th

#### 4. Information disclosure and transparency

The Board of Directors has defined a policy on information disclosure and transparency in the corporate governance policy, as implemented below.

- Disclosed performance outcomes, company information, and outlooks to analysts and investors (domestic and international) every quarter.
- Distributed key company data and documents, including the memorandum of association, certification, and regulations beyond the corporate governance policy on its website.
- Investor Relations coordinated with analysts, investors, and other parties that need financial data, performance outcomes, company status, and transactions affecting Bangchak.
- Publicized Bangchak's key information regularly through SET's channels, annual registration statement/annual report, and its website in Thai and English.

#### 5. Board responsibilities

In the corporate governance policy, the Board defined a policy for the roles, duties, and responsibilities of the Board. Below are Bangchak's actions taken this year:

- Revised and defined Bangchak's annual vision, missions, strategies, business plan goals, and budgets every year to maximize value to businesses and for shareholders' security. In addition, the Board endorses key strategies and policies, particularly financial KPIs (key performance indicators) and work plans. Endorsement of KPIs and metric-setting is done early in the year, with periodic tracking.
- Oversee the management's translation of strategic plans into operational plans, assess the outcomes and steer affiliates by requiring their management to report their performances and other key matters for the Board's acknowledgment every month.



- Held an annual corporate strategy seminar with the management to review the vision and set corporate goals.
- Staged a meeting of the independent directors in March and July, and a meeting of the non-management directors in April and September.
- To encourage the Board of Directors to acquire beneficial knowledge and experience, the Company held a talk on Talk on “IT Governance” by speaker from Thai Institute of Directors (IOD) on January 27, 2022, Talk on “New Paradigm & Energy Transition” by speaker from JP Morgan at the 2022 annual seminar on corporate strategies on September 2, 2022 and Talk on “Energy Storage System (ESS) and EV Battery industry” by speaker from BCPG Public Company Limited on October 20, 2022, to the board of directors.
- Developed performance assessment forms for the Board: individual (self-assessment and cross-assessment), group, and committee.
- Instituted an effective internal control system, internal audit, and risk management measures together with regular tracking at Board meetings.
- Established the Legal and Compliance department to monitor all functions to ensure complete compliance, including preparation of legal assessment for Bangchak units, oversight of license renewals with an alert system for responsible superiors and subordinates, and legal education through channels like Outlook, intercom, and annual law training.

## 8) Monitoring the Use of Inside Information

The Company has a policy detailing the accepted practices of director, executive and employees and forbidding the disclosure of important secret information to the public for personal or other gains, as well as policies on the buying and selling of Company shares as follows:

1. Bangchak regularly provides related rules and policies on the prevention of inside-information abuse and that of conflicts of interest to all directors, executives, and employees through its various channels. All directors, executives, and employees must sign their names acknowledging these and abide by the policies. Bangchak continually organizes various training courses, including orientation for new directors and orientation for new employees, attended by all such individuals. Education is also provided through the Knowledge Sharing and CG e-Learning systems, and superiors are urged, as leaders and role models, to advise their subordinates. The Board assigns the Sustainability and Corporate Governance Committee to oversee policy compliance to ensure acknowledgment of and compliance with such rules and policies.
2. Directors and executives, as well as their spouses, cohabitation partners, and minor children under legal age, including legal entities where they have more than 30% shareholding of the number of all voting rights of the juristic person must notify and distribute information about shares held, as well as reporting any changes to SEC every time they buy, sell, transfer, or receive shares within three days of the change to comply with Article 59 or face punishment according to Clause 275 of the Securities and Exchange Act of 1992 and reported in the board of Director’s meeting every month.
3. Notify the Directors and executives of the financial information which affects the price of shares. Avoid buying or selling Company shares one month prior to the disclosure of information and three days after disclosure, as well as not disclosing information to others before it is made available to the public.

The Company also has penalties against employees who use the Company’s inside information for personal gains, ranging from a warning to termination of employment. In 2022, there was no report of wrongdoing in the matter.

## 9) Conflicts of Interest

Under the corporate governance policy, the guidelines for directors, management and employees stipulated that they must refrain from any act posing potential conflicts of interest with the Company, i.e. any act potentially depriving the Company of its interests or its fair share of interests, including competing with the Company, incurring personal gains from private business dealing with the Company, abuse of Company information for personal gain and holding shares in the Company's business competitors. The Company, in order to prevent potential conflicts of interest, has set the following forms:

### 1. CG Commitment and Conflict of Interests Disclosure

To comply with the policy on corporate governance, which forbids directors, management and employees to commit any act which might deprive the Company of its interests, the Company has prepared the above-mentioned form to ensure that all employee acknowledge the CG policy and fill any acts or activities that might be in conflict with the Company's business interests and deliver it to their supervisors through online method.

### 2. Report of Directors and Management's Stake Form

The Securities and Exchange Act stipulates that directors and the management are to report to the Company his/her or connected persons' stakes connected with the business operations of the Company or its subsidiaries. The Company has therefore prepared the above-mentioned form for its directors and management to fill out and report any change to the Company. The Corporate Secretary will forward a copy of the form to the Chairman of the Audit Committee to ensure that the directors and management perform their duties with integrity. By the year 2022, it has been completed.

### 3. Report on connected transactions form

To ensure that transactions between the Company and any related parties or businesses are transparent and comply with SET's rules and regulations, the Company has defined a policy and guidelines on connected transactions and prepared the above-mentioned form for responsible employees to fill out and forward it to the Secretary to the Board of Directors Division with a copy to Internal Audit for acknowledgment.

### 4. Intention to trade Bangchak Corporation's securities form

To enable directors and the management to inform the Company of the intention to trade Bangchak shares through Secretary to the Board of Directors Division at least one day in advance, for reporting to the Audit Committee every quarter. Written notices can be sent through [bcpsecretary@bangchak.co.th](mailto:bcpsecretary@bangchak.co.th) or other electronic channels, including the LINE application.

The Company also has penalties against employees who use the Company's any action which is contrary to the business interests of the Company, ranging from a warning to termination of employment. In 2022, there was no report of wrongdoing in the matter.

## 10) Investor Relations

The Company realizes that its information, both financial and non-financial, affect the decision-making process for investors and stakeholders. Therefore, the management values accurate and full disclosure in a regular and timely manner, in accordance with SEC and SET regulations. The Investor Relations department acts as a center for giving out important information to investors. Bangchak allowed all information to be equally publicized, whether financial reports, performance outcomes and business outlooks, data affecting Bangchak stock prices, or quality-assured data disclosed to investors and stakeholders. Directly and indirectly, Bangchak presented its performance outcomes and company information, summarized below:

- Direct: Bangchak staged meetings between its executives and shareholders, stock analysts, investors, and employees via regular activities to present performance outcomes through analyst meetings, roadshows, conference calls, participation in conferences (domestic and abroad), participation in meetings with minor investors at the “Opportunity Day” or at “SET in the City”, hosted by SET, or company visits by shareholders to enable them to appreciate company businesses more. In addition, institutional investors (domestic and international) and stock analysts may make appointments with executives to inquire about company data through company visits.

Activities	Number (times)
Roadshow and Investor Conference	5
Analyst Meeting	4
Opportunity Day (organized by the SET)	4
Company Visit and Conference Call	7
Performance Update on website	4
Factsheet	4
Press Conference (Strategic Plan) to the press / analysts / fund managers	1

- Indirect: Bangchak provided assorted data, performance outcomes, financial statements, and other information given to SET. Other data were presented through meeting documents, webcast and factsheet publish on the Company’s website [www.bangchak.co.th](http://www.bangchak.co.th), investor relation section. The Investor’s Relations page contains information in Thai and English which is updated frequently.

## 8.2 Report of the Audit Committee and Other Sub-Committee

### Report of the Audit Committee

Dear Shareholders,

The current Audit Committee of Bangchak Corporation Public Company Limited consists of qualified directors who are independent and experienced, with Dr. Porametee Vimolsiri serving as Chairperson and Mrs. Prisana Praharnkhasuk, Mr. Achporn Charuchinda and Mr. Narin Kalayanamit serving as members.

In 2022, the committee met 12 times, seven of which with management (in the absence of those with invested interests on applicable items). Below are the meeting attendance records.

Name	Meeting attendance/total (times)
Dr. Porametee Vimolsiri	12/12
Mrs. Prisana Praharnkhasuk	12/12
Mr. Achporn Charuchinda	12/12
Mr. Narin Kalayanamit *	8/8
Pol. Lt. Gen. Chaiwat Chotima	4/4

\* Serving as a member of the Audit Committee in place of Pol. Lt. Gen. Chaiwat Chotima on April 21, 2022.

Below are the highlights of deliberations in 2022:

#### 1. Review of financial statements

With the external auditor, Internal Audit, and management, the committee reviewed the quarterly and annual financial statements along with related financial reports, questioning and commenting on matters affecting the statements, including the impact of shifting policies on investment in subsidiaries and associates, impairment of debtors and assets, monitoring of investment situations in subsidiaries and associates, and petition follow-up of tax reimbursement and Oil Fund receivables. The committee sought to ensure that Bangchak's preparation of financial statements followed generally accepted accounting standards and practices and that these statements contained adequately disclosed data.

#### 2. Review of connected transactions

Reviewed connected transactions or transactions with possible conflicts of interest. Viewed that the connected transactions were in line with regular business practices and trade criteria and benefited the business operations of Bangchak and its subsidiaries, as well as with adequate information disclosure.

#### 3. Nomination of the auditor

Selected, nominated, and proposed pay for KPMG Phoomchai Audit Ltd. as Bangchak's external auditor for 2023; Each quarter the Audit Committee met with the external auditor to review the latter's performance and freedom of action. They also discussed problems arising from the latter's audit work and promptly identified solutions to key issues.

#### 4. Risk management process review

Reviewed the adequacy of Bangchak's risk management processes and proceeded with audit under the existing risks. This year a meetings was held with the Enterprise-wide Risk Management Committee for exchange of views.

## 5. Compliance review

Reviewed Bangchak's compliance with all announced accounting standards, legal provisions, SET's requirements, and applicable laws in a thorough, accurate fashion under the corporate governance code.

## 6. Internal control review

Conducted quarterly investigation of internal control with Internal Audit including operation, asset supervision, safety, prevention or reduction of mistakes/damage, leak or loss of assets or material information, reliability of financial reports, and compliance with laws, rules, regulations, as well as review of governance of subsidiaries' operations.

This year the Audit Committee inquired and stressed matters that could impact the internal- control system, including monitoring for compliance with applicable laws, compliance with safety and environmental measures, and oversight of IT data and systems for security and availability.

Management monitored and made rectifications based on the recommendations of the committee and Internal Audit to ensure a sound internal control system.

## 7. Internal audit review

- Approved its own charter in accordance with the criteria and regulations of SEC and SET and the corporate governance policy to ensure the shareholders, business partners and customers, and other stakeholders that Bangchak's operations complied with ethics while maintaining an efficient internal control system.
- Reviewed the policy and operation manual of Internal Audit to cover the roles, duties, and responsibilities of the committee and in accordance with the criteria and regulations of SEC and SET as practical guidelines.
- Supported the development of the Internal Audit chief to achieve quality based on international standards.
- Encouraged Internal Audit to apply computer and IT systems to the analysis of information through analytical programming and display of results, as well as the development of guidelines of investigation by focusing on continuous auditing.
- Encouraged Internal Audit to undergo third-party audit quality assessment.

Monitoring Bangchak's performance this year under the assigned scope of duties and responsibilities, the Audit Committee feels that Bangchak prepared materially correct financial statements under the generally accepted accounting principles. Data for connected transactions or those of possible conflicts of interest were duly disclosed. In place were an internal control system and risk management practices of the company and its subsidiaries that proved adequate and fit business circumstances. Finally, Bangchak accurately and thoroughly abided by the law, SET's requirements, and applicable legal provisions.

*(Signed) Dr. Porametea Vimolsiri*

**(Dr. Porametea Vimolsiri)**

Chairperson of the Audit Committee

## Report of the Nomination and Remuneration Committee

### Dear Shareholders,

The Board of Directors of the Company appointed the present Nomination and Remuneration Committee, chaired by Ms. Prisana Praharnkhasuk, Gen. Songwit Noonpackdee as member and Pol. Lt. Gen. Chaiwat Chotima as member and secretary, which consists of all independent directors to act truly independent.

This year the committee held five meetings (Number of individual meeting attendance appear in 8.2.1 Summary of Sub-committees meeting attendance) , highlighted below.

**Director nomination:** The committee nominated new directors to replace the retiring ones and those resigning ahead of term completion by reviewing their competency, experience, sound career records, leadership, vision, virtue, ethics, good attitudes toward the corporation, and the ability to dedicate adequate time—all of which benefit Bangchak. In addition, the committee considered board diversity and produced a board skills matrix to define the qualifications of desirable directors. To this end, it reviewed missing essential skills as well as proper qualifications in line with Bangchak’s Board composition and structure suiting business strategies; to complement the nomination, it also leveraged Institute of Directors (IOD)’s Director Pool. Today the Board consists of 15 directors, ten of whom are independent ones, four are non-executive directors, and Group CEO and President the sole management director. Their profiles appear under Governance Structure and Key Information on Board of Directors, Sub-committees, Management, Employees, and Others.

**Board and Group CEO and President compensation consideration:** The committee considered commensuration with their duties as well as responsibilities suiting Bangchak’s results of operation and performance as well as parity with SET’s peer listed companies of comparable sizes. Such compensation must be able to inspire quality directors and management to execute their duties and fulfill Bangchak’s goals as well as business directions. Compensation information appears under Highlights of Corporate Governance

The Nomination and Remuneration Committee independently executed its duties under the corporate governance code to ensure transparent processes and foster confidence among shareholders and all stakeholders.

*(Signed) Mrs. Prisana Praharnkhasuk*

**(Mrs. Prisana Praharnkhasuk)**

Chairperson of the Nomination  
and Remuneration Committee



## Report of the Enterprise-wide Risk Management Committee

### Dear Shareholders,

To foster confidence that Bangchak can execute its businesses under volatile circumstances. The Company places importance on corporate risk management to be a tool to cope with various risk factors, both internal and external and appointed an Enterprise-wide Risk Management Committee (ERMC) to define policies supporting its risk management practices affecting the corporation, dealing with strategic, operation, financial, and reputation risks. ERMC executed its Board-assigned duties under the enterprise-wide risk management criteria.

This year the committee held six meetings with management and the internal auditor as well as a meeting with the Audit Committee (Number of individual meeting attendance appear in 8.1.2 Summary of Sub-committees meeting attendance), highlighted below.

- **Supervision and formulation of policies and management of key corporate risks arising from fluid business circumstances stemming from several external and internal factors** with negative and positive impacts: To this end, it defined risk management plans in parallel with corporate strategies, under which the cases of scenario planning were defined for adaptation of execution fitting actual circumstances. Key risk indicators were defined and tracked, as they affected corporate KPIs in a timely way with fluid business circumstances under various factors. For instance, intensification in global geopolitics, sanctions against Russia after the Russian-Ukrainian War, the epidemic of COVID-19, high inflation and the depreciation of the baht changing economic circumstances, vigilance for flood-related disasters, climate change issues, safety, socio-community-environmental impacts, compliance with laws, anti-corruption, and cyber-security vigilance. The committee's aim is sustainable development under Environmental, Social and Governance (ESG). As a result, ERMC valued risk management of Bangchak Group companies, which included assessment of risk management for suppliers and stakeholders' expectations together with vigilance and monitoring of overall impacts so as to produce manageable risk control and proper business conduct for the entire group.
- **Recommendations on new investments:** To accommodate the Group's global investment expansion in emerging businesses, Bangchak required that significant investment projects must command risk management plans in assorted aspects before seeking ERMC's endorsement for the Board's approval. This fostered confidence that such businesses commanded proper risk management practices, did not unduly impact communities and the environment, and stood a good chance of goal achievement. This year the committee gave recommendations and observations on the preparation of risk management plans in the project, such as the Joint Venture Project for the Production of Sustainable Aviation Fuel.
- **Support to BCM (Business Continuity Management):** Bangchak should focus on its strategic, process, and resource preparedness by advocating preparedness for various situations such as for example, from the Russian-Ukrainian war, it has adjusted its operations to increase oil types in order to have flexibility in supply. support the situation of tight supply of oil and natural gas, preparing to obtain sufficient trade credit lines to support the rising oil price situation, including issuing debentures to prepare for financial liquidity. For the risk of flooding has closely monitored the water level situation including preparing according to the crisis management plan in case of flooding in the operating areas and gas stations.

The committee also advocated knowledge enhancement about the BCM system among related personnel. To this end, this year it ensured BCM Internal Audit training and courses for business continuity management working groups for awareness of duties and recommended practices while reviewing and adjusting BCM plans for connection and the ability to efficiently manage under all circumstances. As a result, this year Bangchak garnered ISO 22301:2019 certification for the Head Office at M Tower, Bangchak Refinery, Bangchak Oil Distribution Center, the Central Region Business Office, and Bang Pa-in Oil Distribution Center to foster confidence among stakeholders that its businesses can go on uninterrupted even during crises.

The Enterprise-wide Risk Management Committee is committed to ensuring that Bangchak commands supervision and properly manages risks. As a result of the actions taken this year, the committee is confident that Bangchak can indeed operate efficiently in pursuit of its goals.

*(Signed) Prasong Poontaneat*

**(Mr. Prasong Poontaneat)**

Chairperson of the Enterprise-wide  
Risk Management Committee

## Report of the Sustainability and Corporate Governance Committee

### Dear Shareholders,

Appointed by the Board of Directors, the Sustainability and Corporate Governance Committee (SCGC) is chaired by Mr. Narin Kalayanamit, with Mr. Suthep Wongvorazathe, Dr. Kuyala Tantitemit, Mr. Boonchob Suthamanuswong, and Pol.Lt. Gen. Samran Nualma serving as members and Mr. Chaiwat Kovavisarach as member and secretary.

This year the Board renamed the Corporate Governance Committee as the Sustainability and Corporate Governance Committee and amended its roles and responsibility to embrace sustainability operation in line with Bangchak's vision, mission, and goals that strive to drive a business model for transparency, sustainability, and non-tolerance of corrupt practices and uphold the corporate governance code. At the same time, Bangchak seeks to upgrade its ethics standards together with a code of business conduct and improve its sustainability management standard to relentlessly elevate its efficiency. All these would foster faith among all stakeholders and jointly drive essential policies among Bangchak's subsidiaries through group management to together evolve sustainability across the value chain.

The Board assigned SCGC to map out and revisit corporate governance and sustainable development policies and guidelines and develop a corporate governance process in the best interests of shareholders and stakeholders in line with the following: Corporate Governance Code of SEC and SET; recommendations of the Corporate Governance Assessment Report and the ASEAN Corporate Governance Scorecard (ACGS); United Nations Global Compact (UNGC); United Nations Guiding Principles on Business and Human Rights (UNGP); BCG Model, namely Bio Economy, Circular Economy, Green Economy; S&P Global Corporate Sustainability Assessment (S&P Global CSA); Women's Empowerment Principles (WEPs); and ISO standards, including ISO 14001 (environmental management), ISO 45001 (safety management), ISO 50001 (energy management), as well as PSM (Process Safety Management).

This year three meetings were held to follow up work and assess plan implementation on corporate governance, compliance with laws and corporate rules and regulations, anti-corruption, sustainability management, and CSR (Number of individual meeting attendance appear in 8.1.2 Summary of Sub-committees meeting attendance). Below are the essences.

#### 1. Shareholders' rights

- Publicized AGM meeting notices on the Company's website 30 days ahead of the meeting date
- Publicized the 2022 AGM meeting minutes on the Company's website within 14 days of the meeting
- Garnered 100 (full) marks on the Thai Investors Association's AGM Checklist, regarded as excellent, for the 14th year.

#### 2. Equitable treatment of shareholders

- Proposed four independent directors as alternatives for shareholders' proxies at the AGM
- Allowed shareholders to propose meeting agenda and nominate directors for election from September 1 to December 31, 2022
- Each month, reported the directors' and management's shareholding to the Board meeting.

#### 3. Roles of stakeholders

- Followed up on whistleblowing reports made through Internal Audit. This year three such reports were filed through ico@bangchak.co.th about corrupt practices or morality/ethics offenses by subsidiaries. Bangchak provided oversight to the complaint-handling process and notified related parties about the conclusions as follows:
  - 1) Customers: Two offenses were detected. The Company meted out punishment and duly defined preventive measures

2) Business process: One complaint was found caused by the operation process of the oil depot which was returned from Fuel Pipeline Transportation Company Limited in January 2022, therefore the Company applied the summary of investigation to the improvement of the related work process for efficiency improvement.

#### **4. Information disclosure and transparency**

- Continually prepared the 56-1 One Report and Sustainability Report and released Bangchak's quarterly performance outcomes together with material information for shareholders, investors, and the public containing complete, adequate, credible, and timely information through assorted channels, including the SET Portal and the Company's website
- Each quarter, released performance outcomes, company data, and outlooks for domestic and international analysts and investors to disclose such data for analysts and investors (a total of 21 occasions).

#### **5. Board's responsibility**

- Broadened the skills and expertise of the Board, as Bangchak's leaders, for effectiveness, achievement of short-term and long-term goals, and achievement of corporate sustainability by encouraging their participation in assorted training courses to elevate their competency and skills, including those of IOD and applicable institutes. In addition, internal talks were staged by guest speakers, who presented related information to the Board's performance
- Prepared information for four new directors' orientation (Mr. Achporn Charuchinda, Mr. Chavalit Ekabut, Mr. Narin Kalayanamit, and Pol.Lt.Gen. Samran Nualma) so that they may be kept current on the nature and style of Bangchak's business, applicable regulations, corporate governance policy, and other essential data that are useful to the efficient performance of their duties
- Held an annual strategic corporate seminar with management to revise the corporate vision and goal setting
- Held two independent directors' meetings in March and July
- Held two non-management directors' meetings in April and September.

#### **6. Corporate governance and anti-corruption**

- Required executives and employees to provide personal data and file a conflict-of-interest report through the annual HR-Services system or with each data change
- Required executives and employees to take a test on the corporate governance policy through the online BCP KMS system. This year Bangchak promoted mastery of corporate governance and sound internal control system under the scope of The Committee of Sponsoring Organizations of the Treadway Commission (COSO) together with the essences of the Personal Data Protection Act of 2019
- Developed CG e-Learning on the corporate governance policy to illustrate relevant case studies in a more concrete way for employees to study by themselves
- Encouraged suppliers to join certified membership of the Collective Action against Corruption (CAC) Project and urged quarterly training with CAC. As a result of Bangchak's continual encouragement since 2013, to date 126 suppliers have declared their intention
- Valued and stressed the No-Gift Policy during festive and other occasions to elevate corporate governance practices while laying a solid foundation for fair business conduct with all applicable parties.

#### **7. Sustainable development**

- Bangchak evolved its management of sustainability by having Corporate Sustainability Development and Standard propose corporate sustainability strategies in line with corporate business strategies, develop reporting and publicity, and benchmark Bangchak's sustainability practices. Sustainability operation reports were given to management through Sustainability Management Committee (SMC) and Sustainability Policy Committee (SPC) meetings for eventual presentation to SCGC
- Bangchak defined its annual sustainability plan under the ESG scope that addressed UN Sustainable Development Goals (UN SDGs) through three key goals:

- 1) **SDG Tier 1 / In-Process (to achieve the Race to Zero)**
    - o SDG 13: Climate action
    - o SDG 6: Clean water and sanitation
    - o SDG 7: Affordable and clean energy
    - o SDG 9: Industry, innovation, and infrastructure
    - o SDG 12: Responsible consumption and production
    - o SDG 16: Peace and justice strong institutions
  - 2) **SDG Tier 2 / After-Process (create social values)**
    - o SDG 8: Decent work and economic growth
    - o SDG 4: Quality education
    - o SDG 11: Sustainable cities and communities
  - 3) ESG Rating & SDG Performance consisted of sustainability rating under the THSI guidance, the S&P Global Corporate Sustainability Assessment (S&P Global CSA), and CGR of listed companies.
- Bangchak Group defined its route to Net Zero GHG Emissions by defining long-term goals of Carbon Neutrality by 2030 and Net Zero GHG Emissions by 2050, leveraging the BCP 316 NET. Instances of this strategy are the application of technology and fuels with less carbon emission, reduction of energy and water consumption in refining processes; formation of the Carbon Markets Club with multiple organizations to ease impacts of greenhouse gas emission through carbon credit trading; Thailand's first startup Winnonie (an electric motorcycle platform) that trailblazed such platform service together with automatic battery-swapping stations; display of sample "blue carbon" seagrass to investigate carbon-trapping ability in marine environment; and production plans for Sustainable Aviation Fuel (SAF) from used cooking oil in food preparation, which promotes sustainable clean-energy consumption.

As a result of Bangchak's priority given to sustainability and corporate governance, this year it was continually ranked high and garnered awards for sustainability and corporate governance, including:

- Thailand Corporate Excellence Awards 2022, bestowed by HRH Princess Maha Chakri Sirindhorn, for sustainability excellence and outstanding leadership. The awards were presented by Thailand Management Association (TMA) in conjunction with Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Sustainability Award of Honor for the third consecutive year, an honorary award presented to listed companies that have won three consecutive Best Sustainability Awards. In addition, Bangchak was among Thailand Sustainability Investment (THSI) shares for the eighth consecutive year
- Outstanding Thai Capital Market Sustainability Model Organization Award Program Support for People with Disabilities for 2022, presented by SEC in conjunction with the Ministry of Labour, Department of Skill Development, Department of Employment, Department of Empowerment of Persons with Disabilities, Thai Listed Companies Association, and Disabilities Thailand
- UN Woman 2022 Thailand WEPs Awards (First Runner-Up) for Bangchak's transparency and reporting of gender equality promotion in line with the principles of women's empowerment promotion
- LCSB (Low-Carbon Sustainable Business) Award for the second consecutive year, presented by Thailand Greenhouse Gas Management Organization (Public Organization) to model entities running low-carbon businesses and mobilizing sustainability
- Excellent (Five-Star) ranking under the Corporate Governance Report (CGR) 2022 Project and a listed company with the high score in Thailand, presented by IOD and SET

- ASEAN Asset Class and ASEAN Top 20 ranking under the ASEAN CG Scorecard Project, presented by IOD and SEC
- Third membership renewal of the Collective Action against Corruption (CAC) Project.

Having revisited Bangchak's corporate governance practices, the Sustainability and Corporate Governance Committee regarded its own performance as effectively fulfilling its duties and responsibility as prescribed by the Corporate Governance Policy and as assigned by the Board of Directors.

*(Signed) Narin Kalayanamit*

**(Mr. Narin Kalayanamit)**

Chairperson of the Sustainability  
and Corporate Governance Committee



## 8.3 Changes in the Securities Portfolios of Directors and Executives

The Company has notified all Board of Directors and Executive members of the Securities and Exchange Commission (SEC) announcement, calling on them to report their portfolios, including those of their spouses, cohabitation partners, and minor children under legal age, including legal entities where they have more than 30% shareholding of the number of all voting rights of the juristic person, to SEC within 30 days of their appointment to the Board and the management rank, respectively, and to do so with each change in portfolio within 3 business days.

Each month the portfolios and changes of the Board and the executives are reported to the Board at their meeting. These portfolios were as follows.

Name	Shares as of Year-end 2021	Shares as of Year-end 2022	Increase (Decrease)
<b>Board of Directors</b>			
1. Mr. Pichai Chunhavajira	-	450,000	450,000
2. Mr. Suthep Wongvorazathe	-	375,000	375,000
3. Gen. Songwit Noonpackdee	-	300,000	300,000
4. Pol.Lt.Gen. Chaiwat Chotima	-	300,000	300,000
5. Pol.Lt.Gen. Samran Nualma <sup>1/</sup>	-	300,000	300,000
6. Dr. Poramettee Vimolsiri	-	150,000	150,000
7. Mr. Prasong Poontaneat	-	-	-
8. Mrs. Prisana Praharnkhasuk	-	300,000	300,000
9. Mr. Narin Kalayanamit <sup>2/</sup>	-	300,000	300,000
10. Mr. Achporn Charuchinda <sup>3/</sup>	-	-	-
11. Mr. Chaovalit Ekabut <sup>4/</sup>	-	300,000	300,000
12. Mr. Chamroen Phothiyod	-	600,000	600,000
13. Dr. Kulaya Tantitemit <sup>5/</sup>	-	300,000	300,000
14. Mr. Boonchob Suthamanuswong	-	-	-
15. Mr. Chaiwat Kovavisarach	1,350,000	1,950,000	600,000

Name	Shares as of Year-end 2021	Shares as of Year-end 2022	Increase (Decrease)
<b>Executive Management</b>			
1. Pativat Tivasasit	–	51,000	51,000
<i>Mrs. Suvimol Tivasasit (Spouse)</i>	33,500	48,500	15,000
2. Mr. Somchai Tejavanija	28,522	79,522	51,000
3. Mr. Surachai Kositsareewong	–	51,000	51,000
4. Mr. Chokchai Atsawarangsalit	300	34,500	34,200
5. Mr. Kittiphong Limsuwannarot	–	73,800	73,800
6. Mr. Phuwadon Suntornwipart <sup>6/</sup>	–	38,400	38,400
7. Mr. Thamarat Paryoonsuk <sup>7/</sup>	–	140,400	140,400
8. Mr. Bundit Hansapai boon <sup>8/</sup>	696	131,196	130,500
<i>Ms. Lalita Ratanachai (Spouse)</i>	10,424	21,924	11,500
9. Ms. Phatpuree Chinkulkitnivat <sup>9/</sup>	–	133,800	133,800

Note: Directors and executives do not have any indirect shareholding (except the executive no.1 and no.8)

<sup>1/</sup> Appointed as Director on April 8, 2022

<sup>2/</sup> Appointed as Director on April 8, 2022

<sup>3/</sup> Appointed as Director on January 4, 2022

<sup>4/</sup> Appointed as Director on January 27, 2022

<sup>5/</sup> Resigned on January 1, 2023

<sup>6/</sup> Appointed as Executive Management on July 1, 2022

<sup>7/</sup> Appointed as Executive Management on December 1, 2022

<sup>8/</sup> Appointed as Executive Management on December 1, 2022

<sup>9/</sup> Appointed as Executive Management on October 1, 2022

## 9. Internal Control and Connected Transaction

### 9.1 Internal Control

Bangchak Group values a sound internal control system under the scope of The Committee of Sponsoring Organizations of the Treadway Commission (COSO), which requires these components of internal control: control environment, risk management, control activities, information and communication, and monitoring activities.

Having reviewed the recommendations, the Board provided its views on the adequacy and suitability of the internal control system. Below is a summary of assessment findings.

#### 1. Control environment

Bangchak's work environment favors proceeding under the internal control system. Legal and Corporate Compliance centralizes compliance efforts for laws and regulations of agencies in a clear, concrete way to guide employees' performance. Internal Control Division promotes and steers compliance with the internal control system under COSO. This has been communicated to executives and staff to win their recognition of sound internal control. Moreover, the Control Self-Assessment process has been developed with a consulting firm to strengthen internal control.

Amendment is made to business policies, employee manual, operating manual, and organization and taskforce structuring to render the management's efficiency. Finally, Bangchak relentlessly values business integrity and ethics under its corporate governance (CG) policy, sustainable business development with the environment and society, as well as compliance.

Bangchak values the issues of fraud risks and conflicts of interest, as evident in its requirement for employees to provide data on their conflicts of interest via the HR-Service system for their convenience and up-to-date data every year.

Bangchak takes fraud risk and conflict of interest very seriously. Staff are required to declare their conflicts of interest on the e-HR system, designed to provide convenience and facilitate annual updates. Bangchak also values corporate governance, thus producing the CG Manual, which demands executives and staff to comply with the CG policy. Key points in the manual have been communicated and publicized among both internal and external parties. For example, the six key

principles of Bangchak's corporate governance, namely accountability, responsibility, transparency, equitable treatment, vision to create long-term value, and ethics, the No-Gift Policy, and the Do's & Don'ts together with short messages from executives to staff on such matters as doing good, anti-corruption, and tone at the top leadership. The Company and the subsidiaries organized (hosted by BBGI Plc.) CG Day activities for the year 2022 (17th year) under the topic "Digital Transformation and Corporate Governance" to continually enhance understanding and raise awareness of the CG policy. and organized a supplier seminar for the year 2022 (9th year) which provided knowledge about Supplier Code of Conduct to partners to support sustainable business operations. Bangchak still encourages suppliers and partners to join Thai Private Sector Collective Action Against Corruption (CAC), which underscores continuous commitment to anti-corruption.

#### 2. Risk assessment

Bangchak appointed an Enterprise-wide Risk Management Committee (ERMC) to steer risk management for the entire corporation and develop a continually efficient enterprise risk management system under the ISO 31000 international standard embracing strategic, operation, financial, and reputation risks. These risks imply safety and occupational health risks; risks of impacts on the environment, society, and communities; compliance risks; and risks of corrupt practices, among others. Risk management processes cover the entire corporation, namely the corporate, business group/functional group, section, and work process groups. Also, in place is a formulating process for investment project risk management in each of Bangchak's projects worldwide. And to promote ESG (Environmental, Social and Governance), the Board values risk management by affiliates and joint ventures so that they may operate suitably, stay vigilant, and monitor overall impacts for manageable risk control. Overall, Bangchak Group successfully managed these risks.

Bangchak's defined policy and key risk management practices have been well-aligned with TQA and Dow Jones Sustainability Indices (DJSI) in parallel with corporate strategic plan

formulation. Foreseeable post-Covid situations have been defined, prompting Bangchak to draw up a strategy under two scenarios to adapt to the actual situation. Key risk indicators (KRIs) have been applied to the vigilance monitoring of risk likelihood to finetune and define additional risk management plans to ease impacts on corporate goals and achieve manageable key corporate risk control and desired outcomes.

To enable Bangchak to handle unforeseen risks that could hurt business capability, including the spread of the COVID-19 virus, surveillance of the flood situation, global climate change issues, natural catastrophes, sabotage, political change, pandemic and other incidents, it appointed a Business Continuity Management Taskforce to develop a system, oversee strategic preparedness, processes, resources, and revise plans to cope with risks and crises more effectively so that Bangchak's businesses may proceed uninterrupted and mitigate repercussions. To this end, it has introduced the ISO 22301:2019 system to the corporation, embracing Head Office, Bangchak Refinery, and Bangchak Oil Distribution Center, Central Region Business Office, and Bang Pa-in Oil Distribution Center. This move certifies that Bangchak indeed commands a system to handle crises, manage business continuity on a par with international standards, and bolster confidence among stakeholders that it is capable of coping with crises, and of continuing to deliver products.

### 3. Control activities

Bangchak's control activities rely on KPIs for planning and exerting control. Duties and responsibilities are segregated for checks and balances, as are the revision and definition of authority levels and approval authority for each level for business suitability. E-signature technology has been introduced to support business agility. Checks and balances and authority inspection are the mandates of dedicated units and committees, including Internal Audit, the Investment Committee, and ERM. C.

Bangchak has adopted a system for documents and evidence of delegating responsibility should errors arise. Custody of company assets prevents losses or abuses, as does the monitoring of transactions with long-term corporate commitment, under which agreed terms are to be honored. Measures are in place to prevent exploitation of opportunities or benefits from personal gain. This year Bangchak repeated

to staff procedures on corporate data management and control so that all units may effectively treat company information to avoid any harm to the business.

At Bangchak, procedures ensure compliance with laws and applicable regulations as well as key operating procedures. Technology systems have been developed for promoting internal control. This year Bangchak rolled out its "Work process management policy", which takes seriously proper work practices by designated work processes. Work processes are constantly improved for effectiveness with due regard for points of control and control measures to lessen risks; these efficient processes are modern and align with Bangchak's directions and goals. The e-Work Manual system is used to keep track of the preparation and update of the work manual to be up to date. In addition, Bangchak stressed in its communication and organized a seminar to educate executives and employees on conformance to the Personal Data Protection Act of 2019, which came into force on June 1, 2022. Bangchak also reviewed and amended the policy and requirements for IT security to achieve personal data management that aligns with the law. To this end, it earned ISO/IEC 27018:2019 management certification on IT security to safeguard personal identifiable information.

At Bangchak, watertight measures are in place for its transactions with major shareholders, directors, among others, to avert the siphoning of benefits. For instance, such transactions must be approved by those without vested interests and such transactions' data must be disclosed under SEC's rules, including data on parties or related undertakings under accounting standards.

Bangchak set up an ISMS Management Team to deal with information security management, which involves review and improvement of IT policy and regulations. The team's mission includes monitoring of threats, email filtering, malware prevention, firewall system, as well as staff communication about regulations concerning information security and risk. Threat prevention is regularly run together with measures to boost awareness of possible threats to the business. Thanks to information security management, Bangchak won ISO/IEC 27001:2013 (information security management system) and a Letter of Compliance, which exhibits agreement with the standard (Guidelines for Cybersecurity) – the first to be so awarded in Thailand. Recertification has been continued to this date. Furthermore, this year Bangchak won ISO/IEC 27001:2013 concerning information security management in

the oil refining control system from SGS Thailand Limited. Bangchak has guidelines for supervision, and has a process to monitor the operations of associated companies and subsidiaries in accordance with business strategies, policy framework and guidelines of the company. There are committees according to the risk management structure, namely Enterprise-wide Risk Management Committee (ERMC), Audit Committee (AC), and Strategic Investment Management Committee (SIMC) and Subsidiary Synergy & Strategic Alignment (SSS).

#### 4. Information and communication

Every year Bangchak revises its Digital Roadmap to agree with its strategic plans on refinery management, marketing, and key business processes, namely finance, accounting, personnel administration. Various digital technologies were relentlessly applied in support of its performance and greater efficiency of information system and data communication management. For instance, in refining activities, the Data Analytic system was applied to improve processing efficiency; the 5G technology was applied to safety management in the refinery's operating areas; and the GPS technology found application in data management and logistics cost control. In marketing activities, Digital Cards were employed to grow channels for the Bangchak Card membership base. The company also uses various digital technologies to support its work, such as the use of Data Analytics systems to analyze marketing data and adopted the Robotic Process Automation (RPA) technology to support work processes involving a large volume of information and repetitive work.

Bangchak's various employee communication channels and processes educate employees on various issues in a swift manner to ensure that messages get through, including the Intranet, e-mails, intercom, and digital message boards, in addition to informal but popular channels like LINE Group. Also, communication with external stakeholders is carried out through multiple media, especially online media, today's popular means of communication due to its data transmission speed, including its website and Facebook. The purpose is easy access and application as well as successful data search results through mobile devices to quickly and efficiently meet business demand.

Bangchak has set up complaint channels as well as a whistleblowing system for employees and stakeholders, who can use phone numbers or e-mails; they are to be duly

protected and enter the fact-finding process for eventual correction.

#### 5. Monitoring

Bangchak commands a system that monitors compliance with internal control. The Internal Control Division works to assess corporate compliance (CSA: Control Self-Assessment), with relevant executives assessing the adequacy and suitability of the internal control system. Online technologies have been adopted for greater efficiency of the corporate assessment system. The online assessment technology is being used to increase the efficiency of the enterprise assessment process including the internal control assessment at the process level by the process owner in a workshop format for critical work processes. Meanwhile, Internal Audit takes charge of assessing internal control under an audit plan earlier approved by the Audit Committee and giving recommendations for further development of the system. Should any flaw in the system be spotted, Bangchak takes corrective actions so that the business targets could be achieved. The internal audit department has followed up on corrections to ensure that the operation will meet the goals.

## 9.2 Connected transactions

### 1. Connected transactions with subsidiaries, jointly-controlled businesses, associated companies and related companies during 2021 and 2022 consisted of the following:

#### 1.1 Sale of products and services to subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
Bangchak Greenet Co., Ltd.	27,749.01	37,049.06	Bangchak	49.00	Bangchak delegates its representatives as directors
BCP Trading Pte, Ltd.	15,702.55	22,285.81	Bangchak	100.00	Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	21.21	25.85	Bangchak	100.00	Bangchak delegates its representatives as directors
BBGI Bio Diesel Co., Ltd.	-	31.18	BBGI Plc. (Subsidiary)	70.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol (Chachoengsao) Co., Ltd.	2.31	6.01	BBGI Plc. (Subsidiary)	85.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol Plc.	0.79	3.57	BBGI Plc. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
<b>Associated Company</b>					
Ubon Bio Ethanol Co., Ltd.	14.15	-	BBGI Plc. (Subsidiary)	12.39	Bangchak delegates its representatives as directors



1.2 Purchase of products and services from subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BCP Trading Pte, Ltd.	29,642.14	76,579.06	Bangchak	100.00	Bangchak delegates its representatives as directors
BBGI Plc.	0.67	-	Bangchak	45.00	Bangchak delegates its representatives as directors
BBGI Bio Diesel Co., Ltd.	8,285.05	8,064.40	BBGI Plc. (Subsidiary)	70.00	Bangchak delegates its representatives as directors
BBGI Bioethanol (Chachoengsao) Co., Ltd	1,120.74	1,149.65	BBGI Plc. (Subsidiary)	85.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol Plc.	2,453.68	2,179.00	BBGI Plc. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
Bangkok Fuel Pipeline and Logistics Co., Ltd.	-	275.68	Bangchak	100.00	Bangchak delegates its representatives as directors
<b>Joint Venture</b>					
Bongkot Marine Services Co., Ltd	468.62	231.97	Bangchak	30.00	Bangchak delegates its representatives as directors
<b>Associated Company</b>					
Ubon Bio Ethanol Plc.	973.27	-	BBGI Plc. (Subsidiary)	12.39	Bangchak delegates its representatives as directors
<b>Related Business</b>					
Fuel Pipeline Transportation Co., Ltd.	244.28	-	Bangchak	4.78	Bangchak delegates its representatives as directors

## 1.3 Revenue from investment and other revenues from subsidiaries, jointly-controlled businesses, and related companies

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
Bangchak Greenet Co., Ltd.	74.61	97.07	Bangchak	49.00	Bangchak delegates its representatives as directors
BCPG Plc.	589.19	662.32	Bangchak	57.19	Bangchak delegates its representatives as directors
BBGI Plc.	337.94	160.66	Bangchak	45.00	Bangchak delegates its representatives as directors
BBGI Bio Diesel Co., Ltd.	1.27	1.06	BBGI Plc. (Subsidiary)	70.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol (Chachoengsao) Co., Ltd.	0.53	0.78	BBGI Plc. (Subsidiary)	85.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol Plc.	0.15	0.58	BBGI Plc. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
BCP Trading Pte, Ltd.	63.66	6.70	Bangchak	100.00	Bangchak delegates its representatives as directors
BCPR Pte, Ltd.	123.66	27.57	BCPR Co., Ltd. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
NIDO Petroleum Pty. Ltd.	9.71	-	BCP Energy International Pte. Ltd. (Subsidiary)	-	Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	16.70	10.19	Bangchak	100.00	Bangchak delegates its representatives as directors
BCPR Co., Ltd.	0.17	0.17	Bangchak	100.00	Bangchak delegates its representatives as directors
Winnonie Co., Ltd.	15.94	4.78	BCV International Co., Ltd. (Subsidiary)	55.49	Bangchak delegates its representatives as directors

## 1.3 Revenue from investment and other revenues from subsidiaries, jointly-controlled businesses, and related companies

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BTSG Co., Ltd.	0.26	-	Bangchak	51.00	Bangchak delegates its representatives as directors
Bangkok Fuel Pipeline and Logistics Co., Ltd.	0.41	30.25	Bangchak	100.00	Bangchak delegates its representatives as directors
General Energy Manning Co., Ltd.	-	0.07	Bangchak	49.00	Bangchak delegates its representatives as directors
BSGF Co., Ltd.	-	2.33	Bangchak	51.00	Bangchak delegates its representatives as directors
Mee Tee Mee Ngern Co., Ltd.	-	0.18	Bangchak	20.00	Bangchak delegates its representatives as directors
<b>Joint Venture</b>					
Bongkot Marine Services Co., Ltd.	24.00	145.50	Bangchak	30.00	Bangchak delegates its representatives as directors
<b>Related Business</b>					
Fuel Pipeline Transportation Co., Ltd.	4.37	-	Bangchak	4.78	Bangchak delegates its representatives as directors

## 1.4 Other expenses paid to subsidiaries, jointly-controlled businesses, and related companies

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
Bangchak Green Net Co., Ltd.	31.53	34.76	Bangchak	49.00	Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	16.38	2.24	Bangchak	100.00	Bangchak delegates its representatives as directors
BCPG Plc.	0.03	0.09	Bangchak	57.19	Bangchak delegates its representatives as directors
BBGI Plc.	0.56	0.45	Bangchak	45.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol Public Company Limited	-	0.03	BBGI Plc. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
Winnonie Co., Ltd.	0.30	1.90	BCV International Co., Ltd. (Subsidiary)	55.49	Bangchak delegates its representatives as directors
General Energy Manning Co., Ltd.	1.46	20.47	Bangchak	49.00	Bangchak delegates its representatives as directors
Oam Suk Social Enterprise Co., Ltd.	0.76	1.38	Bangchak	51.00	Bangchak delegates its representatives as directors

## 1.5 Debtors, advance payments, and short-term loans to related businesses.

## 1.5.1 Trade debtors

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
Bangchak Green Net Co., Ltd.	696.34	737.05	Bangchak	49.00	Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	2.57	5.79	Bangchak	100.00	Bangchak delegates its representatives as directors
BCP Trading Pte, Ltd.	1,381.77	652.99	Bangchak	100.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol (Chachoengsao) Co., Ltd.	-	0.42	BBGI Plc. (Subsidiary)	85.00	Bangchak delegates its representatives as directors
<b>Associated Company</b>					
Ubon Bio Ethanol Co., Ltd.	2.46	-	BBGI Plc. (Subsidiary)	12.39	Bangchak delegates its representatives as directors
<b>Related Business</b>					
Fuel Pipeline Transportation Co., Ltd.	0.33	-	Bangchak	4.78	Bangchak delegates its representatives as directors

## 1.5.2 Debtors and loans to related businesses.

## 1.5.2.1 Loans, net of allowance for impairment

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BCPR Pte, Ltd.	1,036.39	-	BCPR Co., Ltd. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
Bangkok Fuel Pipeline and Logistics Co., Ltd.	922.00	810.00	Bangchak	100.00	Bangchak delegates its representatives as directors
<b>Related Business</b>					
Fuel Pipeline Transportation Co., Ltd.	0.28	-	Bangchak	4.78	Bangchak delegates its representatives as directors

## 1.5.2.2 Other debtors, net of allowance for impairment

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
Bangchak Green Net Co., Ltd.	3.18	2.17	Bangchak	49.00	Bangchak delegates its representatives as directors
BCPG Plc.	18.81	10.19	Bangchak	57.19	Bangchak delegates its representatives as directors
BBGI Plc.	11.28	4.16	Bangchak	45.00	Bangchak delegates its representatives as directors
BBGI Bio Diesel Co., Ltd.	0.47	0.26	BBGI Plc. (Subsidiary)	70.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol (Chachoengsao) Co., Ltd.	0.05	0.17	BBGI Plc. (Subsidiary)	85.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol Plc.	-	0.63	BBGI Plc. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	2.51	2.14	Bangchak	100.00	Bangchak delegates its representatives as directors
BCP Trading Pte, Ltd.	1.00	0.52	Bangchak	100.00	Bangchak delegates its representatives as directors
Winnonie Co., Ltd.	3.15	0.83	BCV International Co., Ltd. (Subsidiary)	55.49	Bangchak delegates its representatives as directors
BTSG Co., Ltd.	0.28	-	Bangchak	51.00	Bangchak delegates its representatives as directors
Bangkok Fuel Pipeline and Logistics Co., Ltd.	0.41	-	Bangchak	100.00	Bangchak delegates its representatives as directors
General Energy Manning Co., Ltd.	-	0.07	Bangchak	49.00	Bangchak delegates its representatives as directors



## 1.5.2.2 Other debtors, net of allowance for impairment

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BSGF Co., Ltd.	-	2.33	Bangchak	51.00	Bangchak delegates its representatives as directors
BCPR Co., Ltd.	-	0.03	Bangchak	100.00	Bangchak delegates its representatives as directors

## 1.6 Creditors of related businesses

## 1.6.1 Trader creditors

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BCP Trading Pte, Ltd.	3,557.90	8,607.95	Bangchak	100.00	Bangchak delegates its representatives as directors
BBGI Bio Diesel Co., Ltd.	539.29	383.09	BBGI Plc. (Subsidiary)	70.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol (Chachoengsao) Co., Ltd.	100.19	126.73	BBGI Plc. (Subsidiary)	85.00	Bangchak delegates its representatives as directors
BBGI Bio Ethanol Plc.	209.58	253.33	BBGI Plc. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
<b>Associated Company</b>					
Ubon Bio Ethanol Co., Ltd.	144.83	-	BBGI Plc. (Subsidiary)	12.39	Bangchak delegates its representatives as directors

## 1.6.2 Other creditors

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
Bangchak Green Net Co., Ltd.	26.27	23.99	Bangchak	49.00	Bangchak delegates its representatives as directors
BCP Trading Pte, Ltd.	11.83	58.10	Bangchak	100.00	Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	0.80	2.40	Bangchak	100.00	Bangchak delegates its representatives as directors
BBGI Plc.	0.14	0.01	Bangchak	45.00	Bangchak delegates its representatives as directors
BPCPG Plc.	-	0.1	Bangchak	57.19	Bangchak delegates its representatives as directors
General Energy Manning Co., Ltd.	0.59	2.61	Bangchak	49.00	Bangchak delegates its representatives as directors
Winnonie Co., Ltd.	-	0.09	BCV Innovation Co., Ltd. (Subsidiary)	55.49	Bangchak delegates its representatives as directors
Bangkok Fuel Pipeline and Logistics Co., Ltd.	-	30.11	Bangchak	100.00	Bangchak delegates its representatives as directors
Oam Suk Social Enterprise Co., Ltd.	-	1.00	Bangchak	51.00	Bangchak delegates its representatives as directors
<b>Joint Venture</b>					
Bongkot Marine Services Co., Ltd.	16.32	-	Bangchak	30.00	Bangchak delegates its representatives as directors
<b>Related Business</b>					
Fuel Pipeline Transportation Co., Ltd.	28.92	-	Bangchak	4.78	Bangchak delegates its representatives as directors

1.7 Other non-current assets, accrued interest net of allowance for impairment.

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BCPR Pte, Ltd.	35.24	-	BCPR Co., Ltd. (Subsidiary)	100.00	Bangchak delegates its representatives as directors
Bangkok Fuel Pipeline and Logistics Co., Ltd.	-	0.27	Bangchak	100.00	Bangchak delegates its representatives as directors

1.8 Other current liabilities: These items are Bangchak's revenue received in advance for land lease and service fees.

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Subsidiary</b>					
BCPG Plc.	6.35	6.35	Bangchak	57.19	Bangchak delegates its representatives as directors

1.9 Other non-current liabilities: These items are Bangchak's revenue received in advance for land lease from related companies.

Related company	2021	2022	Relationship for the year ended 31 December 2022		
	(Million Baht)		Shareholding	Proportion	Management
<b>Related Business</b>					
Fuel Pipeline Transportation Co., Ltd.	0.59	-	Bangchak	4.78	Bangchak delegates its representatives as directors

Companies	Business	Transactions
<b>Bangchak Green Net Co., Ltd.</b> (Subsidiary)	Manage Bangchak service stations and consumer product sales at Lemon Green and Bai Chak outlets.	The selling price of the product is comparable to the price sold to third parties. This transaction is a normal business term.
<b>BCPG Plc.</b> (Subsidiary)	Engage in power generation from solar cells and invest in the alternative energy business.	This connected transaction is a normal business term.
<b>BBGI Plc.</b> (Subsidiary)	Engage in bio-based product manufacturing.	Service fees among the two followed normal business term.
<b>BBGI Bio Diesel Co., Ltd.</b> (Former name is Bangchak Biofuel Co., Ltd.) (It is indirect subsidiary through BBGI Plc. which holds 70%)	Produce and sell biodiesel.	This connected transaction is a normal business term. The selling price of the product is comparable to the price sold to third parties.
<b>BBGI Bio Ethanol (Chachoengsao) Co., Ltd.</b> (Former name is Bangchak Bio Ethanol (Chachoengsao) Co., Ltd.) (It is indirect subsidiary through BBGI Plc., which holds 85%)	Engage in cassava-based ethanol production. The ethanol was used in gasohol production.	This connected transaction is a normal business term. The selling price of the product is comparable to the price sold to third parties.
<b>BBGI Bio Ethanol Plc.</b> (Former name is KSL Green Innovation Plc.) (It is indirect subsidiary through BBGI Plc.)	Engage in ethanol production primarily from molasses (a byproduct of the sugar process).	This connected transaction is a normal business term. The selling price of the product is comparable to the price sold to third parties.
<b>Bangchak Retail Co., Ltd.</b> (Subsidiary)	Engage in ethanol production primarily from molasses (a byproduct of the sugar process).	This connected transaction is a normal business term. The selling price of the product is comparable to the price sold to third parties.
<b>BCPR Co., Ltd.</b> (Subsidiary)	It is holding company which invests in BCPR Pte. Ltd. a subsidiary company in Singapore.	Service fees among the two followed normal business terms.
<b>Bangkok Fuel Pipeline and Logistics Co., Ltd.</b> (Subsidiary)	Engage in the business of fuel transportation and logistics.	This connected transaction is a normal business term. The selling price of the product is comparable to the price sold to third parties.

Companies	Business	Transactions
<b>General Energy Manning Co., Ltd.</b> (Subsidiary)	Engages in the business of recruitment and human resource management.	This connected transaction is a normal business term.
<b>Winnonie Co., Ltd.</b> (An indirect subsidiary through BCV Innovation)	Engage in electric motorcycles and battery replacement services, including related businesses.	This connected transaction is a normal business term.
<b>BCPR Pte, Ltd.</b> (An indirect subsidiary company in Singapore)	Invest in petroleum exploration and production businesses.	This connected transaction is a normal business term and conformed to details stated in the operating agreement.
<b>BCP Trading Pte, Ltd.</b> (Subsidiary in Singapore)	To trade commodities including crude oil, petroleum products, petrochemicals and related chemicals and to conduct other businesses that would benefit the company, including but not limited to oil hedging, chartering, storage and distribution.	This connected transaction is a normal business term, based on market prices and conformed to details stated in the operating agreement.
<b>BTSG Co., Ltd.</b> (Subsidiary)	Engage in the supply and distribution of liquefied natural gas.	This connected transaction is a normal business term.
<b>BSGF Co., Ltd.</b> (Subsidiary)	Engage in the business of securing raw materials and production together with distribution of Sustainable Aviation Fuel (SAF).	This connected transaction is a normal business term.
<b>Nido Petroleum Pty. Ltd.</b> (It is indirect subsidiary until July 2, 2021)	Engage in Exploration and Production Petroleum in Australia	This connected transaction is a normal business term and conformed to details stated in the operating agreement.
<b>Mee Tee Mee Ngern Co., Ltd.</b> (Associated Company) (Former name is BCV Biobased Co., Ltd.)	Engage in the business of land loan, consignment. (Joint investment between Bangchak Corporation Plc., Government Savings Bank and Dhipaya Group Holdings Plc.)	This connected transaction is a normal business term.
<b>Bongkot Marine Services Co., Ltd.</b> (Joint Ventures)	Provide floating storage unit services (The Company entered a contract for the use of Bongkot oil depot service)	This connected transaction is a normal business term and based on market price

Companies	Business	Transactions
<b>Ubon Bio Ethanol Co., Ltd.</b> (In 2022, it is not a connected transaction.)	Engages in ethanol production from fresh cassava and cassava chips for gasohol production for domestic sale and export to China for the most part.	Purchases and sales transactions followed normal business terms and were based on market price.
<b>Fuel Pipeline Transportation Co., Ltd.</b> (In 2022, it is not a connected transaction.)	The Company entered contracts with FPT to take its oil products from Bangchak Depot to its Bang Pa-in Depot and sell them to its customers in the Central, Northern and Northeastern regions.	This connected transaction is a normal business term and based on market prices

These transactions were undertaken in the normal course of business, with none representing extraordinary transactions. No siphoning of interests occurred among Bangchak, subsidiary companies, connected companies and shareholders. Approvals were scrutinized by the President, who duly approved them as authorized under Bangchak's regulations.

Disclosure of connected transactions follows the rules of the Office of the Securities and Exchange Commission (SEC), as well as the accounting standards for the disclosure of information on connected parties and businesses, as defined by the Federation of Accounting Professions.

### Policy for future connected transactions

In undertaking future connected transactions, the pricing of products and services follows market practices, or the details stipulated in commercial contracts, or both. The connected transaction shall be dealt with on a fair and arm's length basis. However, in such cooperation, Bangchak takes into consideration its best interests. In addition, for whichever transactions involving Bangchak executives, they are not allowed to cast their votes in meetings. Major connected transactions must be reviewed and approved by the Board.



Part



Financial Statements

## Declaration of the Directors' Responsibility for the Financial Statements

The Board of Directors of Bangchak Corporation Plc. has prepared the Company's financial statements to show its financial status and performance for 2022 under the Public Company Limited Act of 1992, the Accounting Act of 2000, the Securities and Exchange Act of 1992, and the announcement of the Capital Market Supervisory Board concerning the criteria, conditions, and reporting method for the disclosure of information on financial status and performance of companies that issue securities.

The Board recognizes its duties and responsibility for directing a listed company, particularly the responsibility for financial statements of the Company and its subsidiaries – including financial information that appears in the Annual Registration Statement / Annual Report 2022. Such statements have been prepared under generally accepted accounting standards, which regularly complies with a suitable accounting policies and due and reasonable discretion exercised in the preparation of financial statements. Adequate significant information has been disclosed in the notes to these financial statements for transparent use by shareholders and investors at large.

The Board has instituted and maintained effective risk management and internal control systems to become reasonably confident of accurate, complete, and adequate accounting information to retain Company assets and prevent frauds or significant anomalies in operation.

The Audit Committee, acting on behalf of the Board, has been assigned responsibility for the quality of financial reports and internal control system, and its opinions duly appear in its own report found in this publication.

It is our view that the Company's overall internal control system is satisfactory and can reasonably ensure that the financial statements of the Company and its subsidiaries for the year ended December 31, 2022, represented true and fairness, and showed essentially accurate financial positions, performance outcomes, and cash flows under financial reporting standards.

*(Signed) Pichai Chunhavajira*

(Mr. Pichai Chunhavajira)

Chairperson of the Board of Directors

*(Signed) Chaiwat Kovavisarach*

(Mr. Chaiwat Kovavisarach)

Group Chief Executive Officer and President

## Independent Auditor's Report

### To the shareholders of Bangchak Corporation Public Company Limited

#### *Opinion*

I have audited the consolidated and separate financial statements of Bangchak Corporation Public Company Limited and its subsidiaries (the "Group") and of Bangchak Corporation Public Company Limited (the "Company"), respectively, which comprise the consolidated and separate statements of financial position as at 31 December 2022, the consolidated and separate statements of income, comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2022 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

#### *Basis for Opinion*

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements* section of my report. I am independent of the Group and the Company in accordance with *Code of Ethics for Professional Accountants including Independence Standards* issued by the Federation of Accounting Professions (Code of Ethics for Professional Accountants) that is relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with the Code of Ethics for Professional Accountants. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

*Key Audit Matters*

Key audit matters are those matters that, in my professional judgment, were of most significance in my audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

Valuation of inventories	
Refer to Notes 3 (g) and 9 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
Inventories are measured at the lower of cost and net realizable value. As a result of fluctuation in crude oil and oil products price which may cause the net realizable value to be lower than cost.	<p>My audit procedures included the following:</p> <ul style="list-style-type: none"> <li>– Evaluated the appropriateness of inventories valuation by management.</li> <li>– Verified the appropriateness of the net realizable value calculation.</li> <li>– Checked the selling prices of finished goods with the reference market price and contract price.</li> <li>– Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standards.</li> </ul>

Impairment testing of exploration & production assets and goodwill	
Refer to Notes 3 (m), 13 and 16 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>The Group has investment in many countries and there are risks from various external factors such as the fluctuation in economies, politics and laws. There is a risk that the operating results and the investments might be significantly less than the initial forecast and budget and might result in the assets' carrying value being higher than the recoverable amounts, which might represent losses from impairment.</p> <p>Due to the materiality of the transactions, the management's significant judgment and complexities involved in estimating a recoverable amount of exploration &amp; production assets and goodwill from discounted cash flow method, I consider this as a key audit matter.</p>	<p>My audit procedures included the following:</p> <ul style="list-style-type: none"> <li>– Understood the management's operation plan, process of the indicators identification and impairment testing process and tested the calculation of recoverable amount prepared by the management.</li> <li>– Assessed the key assumptions estimated by the management with reference to internally and externally derived sources after taking into account the historical forecasting accuracy.</li> <li>– Evaluated the appropriateness of valuation methodology and financial parameters applied to the discount rate.</li> <li>– Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standards.</li> </ul>

Acquisition of business	
Refer to Notes 3 (a) and 4 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>In 2022, the Group has completed the acquisition of working interest in oil field in Norway. The management has estimated the fair value of net assets acquired including consideration transferred with the differences which was recognised as goodwill amounting to Baht 1,888 million.</p> <p>Due to the materiality of the transactions and the significant judgment and complexities involved in determining the fair value, I consider this as a key audit matter.</p>	<p>My audit procedures included the following:</p> <ul style="list-style-type: none"> <li>– Made inquiries of management to obtain an understanding of management’s procedures on identification of assets acquired and liabilities assumed and on the determination of the fair value of net asset acquired.</li> <li>– Read the sale and purchase agreement and evaluated the appropriateness of the identification of net assets acquired at the date of acquisition.</li> <li>– Evaluated the independence and competency of independent appraiser.</li> <li>– Involved KPMG specialist to evaluate valuation methodology and financial parameters applied to the discount rate.</li> <li>– Evaluated significant assumptions underpinning the valuations reference to internal and external information and mathematical accuracy.</li> <li>– Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standards.</li> </ul>

#### *Emphasis of Matter*

I draw attention to note 4, during the year ended 31 December 2022, the Group has acquired business in Norway in which the fair value of the identifiable assets acquired and liabilities assumed from the business acquisitions and the allocation of the purchase price was determined provisionally and is subject to potential amendment. My opinion is not modified in respect of this matter.

#### *Other Information*

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor’s report thereon. The annual report is expected to be made available to me after the date of this auditor's report.

My opinion on the consolidated and separate financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

When I read the annual report, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance and request that the correction be made.

*Responsibilities of Management and Those Charged with Governance for the Consolidated and Separate Financial Statements*

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

*Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements*

My objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.



- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.



(Sakda Kaothanthong)  
Certified Public Accountant  
Registration No. 4628

KPMG Phoomchai Audit Ltd.  
Bangkok  
20 February 2023

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Statement of financial position

Assets	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
		2022	2021	2022	2021
<i>(in Baht)</i>					
<b>Current assets</b>					
Cash and cash equivalents	6	45,932,068,052	32,021,772,927	17,192,032,115	7,788,085,020
Short-term investments		1,236,750,503	807,642,035	-	-
Trade and other current receivables	5, 7, 8	22,199,023,573	15,233,579,294	9,096,182,516	7,368,200,614
Current tax assets		636,385,908	211,763,094	617,158,440	190,909,841
Short-term loans	5	90,723,021	-	-	922,000,000
Inventories	9	29,532,535,411	18,497,017,551	24,344,552,351	15,309,993,126
Other current financial assets		628,749,911	273,667,343	523,860,082	6,769,765
Oil fuel fund subsidies receivable		11,092,919,759	2,326,727,135	11,092,919,759	2,326,727,135
<b>Total current assets</b>		<b>111,349,156,138</b>	<b>69,372,169,379</b>	<b>62,866,705,263</b>	<b>33,912,685,501</b>
<b>Non-current assets</b>					
Other non-current financial assets	30	3,503,796,453	4,547,575,874	1,002,946,619	909,211,201
Investments in subsidiaries	10	-	-	18,572,502,152	16,492,319,693
Investments in associates and joint ventures	11	1,852,317,090	13,669,982,757	307,000,033	73,000,000
Long-term loans to related parties	5	1,653,154,062	399,543,393	810,000,000	1,036,392,016
Investment properties	12	126,965,546	126,965,546	682,953,148	682,953,148
Property, plant and equipment	13	73,018,382,320	69,233,336,356	30,880,276,933	33,056,521,001
Right-of-use assets	14	16,947,150,160	13,624,881,284	12,802,789,872	10,394,221,630
Goodwill	16	5,787,888,923	4,021,919,632	-	-
Intangible assets	17	11,738,195,947	11,591,206,569	241,511,584	286,510,474
Deferred tax assets	27	850,142,053	2,125,520,463	779,027,459	2,065,515,704
Indemnification assets		12,922,897,674	11,393,979,223	-	-
Other non-current assets	5	2,594,299,863	1,678,224,768	1,294,677,200	1,101,730,968
<b>Total non-current assets</b>		<b>130,995,190,091</b>	<b>132,413,135,865</b>	<b>67,373,685,000</b>	<b>66,098,375,835</b>
<b>Total assets</b>		<b>242,344,346,229</b>	<b>201,785,305,244</b>	<b>130,240,390,263</b>	<b>100,011,061,336</b>

The accompanying notes are an integral part of these financial statements.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Statement of financial position

Liabilities and equity	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
		2022	2021	2022	2021
		<i>(in Baht)</i>			
<b>Current liabilities</b>					
Short-term loan from financial institutions	18	1,101,024,382	1,256,608,708	-	-
Trade and other current payables	5, 19	28,947,580,032	15,650,844,103	17,262,902,355	10,471,675,619
Current portion of long-term loans	18	7,231,262,759	4,964,480,782	3,903,833,846	700,153,846
Current portion of lease liabilities		1,381,308,155	1,219,857,079	1,074,230,683	1,008,098,718
Current portion of debentures	18	2,400,000,000	4,499,408,033	2,400,000,000	4,000,000,000
Short-term loan from related parties	5	-	17,236,960	-	-
Excise tax and oil fuel fund payable		1,133,742,159	959,765,164	1,133,742,159	959,765,164
Current income tax payable		2,030,226,942	3,046,049,614	-	-
Other current financial liabilities		1,993,249,030	509,692,344	1,990,543,555	507,118,671
Other current liabilities	5	1,633,758,386	1,981,428,314	1,238,095,487	1,155,820,566
<b>Total current liabilities</b>		<b>47,852,151,845</b>	<b>34,105,371,101</b>	<b>29,003,348,085</b>	<b>18,802,632,584</b>
<b>Non-current liabilities</b>					
Long-term loans	18	16,489,176,694	21,882,627,089	3,590,854,099	4,894,620,476
Lease liabilities		10,400,531,611	7,518,304,280	7,922,269,723	5,955,858,659
Debentures	18	54,017,898,097	47,904,187,428	37,064,518,971	26,475,665,108
Deferred tax liabilities	27	6,560,738,008	2,617,416,880	-	-
Non-current provisions for employee benefits	20	2,287,442,093	2,388,496,550	2,009,606,311	2,143,947,148
Provision for the decommissioning cost		20,900,907,016	15,601,638,939	-	-
Other non-current financial liabilities		60,256,279	28,995,719	-	-
Other non-current liabilities	5	397,166,421	178,944,979	35,451,054	44,153,810
<b>Total non-current liabilities</b>		<b>111,114,116,219</b>	<b>98,120,611,864</b>	<b>50,622,700,158</b>	<b>39,514,245,201</b>
<b>Total liabilities</b>		<b>158,966,268,064</b>	<b>132,225,982,965</b>	<b>79,626,048,243</b>	<b>58,316,877,785</b>

The accompanying notes are an integral part of these financial statements.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Statement of financial position

Liabilities and equity	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
		2022	2021	2022	2021
<i>(in Baht)</i>					
<b>Equity</b>					
Share capital					
Authorised share capital <i>(1,376,923,157 ordinary shares, par value at Baht 1 per share)</i>		1,376,923,157	1,376,923,157	1,376,923,157	1,376,923,157
Issued and paid-up share capital <i>(1,376,923,157 ordinary shares, par value at Baht 1 per share)</i>		1,376,923,157	1,376,923,157	1,376,923,157	1,376,923,157
Share premium on ordinary shares		11,157,460,051	11,157,460,051	11,157,460,051	11,157,460,051
Other surpluses		3,823,911,945	3,332,546,360	207,946,763	189,617,759
Warrants		19,027,003	14,972,497	-	-
Expired warrants		1,836,718	-	-	-
Retained earnings					
Appropriated					
Legal reserve		153,164,346	153,164,346	153,164,346	153,164,346
Treasury shares reserve		247,740,908	505,406,210	247,740,908	505,406,210
Unappropriated		37,669,863,970	28,204,678,139	27,784,064,193	18,965,909,728
Treasury shares		(247,740,908)	(505,406,210)	(247,740,908)	(505,406,210)
Perpetual subordinated debentures		9,940,796,710	9,940,796,710	9,940,796,710	9,940,796,710
Other components of equity		(1,439,157,884)	(713,436,328)	(6,013,200)	(89,688,200)
<b>Equity attributable to owners of the parent</b>		<b>62,703,826,016</b>	<b>53,467,104,932</b>	<b>50,614,342,020</b>	<b>41,694,183,551</b>
Non-controlling interests	10	20,674,252,149	16,092,217,347	-	-
<b>Total equity</b>		<b>83,378,078,165</b>	<b>69,559,322,279</b>	<b>50,614,342,020</b>	<b>41,694,183,551</b>
<b>Total liabilities and equity</b>		<b>242,344,346,229</b>	<b>201,785,305,244</b>	<b>130,240,390,263</b>	<b>100,011,061,336</b>

*(Pichai Chunhavajira)*

Chairman

*(Chaiwat Kovavisarach)*

Group Chief Executive Officer and President

The accompanying notes are an integral part of these financial statements.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Statement of income

	Note	Consolidated		Separate	
		financial statements		financial statements	
		Year ended 31 December		Year ended 31 December	
		2022	2021	2022	2021
<i>(in Baht)</i>					
Revenue from sale of goods and rendering of services	5, 24	312,202,370,020	199,416,997,279	248,074,753,711	155,975,862,537
Cost of sale of goods and rendering of services	5, 25	(265,933,704,887)	(175,744,433,125)	(224,289,309,916)	(145,111,978,675)
<b>Gross profit</b>		<b>46,268,665,133</b>	<b>23,672,564,154</b>	<b>23,785,443,795</b>	<b>10,863,883,862</b>
Dividend income	5	11,643,432	-	959,633,474	975,351,027
Other income	5	1,842,056,728	1,278,744,715	509,648,963	867,578,979
Selling expenses	5, 25	(4,931,292,605)	(4,181,580,714)	(3,617,015,596)	(3,036,345,210)
Administrative expenses	5, 25	(4,272,260,992)	(2,971,488,792)	(1,884,223,833)	(1,516,546,459)
Exploration and evaluation expenses		(1,187,612,047)	(516,299,210)	-	-
Loss from derivatives		(5,135,982,067)	(1,273,966,199)	(5,523,130,144)	(1,428,941,580)
Gain on foreign exchange		993,320	250,506,098	545,196,531	348,365,817
Gain (loss) from fair value adjustment of investment		9,845,877	614,366,153	10,081,250	(10,484,500)
Gain from sale of investment	10, 11	2,031,181,733	120,268,439	-	-
Reversal of (loss) from impairment of assets	9, 10, 13, 16, 17	(2,433,187,651)	(1,357,623,057)	273,335,856	(180,367,503)
<b>Profit from operating activities</b>		<b>32,204,050,861</b>	<b>15,635,491,587</b>	<b>15,058,970,296</b>	<b>6,882,494,433</b>
Finance costs	26	(3,976,718,318)	(2,539,510,223)	(1,726,841,121)	(1,220,613,191)
Impairment gain and reversal of impairment loss (impairment loss) determined in accordance with TFRS 9	30	(411,166,448)	(30,327,264)	965,813,203	1,472,967,615
Share of profit of associates and joint ventures accounted for using equity method	11	188,104,117	1,042,110,810	-	-
<b>Profit before income tax expense</b>		<b>28,004,270,212</b>	<b>14,107,764,910</b>	<b>14,297,942,378</b>	<b>7,134,848,857</b>
Tax expense	27	(12,851,791,240)	(4,263,046,969)	(2,371,911,925)	(820,554,434)
<b>Profit for the year</b>		<b>15,152,478,972</b>	<b>9,844,717,941</b>	<b>11,926,030,453</b>	<b>6,314,294,423</b>
<b>Profit attributable to:</b>					
Owners of the parent		12,575,159,718	7,623,789,858	11,926,030,453	6,314,294,423
Non-controlling interests		2,577,319,254	2,220,928,083	-	-
<b>Profit for the year</b>		<b>15,152,478,972</b>	<b>9,844,717,941</b>	<b>11,926,030,453</b>	<b>6,314,294,423</b>
<b>Basic earnings per share</b>	28	<b>8.89</b>	<b>5.25</b>	<b>8.42</b>	<b>4.28</b>

(Pichai Chunhavajira)  
Chairman

(Chaiwat Kovavisarach)  
Group Chief Executive Officer and President

The accompanying notes are an integral part of these financial statements.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Statement of comprehensive income

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2022	2021	2022	2021
	(in Baht)			
<b>Profit for the year</b>	<b>15,152,478,972</b>	<b>9,844,717,941</b>	<b>11,926,030,453</b>	<b>6,314,294,423</b>
<b>Other comprehensive income</b>				
<i>Items that will be reclassified subsequently to profit or loss</i>				
Exchange differences on translating financial statements	(126,950,333)	1,983,515,198	-	-
Gain on cash flow hedges	25,781,557	71,479,023	-	-
Gain (loss) on hedges of net investments in foreign operations	14,664,155	(167,466,585)	-	-
Share of other comprehensive income (loss) of associates and joint ventures accounted for using equity method	11 (1,668,791)	-	-	-
<b>Total items that will be reclassified subsequently to profit or loss</b>	<b>(88,173,412)</b>	<b>1,887,527,636</b>	<b>-</b>	<b>-</b>
<i>Items that will not be reclassified subsequently to profit or loss</i>				
Gain (loss) on investment in equity instruments designated at FVOCI	(1,041,201,564)	235,702,942	83,675,000	(89,688,200)
Gain on investment in equity instruments designated at FVOCI sold during the year	-	44,881,986	-	-
Gain on remeasurments of defined benefit plans	184,710,614	135,056,688	189,155,629	133,884,687
Share of other comprehensive income (loss) of associates and joint ventures accounted for using equity method	11 (27,010,505)	7,688,678	-	-
<b>Total items that will not be reclassified subsequently to profit or loss</b>	<b>(883,501,455)</b>	<b>423,330,294</b>	<b>272,830,629</b>	<b>44,196,487</b>
<b>Other comprehensive income (loss) for the year, net of income tax</b>	<b>(971,674,867)</b>	<b>2,310,857,930</b>	<b>272,830,629</b>	<b>44,196,487</b>
<b>Total comprehensive income for the year</b>	<b>14,180,804,105</b>	<b>12,155,575,871</b>	<b>12,198,861,082</b>	<b>6,358,490,910</b>
<b>Total comprehensive income attributable to:</b>				
Owners of the parent	12,036,495,892	9,343,979,050	12,198,861,082	6,358,490,910
Non-controlling interests	2,144,308,213	2,811,596,821	-	-
<b>Total comprehensive income for the year</b>	<b>14,180,804,105</b>	<b>12,155,575,871</b>	<b>12,198,861,082</b>	<b>6,358,490,910</b>

The accompanying notes are an integral part of these financial statements.



# Bangchak Corporation Public Company Limited and its Subsidiaries

## Statement of changes in equity

Note	Consolidated financial statements															Total equity		
	Retained earnings							Other components of equity										
	Issued and paid-up share capital	Share premium	Other surpluses (deficits)	Warrants	Legal reserve	Treasury shares reserve	Unappropriated	Treasury shares	Perpetual subordinated debentures	Translation reserve	Cash flow hedge reserve	Net investment hedge reserve	Fair value reserve	Share of other comprehensive income of associates and joint ventures using equity method	Total other components of equity		Equity attributable to owners of the parent	Non-controlling interests
	(in Baht)																	
<b>Year ended 31 December 2021</b>																		
Balance at 1 January 2021	1,376,923,157	11,157,460,051	3,441,394,816	1,811,785	153,164,346	505,406,210	22,441,357,804	(505,406,210)	9,940,796,710	(2,369,643,339)	(79,510,811)	(35,857,855)	324,702,438	13,364,421	(2,146,945,146)	46,365,963,523	11,950,461,912	58,316,425,435
<b>Transactions with owners, recorded directly in equity</b>																		
<i>Contributions by and distributions to owners of the parent</i>																		
Share options exercised	-	-	316,948,353	-	-	-	-	-	-	-	-	-	-	-	-	316,948,353	1,159,413,017	1,476,361,370
Share-based payment transactions	-	-	766,391	13,160,712	-	-	-	-	-	-	-	-	-	-	-	13,927,103	9,339,020	23,266,123
Dividends	-	-	-	-	-	-	(1,900,228,630)	-	-	-	-	-	-	-	-	(1,900,228,630)	(771,953,147)	(2,672,181,777)
<b>Total</b>	-	-	317,714,744	13,160,712	-	-	(1,900,228,630)	-	-	-	-	-	-	-	-	(1,569,253,174)	396,798,890	(1,172,554,284)
<i>Changes in ownership interests in subsidiaries</i>																		
Changes in an ownership interests in subsidiary without a change in control	10	-	(368,261,809)	-	-	-	-	-	-	-	-	-	-	-	-	(368,261,809)	606,392,543	238,130,734
Changes in an ownership interests in subsidiary from sale of investment	10	-	(58,301,391)	-	-	-	-	-	253,078,733	-	-	-	-	-	253,078,733	194,777,342	-	194,777,342
Acquisition of non-controlling interests with a change in control	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	326,967,181	326,967,181
<b>Total</b>	-	-	(426,563,200)	-	-	-	-	-	253,078,733	-	-	-	-	-	253,078,733	(173,484,467)	933,359,724	759,875,257
<b>Total transactions with owners, recorded directly in equity</b>	-	-	(108,848,456)	13,160,712	-	-	(1,900,228,630)	-	-	253,078,733	-	-	-	-	253,078,733	(1,742,837,641)	1,330,158,614	(412,679,027)
<b>Comprehensive income (loss) for the year</b>																		
Profit	-	-	-	-	-	-	7,623,789,858	-	-	-	-	-	-	-	-	7,623,789,858	2,220,928,083	9,844,717,941
Other comprehensive income (loss)	-	-	-	-	-	-	539,759,107	-	-	1,400,429,246	42,787,343	(167,285,721)	(100,103,225)	4,602,442	1,180,430,085	1,720,189,192	590,668,738	2,310,857,930
<b>Total comprehensive income (loss) for the year</b>	-	-	-	-	-	-	8,163,548,965	-	-	1,400,429,246	42,787,343	(167,285,721)	(100,103,225)	4,602,442	1,180,430,085	9,343,979,050	2,811,596,821	12,155,575,871
Coupon payment on perpetual subordinated debentures	23	-	-	-	-	-	(500,000,000)	-	-	-	-	-	-	-	-	(500,000,000)	-	(500,000,000)
<b>Balance at 31 December 2021</b>	1,376,923,157	11,157,460,051	3,332,546,360	14,972,497	153,164,346	505,406,210	28,204,678,139	(505,406,210)	9,940,796,710	(716,135,360)	(36,723,468)	(203,143,576)	224,599,213	17,966,863	(713,436,328)	53,467,104,932	16,092,217,347	69,559,322,279

The accompanying notes are an integral part of these financial statements.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Statement of changes in equity

Note	Consolidated financial statements																		
	Retained earnings								Other components of equity										
	Issued and paid-up share capital	Share premium	Other surpluses	Warrants	Expired warrants	Legal reserve	Treasury shares reserve	Unappropriated	Treasury shares	Perpetual subordinated debentures	Translation reserve	Cash flow hedge reserve	Net investment hedge reserve	Fair value reserve	Share of other comprehensive income (loss) of associates and joint ventures using equity method	Total other components of equity	Equity attributable to owners of the parent	Non-controlling interests	Total equity
	(in Baht)																		
<b>Year ended 31 December 2022</b>																			
<b>Balance at 1 January 2022</b>	1,376,923,157	11,157,460,051	3,332,546,360	14,972,497	-	153,164,346	505,406,210	28,204,678,139	(505,406,210)	9,940,796,710	(716,135,360)	(36,723,468)	(203,143,576)	224,599,213	17,966,863	(713,436,328)	53,467,104,932	16,092,217,347	69,559,322,279
<b>Transactions with owners, recorded directly in equity</b>																			
<i>Contributions by and distributions to owners of the parent</i>																			
Share options exercised	-	-	21,376,394	-	1,836,718	-	-	-	-	-	-	-	-	-	-	-	23,213,112	85,605,819	108,818,931
Treasury shares sold	21	-	18,329,004	-	-	-	(257,665,302)	257,665,302	257,665,302	-	-	-	-	-	-	-	275,994,306	-	275,994,306
Share-based payment transactions	-	-	624,023	4,054,506	-	-	-	-	-	-	-	-	-	-	-	-	4,678,529	3,472,218	8,150,747
Dividends	29	-	-	-	-	-	-	(3,054,696,916)	-	-	-	-	-	-	-	-	(3,054,696,916)	(1,206,150,400)	(4,260,847,316)
<b>Total</b>			40,329,421	4,054,506	1,836,718	-	(257,665,302)	(2,797,031,614)	257,665,302	-	-	-	-	-	-	-	(2,750,810,969)	(1,117,072,363)	(3,867,883,332)
<i>Changes in ownership interests in subsidiaries</i>																			
Changes in an ownership interests in subsidiary without a change in control	10	-	-	451,036,164	-	-	-	-	-	-	-	-	-	-	-	-	451,036,164	3,573,597,807	4,024,633,971
Acquisition of non-controlling interests with a change in control	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(18,798,855)	(18,798,855)
<b>Total</b>			451,036,164	-	-	-	-	-	-	-	-	-	-	-	-	-	451,036,164	3,554,798,952	4,005,835,116
<b>Total transactions with owners, recorded directly in equity</b>			491,365,585	4,054,506	1,836,718	-	(257,665,302)	(2,797,031,614)	257,665,302	-	-	-	-	-	-	-	(2,299,774,805)	2,437,726,589	137,951,784
<b>Comprehensive income (loss) for the year</b>																			
Profit	-	-	-	-	-	-	-	12,575,159,718	-	-	-	-	-	-	-	-	12,575,159,718	2,577,319,254	15,152,478,972
Other comprehensive income (loss)	-	-	-	-	-	-	-	187,057,730	-	-	(48,240,952)	(30,665,719)	8,897,707	(639,250,676)	(16,461,916)	(725,721,556)	(538,663,826)	(433,011,041)	(971,674,867)
<b>Total comprehensive income (loss) for the year</b>								12,762,217,448	-	-	(48,240,952)	(30,665,719)	8,897,707	(639,250,676)	(16,461,916)	(725,721,556)	12,036,495,892	2,144,308,213	14,180,804,105
Coupon payment on perpetual subordinated debentures	23	-	-	-	-	-	-	(500,000,003)	-	-	-	-	-	-	-	-	(500,000,003)	-	(500,000,003)
<b>Balance at 31 December 2022</b>	1,376,923,157	11,157,460,051	3,823,911,945	19,027,003	1,836,718	153,164,346	247,740,908	37,669,863,970	(247,740,908)	9,940,796,710	(764,376,312)	(67,389,187)	(194,245,869)	(414,651,463)	1,504,947	(1,439,157,884)	62,703,826,016	20,674,252,149	83,378,078,165

The accompanying notes are an integral part of these financial statements.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Statement of changes in equity

Note	Separate financial statements							Other components of equity		Total equity
	Issued and paid-up share capital	Share premium	Other Surpluses	Retained earnings			Treasury shares	Perpetual subordinated debentures	Fair value reserve	
				Legal reserve	Treasury shares reserve	Unappropriated				
(in Baht)										
<b>Year ended 31 December 2021</b>										
<b>Balance at 1 January 2021</b>	<b>1,376,923,157</b>	<b>11,157,460,051</b>	<b>189,617,759</b>	<b>153,164,346</b>	<b>505,406,210</b>	<b>14,917,959,248</b>	<b>(505,406,210)</b>	<b>9,940,796,710</b>	<b>-</b>	<b>37,735,921,271</b>
<b>Transactions with owners, recorded directly in equity</b>										
<i>Distributions to owners</i>										
Dividends to owners of the Company	29	-	-	-	-	(1,900,228,630)	-	-	-	(1,900,228,630)
<b>Total</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(1,900,228,630)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(1,900,228,630)</b>
<b>Comprehensive income (loss) for the year</b>										
Profit		-	-	-	-	6,314,294,423	-	-	-	6,314,294,423
Other comprehensive income (loss)		-	-	-	-	133,884,687	-	-	(89,688,200)	44,196,487
<b>Total comprehensive income (loss) for the year</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6,448,179,110</b>	<b>-</b>	<b>-</b>	<b>(89,688,200)</b>	<b>6,358,490,910</b>
Coupon payment on perpetual subordinated debentures	23	-	-	-	-	(500,000,000)	-	-	-	(500,000,000)
<b>Balance at 31 December 2021</b>		<b>1,376,923,157</b>	<b>11,157,460,051</b>	<b>189,617,759</b>	<b>153,164,346</b>	<b>18,965,909,728</b>	<b>(505,406,210)</b>	<b>9,940,796,710</b>	<b>(89,688,200)</b>	<b>41,694,183,551</b>

The accompanying notes are an integral part of these financial statements.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Statement of changes in equity

Note	Separate financial statements							Other components of equity		Total equity	
	Issued and paid-up share capital	Share premium	Other Surpluses	Retained earnings			Treasury shares	Perpetual subordinated debentures	Fair value reserve		
				Legal reserve	Treasury shares reserve	Unappropriated					
<i>(in Baht)</i>											
<b>Year ended 31 December 2022</b>											
Balance at 1 January 2022	1,376,923,157	11,157,460,051	189,617,759	153,164,346	505,406,210	18,965,909,728	(505,406,210)	9,940,796,710	(89,688,200)	41,694,183,551	
<b>Transactions with owners, recorded directly in equity</b>											
<i>Distributions to owners</i>											
Treasury shares sold	21	-	-	18,329,004	-	(257,665,302)	257,665,302	257,665,302	-	-	275,994,306
Dividends to owners of the Company	29	-	-	-	-	-	(3,054,696,916)	-	-	-	(3,054,696,916)
<b>Total</b>		-	-	<b>18,329,004</b>	-	<b>(257,665,302)</b>	<b>(2,797,031,614)</b>	<b>257,665,302</b>	-	-	<b>(2,778,702,610)</b>
<b>Comprehensive income for the year</b>											
Profit		-	-	-	-	-	11,926,030,453	-	-	-	11,926,030,453
Other comprehensive income		-	-	-	-	-	189,155,629	-	-	83,675,000	272,830,629
<b>Total comprehensive income for the year</b>		-	-	-	-	-	<b>12,115,186,082</b>	-	-	<b>83,675,000</b>	<b>12,198,861,082</b>
Coupon payment on perpetual subordinated debentures	23	-	-	-	-	-	(500,000,003)	-	-	-	(500,000,003)
<b>Balance at 31 December 2022</b>	<b>1,376,923,157</b>	<b>11,157,460,051</b>	<b>207,946,763</b>	<b>153,164,346</b>	<b>247,740,908</b>	<b>27,784,064,193</b>	<b>(247,740,908)</b>	<b>9,940,796,710</b>	<b>(6,013,200)</b>	<b>50,614,342,020</b>	

The accompanying notes are an integral part of these financial statements.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Statement of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2022	2021	2022	2021
	(in Baht)			
<b>Cash flows from operating activities</b>				
Profit for the year	15,152,478,972	9,844,717,941	11,926,030,453	6,314,294,423
<i>Adjustments for</i>				
Tax expense	12,851,791,240	4,263,046,969	2,371,911,925	820,554,434
Finance costs	3,976,718,318	2,539,510,223	1,726,841,121	1,220,613,191
Depreciation and amortisation	10,003,557,063	8,074,878,355	5,425,318,454	5,220,582,122
Unrealised loss from derivatives	992,015,771	229,638,225	838,439,418	428,445,136
Unrealised loss on foreign exchange	611,682,138	639,953,658	370,437,305	380,797,252
Losses on inventories devaluation	330,168,582	2,090,572	324,815,087	-
(Reversal of) impairment loss on assets	2,433,187,651	1,357,623,057	(273,335,856)	180,367,503
(Reversal of) impairment loss determined in accordance with TFRS 9	411,166,448	30,327,264	(965,813,203)	(1,472,967,615)
Write-off of exploration and evaluation expenses	516,998,411	69,401,848	-	-
Loss on disposal of property, plant and equipment	134,559,214	84,558,328	5,334,021	24,194,049
(Gain) loss on fair value adjustment of investment	(9,845,877)	(614,366,153)	(10,081,250)	10,484,500
Expense for disposal of other investment	-	2,126,873	-	-
Gain on disposal of investment in subsidiary and associate	(2,031,181,733)	(120,268,439)	-	-
Interest income and dividend income	(315,000,209)	(184,792,930)	(1,064,224,179)	(1,119,811,302)
Provision for employee benefits	191,909,570	160,612,439	144,779,585	133,537,585
Warrants	8,150,747	23,266,124	-	-
(Reversal of) provision for customer loyalty programmes	11,218,421	(4,776,371)	11,218,421	(4,776,371)
Deferred revenue	(4,161,779)	(7,578,417)	(4,161,779)	(7,578,418)
Share of profit of associates and joint ventures (net of tax)	(188,104,117)	(1,042,110,810)	-	-
	<u>45,077,308,831</u>	<u>25,347,858,756</u>	<u>20,827,509,523</u>	<u>12,128,736,489</u>
<i>Changes in operating assets and liabilities</i>				
Trade accounts receivable	(5,195,766,987)	(3,654,195,735)	(621,659,217)	(3,769,847,373)
Other current receivables	(12,394,226,680)	(1,296,202,277)	(9,946,178,277)	(20,431,464)
Inventories	(11,283,010,031)	(1,642,274,072)	(9,266,601,052)	(2,105,669,125)
Other non-current assets	336,419,434	294,643,550	(179,085,141)	35,787,344
Trade accounts payable	8,072,310,353	251,940,908	6,196,255,385	1,812,110,471
Other current payables	5,460,216,007	(1,754,152,993)	630,094,136	88,352,636
Other current liabilities	215,350,507	236,302,963	241,718,859	(218,496,824)
Provision for employee benefits	(267,347,323)	(225,692,255)	(121,286,247)	(219,598,434)
Other non-current liabilities	(113,406,173)	(313,054,341)	(4,540,978)	(509,366)
Net cash generated from operating	<u>29,907,847,938</u>	<u>17,245,174,504</u>	<u>7,756,226,991</u>	<u>7,730,434,354</u>
Taxes paid	(10,464,957,005)	(265,017,584)	(1,558,961,185)	(111,211,665)
<b>Net cash from operating activities</b>	<b><u>19,442,890,933</u></b>	<b><u>16,980,156,920</u></b>	<b><u>6,197,265,806</u></b>	<b><u>7,619,222,689</u></b>

The accompanying notes are an integral part of these financial statements.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Statement of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2022	2021	2022	2021
	(in Baht)			
<b>Cash flows from investing activities</b>				
Increase in short-term investments	(417,327,259)	(795,019,355)	-	-
Payment for investment in subsidiaries and associates, net of cash acquired	(988,133,617)	-	(231,000,063)	-
Proceeds from business combination	-	5,010,720,240	-	-
Payment for business acquisition	(4,306,388,289)	-	-	-
Payment for other investments	(34,437,463)	(1,707,699,371)	-	(775,248,203)
Payment for shares capital of subsidiaries	-	-	(2,046,982,429)	(2,515,767,978)
Cash decreased from sale of investment in subsidiaries	(20,038,813)	(21,335,769)	-	-
Proceeds from sale of investment in subsidiaries	53,262,987	285,916	16,000,000	-
Proceeds from sale of investment in associates	14,551,317,784	234,856,800	-	-
Proceeds from sale of other investment	-	433,087,993	-	3,000,000
Acquisition of property, plant and equipment	(7,526,429,200)	(7,972,286,590)	(1,227,917,650)	(3,187,935,858)
Proceeds from sale of property, plant and equipment	27,750,765	438,850,572	5,056,915	15,332,816
Acquisition of right-of-use assets	(997,397,739)	(2,198,489,326)	(992,913,980)	(595,257,916)
Acquisition of intangible assets	(1,378,792,498)	(717,098,215)	(73,639,163)	(58,472,955)
Increase in short-term loans	(95,200,094)	-	-	(922,000,000)
Increase in long-term loans to related parties	(235,335,308)	(1,645,032,661)	-	-
Cash receipts from long-term loans to related parties	-	2,669,360,000	1,872,615,226	1,913,690,966
Interest received	238,776,372	226,644,539	139,079,471	288,281,954
Dividend received	166,143,432	203,234,333	968,633,474	966,351,027
<b>Net cash used in investing activities</b>	<b>(962,228,940)</b>	<b>(5,839,920,894)</b>	<b>(1,571,068,199)</b>	<b>(4,868,026,147)</b>
<b>Cash flows from financing activities</b>				
Proceeds from exercise of share options	111,359,279	-	-	-
Proceeds from increase in subsidiaries' share capital	3,990,739,780	1,654,871,361	-	-
Decrease in short-term loans from financial institutions	(95,325,197)	(2,719,508,965)	-	-
Proceeds from long-term loans from financial institutions	5,143,987,931	3,352,091,133	2,500,000,000	-
Repayment of long-term loans	(8,258,093,094)	(13,054,950,135)	(700,153,846)	(425,153,846)
Proceeds from short-term loan from related parties	-	17,236,960	-	-
Repayment of short-term loan from related parties	(17,236,960)	-	-	-
Payment of lease liabilities	(2,082,726,177)	(1,664,950,886)	(1,456,818,874)	(1,541,561,036)
Proceeds from issuance of debentures	13,000,000,000	20,283,563,060	13,000,000,000	7,000,000,000
Redemption of debentures	(9,634,112,631)	(3,322,600,494)	(4,000,000,000)	(2,500,000,000)
Proceeds from sale of treasury shares	275,994,306	-	275,994,306	-
Financial cost paid	(2,819,413,229)	(2,392,286,081)	(1,286,575,179)	(1,139,078,465)
Coupon payment on perpetual subordinated debentures	(500,000,003)	(500,000,000)	(500,000,003)	(500,000,000)
Dividend paid	(4,260,847,316)	(2,672,181,777)	(3,054,696,916)	(1,900,228,630)
<b>Net cash from (used in) financing activities</b>	<b>(5,145,673,311)</b>	<b>(1,018,715,824)</b>	<b>4,777,749,488</b>	<b>(1,006,021,977)</b>
Net increase in cash and cash equivalents, before effect of exchange rates	13,334,988,682	10,121,520,202	9,403,947,095	1,745,174,565
Effect of exchange rate changes on cash and cash equivalents	575,306,443	249,175,880	-	-
<b>Net increase in cash and cash equivalents</b>	<b>13,910,295,125</b>	<b>10,370,696,082</b>	<b>9,403,947,095</b>	<b>1,745,174,565</b>
Cash and cash equivalents at 1 January	32,021,772,927	21,651,076,845	7,788,085,020	6,042,910,455
<b>Cash and cash equivalents at 31 December</b>	<b>45,932,068,052</b>	<b>32,021,772,927</b>	<b>17,192,032,115</b>	<b>7,788,085,020</b>
<b>Non-cash transaction</b>				
Outstanding payable from purchase of property, plant and equipment	349,855,388	613,431,590	200,574,954	168,546,848
Investment in associate by transferring trade accounts receivable	1,236,049,216	-	-	-

The accompanying notes are an integral part of these financial statements.



# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

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# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from the Thai language statutory financial statements, and were approved and authorised for issue by the Board of Directors on 20 February 2023.

#### 1 General information

Bangchak Corporation Public Company Limited, the “Company” is incorporated in Thailand and was listed on the Stock Exchange of Thailand. The Company’s registered offices are as follows:

Head office : 2098 M Tower Building, 8th Floor, Sukhumvit Road, Phra Kanong Tai, Phra Kanong, Bangkok.

Refinery plant : 210 Moo 1, Soi Sukhumvit 64, Sukhumvit Road, Phra Kanong Tai, Phra Kanong, Bangkok.

As at 31 December 2022, major shareholders of the Company were Vayupak Fund 1 and Social Security Office holding 19.84 % and 14.40 % of issued and paid-up capital, respectively (2021: 19.84% and 14.40%, respectively).

The principal businesses of the Group are operating an oil refinery and marketing the finished products through its service stations under its company’s brand. The Group’s oil market includes consumers in various sectors, such as transportation, aviation, shipping, construction, industrial, agriculture and sale of oil which is made through the major and the minor oil traders, production and distribution of electricity from solar cell and investment in alternative energy business, manufacturing and distributing of biofuel product and relating products and exploration and production of petroleum.

Details of the Company’s subsidiaries as of 31 December 2022 and 2021 are given in note 5 and 10.

#### 2 Basis of preparation of the financial statements

The financial statements are prepared in accordance with Thai Financial Reporting Standards (“TFRS”), guidelines promulgated by the Federation of Accounting Professions and applicable rules and regulations of the Thai Securities and Exchange Commission. The financial statements are presented in Thai Baht, which is the Company’s functional currency.

The preparation of financial statements in conformity with TFRS requires management to make judgements, estimates and assumptions that affect the application of the Group’s accounting policies. Actual results may differ from these estimates. Estimates and underlying assumptions that are described in each note are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

From 1 January 2022, the Group has adopted TFRS 9 Financial Instruments and TFRS 7 Financial Instruments: Disclosures which have been amended in respect to Interbank Offer Rate (IBOR) reform - Phase 2 (Phase 2 amendments). The detail of the accounting policies are disclosed in note 3(d).

The Phase 2 amendments are applicable when an existing interest rate benchmark is replaced by another interest rate benchmark. The Phase 2 amendments provide a practical expedient that modifications to asset and liability values as a direct consequence of the interest rate benchmark reform and the new basis for determining the contractual cash flows is economically equivalent to the previous basis (i.e. the basis immediately preceding the change), can be accounted for by only updating the effective interest rate.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

Additionally, hedge accounting is not discontinued solely because of the replacement of another interest rate benchmark. Hedging relationships (and related documentation) must instead be amended to reflect modifications to the hedged item, hedging instrument and hedged risk.

The Group has not adopted the new and revised TFRS which will be effective for the financial statements for the periods beginning on or after 1 January 2023 onwards for the financial statements. The Group has assessed the potential impact on the financial statements of these new and revised TFRS that there is no material impact on the financial statements in the year of application.

### 3 Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

#### (a) *Basis of consolidation*

The consolidated financial statements relate to the Company and its subsidiaries (together referred to as the “Group”) and the Group’s interests in associates and joint ventures.

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

At the acquisition date, the Group measures any non-controlling interest at its proportionate interest in the identifiable net assets of the acquiree. In addition, when there is a change in the Group’s interest in a subsidiary that do not result in a loss of control, any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received from the acquisition or disposal of the non-controlling interests with no change in control are accounted for as other surpluses/deficits in shareholders’ equity.

When the Group loses control over a subsidiary, it derecognises the assets and liabilities, any related non-controlling interests and other components of equity of the subsidiary. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

The Group recognised investments in associates and joint ventures using the equity method in the consolidated financial statements. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statement include the Group’s dividend income and share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases.

In all other cases, when the group ceases to have significant influence over an associate or joint control over a joint venture, it is accounted for as a disposal of the entire interest in that investee, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former investee at the date when significant influence or joint control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

Intra-group balances and transactions, and any unrealised income or expenses arising from intra-group transactions, are eliminated on consolidation. Unrealised gains arising from transactions with associates and joint ventures are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

#### *Business combinations*

The Group applies the acquisition method when the Group assess that the acquired set of activities and assets include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create output. The acquisition date is the date on which control is transferred to the Group, other than business combinations with entities under common control. Expenses in connection with a business combination are recognised as incurred.

Goodwill is measured as of the acquisition date as the fair value of the consideration transferred including the recognised amount of any non-controlling interest in the acquiree, less net fair value of the identifiable assets acquired and liabilities assumed. Any gain on bargain purchase is recognised in profit or loss immediately.

Consideration transferred includes the fair values of the assets transferred, liabilities incurred by the Group to the previous owners of the acquiree, and equity interests issued by the Group. Consideration transferred also includes the fair value of any contingent consideration.

Any contingent consideration is measured at fair value at the date of acquisition and remeasured at fair value at each reporting date. Subsequent changes in the fair value are recognised in profit or loss.

A contingent liability of the acquiree is assumed in a business combination only if such a liability represents a present obligation and arises from a past event, and its fair value can be measured reliably.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group estimates provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period, or additional assets or liabilities are recognised, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognised at that date.

Business combination under common control are accounted for using a method similar to the pooling of interest method, by recognising assets and liabilities of the acquired businesses at their carrying amounts in the consolidated financial statements of the ultimate parent company at the transaction date. The difference between the carrying amount of the acquired net assets and the consideration transferred is recognised as surplus or deficit from business combinations under common control in shareholder's equity. The surplus or deficit will be written off upon divestment of the businesses acquired. The results from operations of the acquired businesses will be included in the consolidated financial statements of the acquirer from the beginning of the comparative period or the moment the businesses came under common control, whichever date is later, until control ceases.

#### **(b) Investments in subsidiaries, associates, and joint ventures**

Investments in subsidiaries, associates, and joint ventures in the separate financial statements of the Company are measured at cost less allowance for impairment losses. Dividend income is recognised in profit or loss on the date on which the Group's right to receive payment is established. If the Company disposes of part of its investment, the deemed cost of the part sold is determined using the weighted average method. Gains and losses on disposal of the investments are recognised in profit or loss.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### (c) *Foreign currencies*

Transactions in foreign currencies including non-monetary assets and liabilities dominated in foreign currencies are translated to the respective functional currencies of each entity in the Group at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rate at the reporting date. Non-monetary assets and liabilities measured at fair value in foreign currencies are translated at the exchange rates at the dates that fair value was determined.

Foreign currency differences are generally recognised in profit or loss. However, foreign currency differences arising from the translation of the following items are recognised in other comprehensive income:

- an investment in equity securities designated as at FVOCI
- a financial liability designated as a hedge of the net investment in a foreign operation to the extent that the hedge is effective; and
- qualifying cash flow hedges to the extent the hedge is effective.

#### *Foreign operations*

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated to Thai Baht at the exchange rates at the reporting date. The revenues and expenses of foreign operations are translated to Thai Baht at rates approximating the exchange rates at the dates of the transactions.

Foreign exchange differences and the effective portion of any foreign currency differences arising from hedges of a net investment in a foreign operation (see note 3(d.4)) are recognised in other comprehensive income and accumulated in the translation reserve in equity until disposal of the investment, except to the extent that the translation difference is allocated to non-controlling interest.

When a foreign operation is disposed of in its entirety or partially such that control, significant influence or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as part of the gain or loss on disposal. If the Group disposes of part of its interest in a subsidiary but retains control, then the relevant proportion of the cumulative amount is reattributed to non-controlling interests. When the Group disposes of only part of an associate or joint venture while retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

When the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, exchange gains and losses arising from such a monetary item are considered to form part of a net investment in a foreign operation and are recognised in other comprehensive income and presented in the translation reserve in equity until disposal of the investment.

### (d) *Financial instruments*

#### *(d.1) Classification and initial measurement*

Debt securities that the Group issued are initially recognised when they are originated. Other financial assets and financial liabilities (except trade accounts receivables (see note 3(f))) are initially recognised when the Group becomes a party to the contractual provisions of the instrument, and measured at fair value plus or minus, for an item not at fair value through profit or loss (FVTPL), transaction costs that are directly attributable to its acquisition or issue.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

On initial recognition, a financial asset is classified as measured at: amortised cost; fair value through other comprehensive income (FVOCI); or FVTPL. Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified prospectively from the reclassification date.

On initial recognition, financial liabilities are classified as measured at amortised cost using the effective interest method or FVTPL. Interest expense, foreign exchange gains and losses and any gain or loss on derecognition are recognised in profit or loss.

Financial assets measured at amortised costs are subsequently measured at amortised cost using the effective interest method. The amortised cost is reduced by expected credit losses. Interest income, foreign exchange gains and losses, expected credit loss and any gain or loss on derecognition are recognised in profit or loss.

Equity investments measured at FVOCI are subsequently measured at fair value. Dividend income is recognised as income in profit or loss on the date on which the Group's right to receive payment is established, unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and are never reclassified to profit or loss.

#### *(d.2) Derecognition and offset*

The Group derecognises a financial asset when the contractual rights to receive the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group derecognises a financial liability when its contractual obligations are discharged or cancelled, or expire. The Group also derecognises a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognised at fair value.

The difference between the carrying amount extinguished and the consideration received or paid is recognised in profit or loss.

#### *Interest rate benchmark reform*

When the basis of determining the contractual cash flows of a financial asset or financial liability measured at amortised cost changed as a result of interest rate benchmark reform (IBOR reform), the Group first updated the effective interest rate of the financial asset or financial liability to reflect the change that is required by IBOR reform. If there were any other additional changes, the Group applied the policies on accounting for modifications to those changes.

Financial assets and financial liabilities are offset, and the net amount presented in the statement of financial position when, and only when, the Group currently has a legally enforceable right to set off the amounts and the Group intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

##### *(d.3) Derivatives*

Derivative are recognised at fair value and remeasured at fair value at each reporting date. The gain or loss on remeasurement to fair value is recognised immediately in profit or loss, except where the derivatives qualify for cash flow hedge accounting or hedges of net investment in a foreign operation, in which case recognition of any resultant gain or loss depends on nature of the item being hedged (see note 3 (d.4)).

##### *(d.4) Hedging*

At inception of designated hedging relationships, the Group documents the risk management objective and strategy for undertaking the hedge, the economic relationship between the hedged item and the hedging instrument, including consideration of the hedge effectiveness at the inception of the hedging relationship and throughout the remaining period to determine the existence of economic relationship between the hedged item and the hedging instrument.

##### *Hedges directly affected by IBOR reform*

When the basis for determining the contractual cash flows of the hedged item or hedging instrument changes as a result of IBOR reform and therefore there is no longer uncertainty arising about the cash flows of the hedged item or the hedging instrument, the Group amends the hedge documentation of that hedging relationship to reflect the changes required by IBOR reform. For this purpose, the hedge designation is amended once the following changes:

- designating an alternative benchmark rate as the hedged risk;
- updating the description of the hedged item, including the description of the designated portion of the cash flows or fair value being hedged; or
- updating the description of the hedging instrument.

The Group amends the formal hedge documentation by the end of the reporting period during which a change required by IBOR reform is made to the hedged risk, hedge item or hedging instrument. These amendments in the formal hedge documentation do not constitute the discontinuation of the hedging relationship or the designation of a new hedging relationship.

If changes are made in addition to those changes required by IBOR reform, then the Group first considers whether those additional changes result in the discontinuation of the hedge accounting relationship. If the additional changes do not result in the discontinuation of the hedge accounting relationship, then the Group amends the formal hedge documentation for changes required by IBOR reform as mentioned above.

When the interest rate benchmark on which the hedged future cash flows had been based is changed as required by IBOR reform, for the purpose of determining whether the hedged future cash flows are expected to occur, the Group deems that the hedging reserve recognised in OCI for that hedging relationship is based on the alternative benchmark rate on which the hedged future cash flows will be based.

##### *Cash flow hedges*

When a derivative is designated as a cash flow hedging instrument, the effective portion of changes in the fair value of the derivative is recognised in OCI and accumulated in the hedging reserve. Any ineffective portion of changes in the fair value of the derivative is recognised immediately in profit or loss.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The Group designates only the change in fair value of the spot element of forward exchange contracts as the hedging instrument in cash flow hedging relationships. The change in fair value of the forward element of forward exchange contracts (forward points) is recognised in a cash flow hedging reserve within equity.

When the hedged forecast transaction subsequently results in the recognition of a non-financial item such as inventory, the amount accumulated in the cash flow hedging reserve is included directly in the initial cost of the non-financial item when it is recognised.

For all other hedged forecast transactions, the amount accumulated in the cash flow hedging reserve is reclassified to profit or loss in the same period or periods during which the hedged expected future cash flows affect profit or loss.

If the hedge no longer meets the criteria for hedge accounting or the hedging instrument is sold, expires, is terminated or is exercised, then hedge accounting is discontinued prospectively. When hedge accounting for cash flow hedges is discontinued, the amount that has been accumulated in the cash flow hedging reserve remains in equity until, for a hedge of a transaction resulting in the recognition of a non-financial item, it is included in the non-financial item's cost on its initial recognition or, for other cash flow hedges, it is reclassified to profit or loss in the same period or periods as the hedged expected future cash flows affect profit or loss.

If the hedged future cash flows are no longer expected to occur, then the amounts that have been accumulated in the cash flow hedging reserve are immediately reclassified to profit or loss.

#### *Net investment hedges*

When a derivative instrument or a non-derivative financial liability is designated as the hedging instrument, the effective portion of, for a derivative, changes in the fair value of the hedging instrument and, for a non-derivative, foreign exchange gains and losses is recognised in OCI and presented in the translation reserve within equity. Any ineffective portion is recognised immediately in profit or loss. The amount recognised in OCI is reclassified to profit or loss as a reclassification adjustment on disposal of the foreign operation.

#### *(d.5) Impairment of financial assets other than trade accounts receivables*

The Group recognises allowances for expected credit losses (ECLs) on financial assets measured at amortised cost, lease receivables, and loan commitments issued which are not measured at FVTPL.

The Group recognises ECLs equal to 12-month ECLs unless there has been a significant increase in credit risk of the financial instrument since initial recognition or credit-impaired financial assets, in which case the loss allowance is measured at an amount equal to lifetime ECLs.

ECLs are a probability-weighted estimate of credit losses based on forward-looking and historical experience. Credit losses are measured as the present value of all cash shortfalls discounted by the effective interest rate of the financial asset.

The Group considers a financial asset to have low credit risk when its credit rating is equivalent to the globally understood definition of 'investment grade'. The Group recognises ECLs for low credit risk financial asset as 12-month ECLs.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The Group assumes that the credit risk on a financial asset has increased significantly if there are significant deterioration in credit rating, significant deterioration in the operating results of the debtor and existing or forecast changes in the technological, market, economic or legal environment that have a significant adverse effect on the debtor's ability to meet its obligation to the Group.

The Group considers a financial asset to be in default when the debtor is unlikely to pay its credit obligations to the Group in full, without recourse by the Group takes actions such as realising security (if any is held).

#### *(d.6) Write off*

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering. Subsequent recoveries of an asset that was previously written off, are recognised as a reversal of impairment in profit or loss in the period in which the recovery occurs.

#### *(d.7) Interest*

Interest income and expense is recognised in profit or loss using the effective interest method. In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortised cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortised cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

#### *(e) Cash and cash equivalents*

Cash and cash equivalents comprise cash balances, call deposits and highly liquid short-term investments which have a maturities of three months or less from the date of acquisition. Bank overdrafts that are repayable on demand are a component of financing activities for the purpose of the statement of cash flows.

#### *(f) Trade accounts receivable*

A trade receivable is recognised when the Group has an unconditional right to receive consideration. A trade receivable is measured at transaction price less allowance for expected credit loss. Bad debts are written off when incurred.

The Group estimates lifetime expected credit losses (ECLs), using a provision matrix to find the ECLs rates. This method groups the debtors based on shared credit risk characteristics and past due status, taking into account historical credit loss data, adjusted for factors that are specific to the debtors and an assessment of both current economic conditions and forward-looking general economic conditions at the reporting date.

#### *(g) Inventories*

Inventories are measured at the lower of cost and net realisable value. Cost is calculated using the weighted average cost principle. Cost includes direct costs incurred in acquiring the inventories. In the case of manufactured inventories and work-in-progress, cost includes an appropriate share of production overheads based on normal operating capacity. Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs to complete and to make the sale.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

**(h) Investment properties**

Investment properties are measured at cost less accumulated depreciation and impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the investment property. The cost of self-constructed assets includes capitalised borrowing costs.

No depreciation charged on freehold land.

**(i) Property, plant and equipment**

Property, plant and equipment are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes capitalised borrowing costs and the costs of dismantling and removing the items and restoring the site on which they are located including transfers from other comprehensive income of any gain or loss on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

Differences between the proceeds from disposal and the carrying amount of property, plant and equipment are recognised in profit or loss.

*Subsequent costs*

The cost of replacing a part of an item of property, plant and equipment is recognised in the carrying amount of the item when the future economic benefits embodied within the part will flow to the Group, and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

*Depreciation*

Depreciation is calculated on a straight-line basis over the estimated useful lives of each component of an asset and recognised in profit or loss. No depreciation is provided on freehold land and assets under construction.

The estimated useful lives are as follows:

Buildings	10 - 50 years
Machinery, equipment refinery plants and terminal	2 - 30 years
Equipment solar plants	5 - 25 years
Marketing and office equipment	3 - 20 years
Vehicles	5 - 10 years
Other assets	21 years

*Oil exploration and production assets*

When the technical and commercial feasibility of an undeveloped oil or gas field has been demonstrated, the field enters its development phase. The costs of oil exploration and production assets are transferred from exploration and evaluation expenditure and reclassified into development phase.

The costs of oil exploration and production assets include past exploration and evaluation costs, pre-production development costs and the ongoing costs of continuing to develop reserves for production as well as decommission costs.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

Depletion charges are calculated using a unit of production method over the life of the estimated proved plus probable reserves.

**(j) Goodwill**

Goodwill is measured at cost less accumulated impairment losses. In respect of equity-accounted investee, the carrying amount of goodwill is included in the carrying amount of the investment.

**(k) Other intangible assets**

Intangible assets that have definite useful lives are measured at cost less accumulated amortisation and impairment losses. Subsequent expenditure is capitalised only when it will generate the future economic benefits. Amortisation is calculated on a straight-line basis over the estimated useful lives of intangible assets and recognised in profit or loss.

The estimated useful lives are as follows:

Right to use and cost of development of computer software	3 - 25	years
Right to connect electrical transmission line	20 - 25	years
Power purchase agreement	20	years
Power purchase agreement and assets under concession agreement	28	years

*Exploration and evaluation expenditure*

Exploration and evaluation expenditure is stated at cost as intangible assets and is accumulated in respect of each identifiable area of interest. These costs are capitalised until the viability of the area of interest is determined.

Accumulated costs in relation to an abandoned area are written off through profit or loss in the period in which the decision to abandon the area is made.

Once an area of interest enters the development phase, exploration and evaluation expenditures are transferred to oil and gas properties.

*Service concession arrangements*

The Group recognises intangible assets arising from a service concession arrangement when it has a right to charge for use of the concession infrastructure. An intangible asset received as consideration for providing construction services in a service concession arrangement is measured at fair value on initial recognition with reference to the fair value of the services provided. Subsequent to initial recognition, the intangible asset is measured at cost, which includes capitalised borrowing costs, less accumulated amortisation and accumulated impairment losses.

**(l) Leases**

At inception of a contract, the Group assesses that a contract is, or contains, a lease when it conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

*As a lessee*

At commencement or on modification of a contract, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices of each component. For the leases of property, the Group has elected not to separate non-lease components and account for the lease and non-lease components wholly as a single lease component.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The Group recognises a right-of-use asset and a lease liability at the lease commencement date, except for leases of low-value assets and short-term leases which are recognised as expenses on a straight-line basis over the respective lease terms.

Right-of-use asset is measured at cost, less any accumulated depreciation and impairment loss, and adjusted for any remeasurements of lease liability. The cost of right-of-use asset includes the initial amount of the lease liability adjusted for any prepaid lease payments made plus any initial direct costs incurred and an estimate of restoration costs, less any lease incentives received. Depreciation is charged to profit or loss on a straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment.

The lease liability is initially measured at the present value of all lease payments that shall be paid under the lease. The Group uses the Group's incremental borrowing rate to discount the lease payments to the present value. The Group determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a lease modification, or a change in the assessment of options specified in the lease. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount of the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

#### *As a lessor*

At inception or on modification of a contract, the Group allocates the consideration in the contract to each component on the basis of their relative standalone selling prices.

At lease inception, the Group considers to classify a lease that transfers substantially all of the risks and rewards incidental to ownership of the underlying asset to lessees as a finance lease. A lease that does not meet this criteria is classified as an operating lease.

The Group recognises lease payments received under operating leases in profit or loss on a straight-line basis over the lease term as part of 'other income.' Contingent rents are recognised as rental income in the accounting period in which they are earned.

The Group estimates lifetime expected credit losses (ECLs), using a provision matrix to find ECLs rate. This method groups the lease receivables based on shared credit risk characteristics and past due status, taking into account historical credit loss data, adjusted for factors that are specific to the debtors and an assessment of both current economic conditions and forward-looking general economic conditions at the reporting date. The Group derecognises the lease receivables as disclosed in note 3(d).

#### **(m) Impairment of non-financial assets**

The carrying amounts of the Group's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the assets' recoverable amounts are estimated. For goodwill, the recoverable amount is estimated each year at the same time.

An impairment loss is recognised in profit or loss if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount, unless it reverses a previous revaluation credited to equity, in which case it is charged to equity.



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The recoverable amount is the greater of the asset's value in use and fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

An impairment loss of asset recognised in prior periods is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss in respect of goodwill is not reversed. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

#### (n) *Employee benefits*

##### *Defined contribution plans*

Obligations for contributions to the Group's provident funds are expensed in profit or loss in the period as the related service is provided.

##### *Defined benefit plans*

The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in the current and prior periods. The defined benefit obligations is discounted to the present value, which performed every 3 years by a qualified actuary using the projected unit credit method.

Remeasurements of the net defined benefit liability, actuarial gain or loss are recognised immediately in OCI. The Group determines the interest expense on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period, taking into account any changes in the net defined benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognised in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in profit or loss. The Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

The Group's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognised in profit or loss in the period in which they arise.

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognises costs for a restructuring. If benefits are not expected to be settled wholly within 12 months of the end of the reporting period, then they are discounted.

Short-term employee benefits are expensed as the related service is provided. A liability is recognised for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

**(o) Share-based payments**

The grant-date fair value of equity-settled share-based payment awards granted to employees is generally recognised as an expense, with a corresponding increase in equity, over the vesting period of the awards. The amount recognised as an expense is adjusted to reflect the number of awards for which the related service and non-market performance conditions are expected to be met, such that the amount ultimately recognised is based on the number of awards that meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant-date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

**(p) Provisions**

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance cost.

**(q) Fair value measurement**

'Fair value' is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or, in its absence, the most advantageous market to which the Group has access at that date. The fair value of a liability reflects its non-performance risk.

When measuring the fair value of an asset or a liability, the Group uses observable market data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1: quoted prices in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: inputs for the asset or liability that are based on unobservable input.

If an asset or a liability measured at fair value has a bid price and an ask price, then the Group measures assets and asset positions at a bid price and liabilities and liability positions at an ask price.

The best evidence of the fair value of a financial instrument on initial recognition is normally the transaction price – i.e. the fair value of the consideration given or received. If the Group determines that the fair value on initial recognition differs from the transaction price, the financial instrument is initially measured at fair value adjusted for the difference between the fair value on initial recognition and the transaction price and the difference is recognised in profit or loss immediately. However, for the fair value categorised as level 3, such difference is deferred and will be recognised in profit or loss on an appropriate basis over the life of the instrument or until the fair value level is transferred or the transaction is closed out.

**(t) Share capital**

*Ordinary shares*

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of ordinary shares are recognised as a deduction from equity.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### *Treasury shares*

When share capital recognised as equity is repurchased, the amount of consideration paid, including directly attributable costs, is classified as treasury shares and recognised as a deduction from equity. An equal amount is appropriated from retained earnings and taken to a reserve for treasury shares within equity. When treasury shares are sold, the amount received is recognised as an increase in equity by crediting the cost of the treasury shares sold, calculated using the weighted average method, to the treasury shares account and transferring the equivalent amount back from reserve for treasury shares to retained earnings. Surpluses on the sale of treasury shares are taken directly to a separate category within equity, (“Share premium on treasury shares”). Net deficits on sale or cancellation of treasury shares are debited to retained earnings after setting off against any remaining balance of surplus on treasury shares.

#### **(u) Perpetual subordinated debentures**

Perpetual subordinated debentures are recognised as equity when the Group has the sole right and discretion to early redeem the debentures per conditions as stipulated in the terms of the debentures and to defer interest and cumulative interest payment without time and deferral amount limitation and the coupon payments are discretionary. Accordingly, any coupon payments are accounted for as dividends and are recognised directly in equity at the time the payment obligation arises. Coupon payments are recognised in the statement of cash flows in the same way as dividends to ordinary shareholders.

#### **(v) Revenue**

Revenue is recognised when a customer obtains control of the goods or services in an amount that reflects the consideration to which the Group expects to be entitled, excluding those amounts collected on behalf of third parties, value added tax and is after deduction of any trade discounts and volume rebates.

#### *Sale of goods and services rendered*

Revenue from sales of goods is recognised on the date on which the goods are delivered to the customers. For the sales that permit the customers to return the goods, the Group estimates the returns based on the historical return data, does not recognise revenue and cost of sale for the estimated products to be returned.

For bundled packages, the Group recognises revenue from sales of products and rendering of services separately if a product or service is separately identifiable from other items and a customer can benefit from it or the multiple services are rendered in different reporting periods. The consideration received is allocated based on their relative stand-alone selling prices.

#### *Income from sale of electricity*

Income from the sale of electricity is recognised in profit or loss in accordance with delivery units supplied as stipulated in the contract. Income from the sale of electricity for some entities within Thailand is entitled to receive ADDER for a period of 10 years from the commencement of commercial sales. Thereafter, subsequent to this initial period income from sale of electricity is recognised at normal rates.

#### *Income from operating rights*

Income from operating right is recognised in accordance with the timing of the rights utilisation and with conditions as stipulated in the contract.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### *Loyalty programmes*

For customer loyalty programmes that the Group offers to customers, the consideration received is allocated based on the relative stand-alone selling price of the products and the loyalty points. The amount allocated to the loyalty points is recognised as contract liabilities and revenue is recognised when loyalty points are redeemed or the likelihood of the customer redeeming the loyalty points becomes remote. The stand-alone selling prices of the points is estimated based on discount provided to customers and the likelihood that the customers will redeem the points. The estimate shall be reviewed at the end of the reporting period.

#### *Service concession arrangements*

Revenue related to construction under a service concession arrangement is recognised over time. Operation or service revenue is recognised in the period in which the services are provided by the Group. If the service concession arrangement contains more than one performance obligation, the consideration received is allocated with reference to the relative stand-alone selling prices of the services delivered.

#### **(w) Income tax**

Income tax expense for the year comprises current and deferred tax, which is recognised in profit or loss except to the extent that it relates to a business combination, or items recognised directly in equity or in other comprehensive income.

Current tax is recognised in respect of the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for the temporary differences: the initial recognition of goodwill; the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss; and differences relating to investments in subsidiaries to the extent that it is probable that they will not reverse in the foreseeable future.

The measurement of deferred tax reflects the tax consequences that would follow the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities, using tax rates enacted or substantively enacted at the reporting date.

A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. Deferred tax assets are reviewed at each reporting date and reduced to the extent that it is no longer probable that the related tax benefit will be realised.

#### **(x) Earnings per share**

Basic earnings per share (EPS) is calculated by dividing the profit or loss attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 4 Acquisition of business

On 31 March 2022, OKEA ASA (“OKEA”) which is an indirect subsidiary of the Group, acquired 2.22% working interest in the Ivar Aasen field from Neptune Energy Norge AS, resulted in OKEA’s working interest to increase from 0.56% to 2.78%. Management estimates that if the acquisition had occurred on 1 January 2022, consolidated revenue would have increased by Baht 288 million and consolidated profit before tax would have increased by Baht 220 million.

The appraisal on the fair value of net assets acquired from acquisition of business has not yet been finalised, for which reason the net assets acquired are provisionally recognised at value based on management estimates. During the second quarter of 2022, OKEA has adjusted the fair value of net assets acquired and the consideration to be transferred. The result of the appraisal will be used to amend the accounting at fair value and to record the final determination of net assets acquired in the period that the appraisal is completed.

<i>Identifiable assets acquired and liabilities assumed</i>	<b>Fair value</b> 31 March 2022	<b>Adjustment</b>	<b>Fair value</b> 31 December 2022
		<i>(in million Baht)</i>	
Property, plant and equipment	635	(14)	621
Other assets	6	(6)	-
Deferred tax liabilities	(81)	(28)	(109)
Provision for decommissioning cost	(350)	54	(296)
Income tax payable	(171)	(16)	(187)
<b>Total identifiable net assets</b>	<b>39</b>	<b>(10)</b>	<b>29</b>
Goodwill	135	(15)	120
<b>Consideration to be transferred</b>	<b>174</b>	<b>(25)</b>	<b>149</b>

On 1 November 2022, OKEA acquired a 35.20 % working interest in Brage field, a 6.46 % working interest in the Ivar Aasen field and a 6.00 % working interest in the Nova from Wintershall Dea Norge AS (“Wintershall Dea”). The management estimates that if the acquisition had occurred on 1 January 2022, total revenues would have increased by Baht 5,142 million and profit before tax would have increased by Baht 2,255 million.

The appraisal on the fair value of net assets acquired from acquisition of business has not yet been finalised, for which reason the net assets acquired are provisionally recognised at value based on management estimates. The result of the appraisal will be used to amend the accounting at fair value and to record the final determination of net assets acquired in the period that the appraisal is completed.

<i>Identifiable assets acquired and liabilities assumed</i>	<b>Fair value</b> <i>(in million Baht)</i>
Property, plant and equipment	6,392
Income tax receivable	592
Other current assets	1,575
Other non-current assets *	3,380
Right-of-use assets	62
Deferred tax liabilities	(2,260)
Provision for decommissioning cost	(6,875)
Lease liabilities	(62)
<b>Total identifiable net assets</b>	<b>2,804</b>
Goodwill	1,768
<b>Consideration to be transferred</b>	<b>4,572</b>

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

\* Other non-current assets mainly consisted of indemnification assets which was expenses related to close down and removal of oil equipment of oil field, which could be collected from a seller of oil field.

The following summarises the major classes of consideration transferred, and the recognised amounts of assets acquired and liabilities assumed at the acquisition date:

#### Consideration to be transferred

	<b>Recognised value</b> <i>(in million Baht)</i>
Cash	4,158
Contingent consideration	414
<b>Total</b>	<b>4,572</b>

#### Contingent consideration

OKEA shall pay to Wintershall Dea an additional contingent consideration based on an Upside Sharing Arrangement subject to oil price level during the period 2022 - 2024. The provision for the contingent consideration is measured at fair value recognised in the income statement. The fair value is estimated using an Option Pricing Model.

#### Reconciliation of contingent consideration

	<i>(in million Baht)</i>
<b>At 1 November 2022</b>	414
Payment	(124)
Fair value adjustment	(44)
Effect of change in exchange rates	(3)
<b>At 31 December 2022</b>	<b>243</b>

As at 31 December 2022, the Group has already paid contingent consideration amounting to NOK 34 million (approximately Baht 124 million).

## 5 Related parties

A related party is a person or entity that has direct or indirect control or joint control, or has significant influence over the financial and managerial decision-making of the Group; a person or entity that are under common control or under the same significant influence as the Group; or the Group has direct or indirect control or joint control or has significant influence over the financial and managerial decision-making of a person or entity.

Relationships with subsidiaries, indirect subsidiaries, associates, joint ventures and other related parties were as follows:

Name of entities	Country of incorporation/ nationality	Nature of relationships
<b>Major shareholders</b>		
Vayupak Fund 1	Thailand	Some common directors
Social Security Office	Thailand	Some common directors
<b>Subsidiaries</b>		
Bangchak Green Net Co., Ltd.	Thailand	The Company's management as director
BCPG Public Company Limited	Thailand	The Company's management as director
BBGI Public Company Limited	Thailand	The Company's management as director



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

Name of entities	Country of incorporation/ nationality	Nature of relationships
<b>Subsidiaries (continued)</b>		
Bangchak Retail Co., Ltd.	Thailand	The Company's management as director
BCPR Co., Ltd.	Thailand	The Company's management as director
BCV Energy Co., Ltd.	Thailand	The Company's management as director
BCV Innovation Co., Ltd.	Thailand	The Company's management as director
BTSB Company Limited.	Thailand	The Company's management as director
General Energy Manning Co., Ltd.	Thailand	The Company's management as director
Bangkok Fuel Pipeline and Logistics Co., Ltd.	Thailand	The Company's management as director
BSGF Co., Ltd.	Thailand	The Company's management as director (See note 10)
Oam Suk Social Enterprise Co., Ltd.	Thailand	The Company's management as director (See note 11)
BCP Innovation Pte. Ltd.	Singapore	The Company's management as director
BCP Trading Pte. Ltd.	Singapore	The Company's management as director
<b>Indirect subsidiaries</b>		
BCPR Pte. Ltd.	Singapore	The Company's management as director
Winnonie Company Limited	Thailand	The Company's management as director
Bangchak Solar Energy Co., Ltd.	Thailand	Subsidiary's management as director
Bangchak Solar Energy (Prachinburi) Co., Ltd.	Thailand	Subsidiary's management as director
Bangchak Solar Energy (Chaiyaphum1) Co., Ltd.	Thailand	Subsidiary's management as director
Bangchak Solar Energy (Buriram) Co., Ltd.	Thailand	Subsidiary's management as director
Bangchak Solar Energy (Buriram1) Co., Ltd.	Thailand	Subsidiary's management as director
Bangchak Solar Energy (Nakhon Ratchasima) Co., Ltd.	Thailand	Subsidiary's management as director
Thai Digital Development Company Limited	Thailand	Subsidiary's management as director
BCPG Indochina Company Limited	Thailand	Subsidiary's management as director
BCPG Wind (Ligor) Co., Ltd. (Formerly, Lomligor Co., Ltd.)	Thailand	Subsidiary's management as director
BSE Power (Kanchanaburi) Co., Ltd. Group (Formerly, RPV Energy Co., Ltd. Group)	Thailand	Subsidiary's management as director and management
BSE Power Holding (Thailand) Co., Ltd.	Thailand	Subsidiary's director and management as director and management
BBGI Bioethanol Public Company Limited (Formerly, KSL Green Innovation Public Company Limited)	Thailand	The Company's management as director
BBGI Bio Diesel Co., Ltd. (Formerly, Bangchak Biofuel Co., Ltd.)	Thailand	The Company's management as director
BBGI Bioethanol (Chachoengsao) Co., Ltd. (Formerly, Bangchak Bioethanol (Chachoengsao) Co., Ltd.)	Thailand	The Company's management as director
BBGI Utility and Power Co., Ltd.	Thailand	Subsidiary's director and management as director and management
OKEA ASA	Norway	The Company's management as director
BCPG Investment Holdings Pte. Ltd.	Singapore	Subsidiary's management as director

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

Name of entities	Country of incorporation/ nationality	Nature of relationships
<b><i>Indirect subsidiaries (continued)</i></b>		
BSE Energy Holdings Pte. Ltd.	Singapore	Subsidiary's management as director
BCPG Japan Corporation Group	Japan	Subsidiary's management as director/ indirect subsidiary of the subsidiary affiliate in TK investment
Greenergy Holdings Pte. Ltd.	Singapore	Subsidiary's management as director
Greenergy Power Pte. Ltd.	Singapore	Subsidiary's management as director
BCPG Wind Cooperatief U.A.	Netherland	Subsidiary's management as director
Nam San 3A Power Sole Co., Ltd.	Laos	Subsidiary's director and management as director and management
Nam San 3B Power Sole Co., Ltd.	Laos	Subsidiary's director and management as director and management
Indochina Development and Operation Holdings Pte. Ltd.	Singapore	Subsidiary's management as director
BCPG Formosa Co., Ltd. Group	Taiwan	Subsidiary's management as director
<b><i>Associates and joint ventures</i></b>		
Bongkot Marine Services Co., Ltd.	Thailand	The Company's management as director
PetroWind Energy Inc.	Philippines	Subsidiary's management as director
Star Energy Group Holdings Pte. Ltd.	Singapore	Subsidiary's management as director (See note 11)
Impact Energy Asia Development Limited	Hong Kong	Subsidiary's director and management as director
WIN Ingredients Co., Ltd.	Thailand	Subsidiary's management as director
Keha Sukpracha Public Company Limited	Thailand	The Company's management as director (See note 11)
BIOM Company Limited	Thailand	The Company's management as director (See note 11)
Data Cafe Company Limited	Thailand	The Company's management as director (See note 11)
Mee Tee Mee Ngern Company Limited (Formerly, BCV Bio Based Co., Ltd.)	Thailand	The Company's management as director (See note 10)
Transitus Energy Ltd.	England	The Company's management as director (See note 11)
Nam Tai Hydropower Co., Ltd.	Laos	Subsidiary's director and management as director and management (See note 11)
Prathumwan Smart District Cooling Co., Ltd.	Thailand	Subsidiary's director and management as director (See note 11)

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

<i>Significant transaction with related parties</i> <i>Year ended 31 December</i>	<b>Consolidated</b> <b>financial statements</b>		<b>Separate</b> <b>financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b>Subsidiaries and indirect subsidiaries</b>				
Sales of goods	-	-	59,401	43,476
Purchases of goods and services	-	-	88,248	41,502
Dividend income	-	-	814	951
Other income	-	-	135	155
Interest income	-	-	56	127
Other expenses	-	-	60	50
<b>Associates and joint ventures</b>				
Sales of goods	-	8	-	8
Purchases of goods and services	235	1,145	235	1,145
Dividend income	-	-	146	24
Other income	8	8	-	-
Interest income	23	16	-	-
<b>Key management personnel</b>				
Key management personnel compensation				
Short-term employee benefits	413	349	157	142
Post-employment benefits and other long-term benefits	16	17	4	5
Share-based payments	2	17	-	-
<b>Total key management personnel compensation</b>	<b>431</b>	<b>383</b>	<b>161</b>	<b>147</b>
<b>Other related parties</b>				
Sales of goods	-	7	-	6
Purchases of goods and services	-	563	-	541
Other income	-	6	-	4
Other expenses	-	1	-	-
<b>Balance with related parties</b> <b>At 31 December</b>				
	<b>Consolidated</b> <b>financial statements</b>		<b>Separate</b> <b>financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b>Trade accounts receivable</b>				
Subsidiaries and indirect subsidiaries	-	-	1,396	2,080
Other related parties	-	7	-	3
<b>Total</b>	<b>-</b>	<b>7</b>	<b>1,396</b>	<b>2,083</b>
<b>Other current receivables</b>				
Subsidiaries and indirect subsidiaries	-	-	24	41
Joint venture	1	13	-	9
<b>Total</b>	<b>1</b>	<b>13</b>	<b>24</b>	<b>50</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

	<i>Interest rate</i>	<b>Consolidated financial statements</b>			
		At 31 December (% p.a.)	At 1 January	Increase	Effect of change in exchange rates (in million Baht)
<b>Loans to</b>					
<b>2022</b>					
<b>Associate and joint venture</b>					
Impact Energy Asia Development Limited	4.70	411	236	5	652
Nam Tai Hydropower Co., Ltd.	5.75	-	1,083	(55)	1,028
<b>Total</b>		<b>411</b>	<b>1,319</b>	<b>(50)</b>	<b>1,680</b>
Less allowance for expected credit loss		(11)			(27)
<b>Net</b>		<b>400</b>			<b>1,653</b>
<b>2021</b>					
<b>Joint venture</b>					
Impact Energy Asia Development Limited	4.70	255	122	34	411
<b>Total</b>		<b>255</b>	<b>122</b>	<b>34</b>	<b>411</b>
Less allowance for expected credit loss		(7)			(11)
<b>Net</b>		<b>248</b>			<b>400</b>
<b>Loans to</b>					
<b>2022</b>					
<b>Subsidiary</b>					
Bangkok Fuel Pipeline and Logistics Co., Ltd.	1.75 - 4.0	922	-	(112)	810
<b>Indirect subsidiary</b>					
BCPR Pte. Ltd.	4.5	1,999	-	(1,761)	-
<b>Total</b>		<b>2,921</b>	<b>-</b>	<b>(1,873)</b>	<b>810</b>
Less short-term loan to		(922)			-
Less allowance for expected credit loss		(963)			-
<b>Net</b>		<b>1,036</b>			<b>810</b>
<b>2021</b>					
<b>Subsidiaries</b>					
Bangchak Retail Co., Ltd.	-	645	-	(645)	-
Bangkok Fuel Pipeline and Logistics Co., Ltd.	1.75	-	922	-	922
<b>Indirect subsidiaries</b>					
Nido Petroleum Pty. Ltd.	-	1,105	-	(1,105)	-
BCPR Pte. Ltd.	4.5	3,189	-	(1,269)	1,999
<b>Total</b>		<b>4,939</b>	<b>922</b>	<b>(3,019)</b>	<b>2,921</b>
Less short-term loan to		-			(922)
Less current portion due within one year		(551)			-
Less allowance for expected credit loss		(3,355)			(963)
<b>Net</b>		<b>1,033</b>			<b>1,036</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

	Consolidated financial statements		Separate financial statements		
	2022	2021	2022	2021	
	<i>(in million Baht)</i>				
<b>Other non-current assets</b>					
Indirect subsidiary	-	-	-	35	
Joint ventures	50	29	-	-	
<b>Total</b>	<b>50</b>	<b>29</b>	<b>-</b>	<b>35</b>	
<b>(Reversal of) allowance for expected credit loss</b>					
<b>Year ended 31 December</b>					
Other current receivables	-	-	-	(10)	
Loans to	15	3	(985)	(1,454)	
<b>Total</b>	<b>15</b>	<b>3</b>	<b>(985)</b>	<b>(1,464)</b>	
<b>Trade accounts payable</b>					
Subsidiaries and indirect subsidiaries	-	-	9,371	4,407	
Other related parties	-	158	-	145	
<b>Total</b>	<b>-</b>	<b>158</b>	<b>9,371</b>	<b>4,552</b>	
<b>Other current payables</b>					
Subsidiaries and indirect subsidiaries	-	-	118	40	
Joint ventures	-	16	-	16	
Other related parties	-	32	-	29	
<b>Total</b>	<b>-</b>	<b>48</b>	<b>118</b>	<b>85</b>	
<b>Other current liabilities</b>					
Subsidiaries	-	-	6	6	
<b>Total</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>6</b>	
	<b>Interest rate</b>	<b>Consolidated financial statements</b>			
	At 31	At 1			At 31
<b>Loans</b>	December	January	Increase	Decrease	December
	<i>(% p.a.)</i>		<i>(in million Baht)</i>		
<b>2022</b>					
Other related parties	-	17	-	(17)	-
<b>Total</b>		<b>17</b>	<b>-</b>	<b>(17)</b>	<b>-</b>
<b>2021</b>					
Other related parties	2.83	-	17	-	17
<b>Total</b>		<b>-</b>	<b>17</b>	<b>-</b>	<b>17</b>
		Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
		<i>(in million Baht)</i>			
<b>Other non-current liabilities</b>					
Other related parties		-	1	-	1
<b>Total</b>		<b>-</b>	<b>1</b>	<b>-</b>	<b>1</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### *Significant agreements with related parties*

##### *Bio-diesel Sales and Purchase Agreement*

The Company entered into a Bio-diesel Sales and Purchase Agreement with an indirect subsidiary. Such agreement has effective since April 2018 to October 2027 and will be automatically renewed unless terminated by either party as stipulated in the agreement. The Company will purchase bio-diesel oil at yearly average volumes not less than 60% of maximum bio-diesel production capacity of indirect subsidiary at the price reference to market as stipulated in the agreement.

##### *Denature Ethanol Sales and Purchase Agreement*

The Company entered into a Denatured Ethanol Sales and Purchase Agreement with a subsidiary. Such agreement has effective since April 2018 to October 2027 and will be automatically renewed unless terminated by either party as stipulated in the agreement. The Company will purchase denatured ethanol at yearly average volumes not less than 50% of denatured ethanol production per year of the indirect subsidiary within the same Group at the price reference to market as stipulated in the agreement.

##### *Fuel Product Sale and Purchase Agreement*

The Company entered into a fuel product sale and purchase agreement with a subsidiary. The Company will purchase fuel product at quantity and price in accordance with obligation under the agreement.

##### *Service Station Operating Right Agreement*

The Company entered into Service Station Operating Right Agreement which include the right to operate related business within service station, selling and purchasing of fuel products with a subsidiary for a period of 5 years. Operating right fee and sale and purchase price are as stipulated in the agreement.

##### *Store Operation Right Agreement*

The Company entered into Store Operation Right Agreement with a subsidiary to operate retail stores within service stations under the Company's brand for a period of 5 years. Fee is as stipulated in the agreement.

##### *Information Technology Service Agreement*

The Company has entered into information technology service agreements with subsidiaries and indirect subsidiaries. Agreements will be reviewed annually. The Company is responsible for management information system, system structure, maintenance system and advisory in accordance with subsidiaries' direction. Service fees is as stipulated in the agreement.

##### *Management Service Agreement*

The Company entered into management service agreement with subsidiaries and indirect subsidiaries for general management service for a period of 1 to 3 years. The Company agreed to provide human resources to manage operation process in accordance with subsidiaries' direction. Service fees is as stipulated in the agreement.

##### *Land Rental Agreement*

The Company has entered into land rental agreement with BCPG Public Company Limited, which is of a subsidiary of the group, for the purpose of 38-megawatt solar farm project at Bang Pa-In establishment and related objectives. The agreement term is for a period of 22 years effective from 1 December 2015 to 30 November 2037. The rental fee is as stipulated in the same agreement.



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The Company has entered into additional land rental agreement with BCPG Public Company Limited, which is a subsidiary of the Group, for the purpose of related objectives of solar farm project. The agreement term is for a period of 21 years 2 months effective from 1 October 2016 to 30 November 2037. The rental fee is as stipulated in the same agreement.

#### ***Joint Development Area Agreement***

The Company has entered into operating rights agreement with a subsidiary to operate a service and product distribution in service station under its subsidiary's operation for a period of not exceeding 20 years. The subsidiary agrees to pay operating right fee as stipulated in the agreement

#### ***Personal Recruitment and Support Services Agreement***

The Company has entered into personal recruitment and support service agreement with a subsidiary to provide recruitment service to the Company. The Company agrees to pay services fee as stipulated in the agreement. The agreement term is for a period of 2 years 3 months effective from 1 October 2021 to 31 December 2023.

#### ***Fuel Transportation Agreement***

The Company entered into a Fuel Transportation Agreement with a subsidiary. The subsidiary will provide transportation service of fuel products to Don-mueang and Suvarnabhumi International Airport and transportation service for petroleum products to fuel depot at Bang-pa-in. The agreement will expire in December 2041.

#### ***Lending Agreement***

The Company has an unsecured lending agreement with Bangkok Fuel Pipeline and Logistics Co., Ltd., which is a subsidiary of the Group, for the credit facility of Baht 810 million. The loan has a repayment schedule, bears interest and conditions as stipulated in the agreement.

Indochina Development and Operation Holdings Pte. Ltd. ("IDO") has entered into an unsecured loan agreement with Impact Energy Asia Development Limited ("IEAD") which has a repayment schedule, interest and conditions as stipulated in the agreement. As at 31 December 2022, the outstanding balance of this loan is USD 19 million (approximately Baht 652 million) (2021: USD 12 million (approximately Baht 411 million)).

#### ***Borrowing Agreement***

Thai Digital Energy Development Company Limited, which is a subsidiary of the Group entered into an unsecured loan agreement with PEA ENCOM International Company Limited, a shareholder of the subsidiary, for the purpose of investing in operational equipment. The loan has a repayment schedule, bears interest and conditions as stipulated in the agreement. In 2022, the loan has already been fully repaid.

#### ***Guarantee Agreement***

BCPG Public Company Limited, which is a subsidiary of the Group, has entered into guarantee agreement with BCPG Engineering Company, an indirect subsidiary of the Group, in accordance with solar power system operation and maintenance of power system from solar energy contract which BCPG Engineering Company has with Tarumizu Solar Solution Godo Kaisha in the event that BCPG Engineering Company causes damage to the assets within the power plant of Tarumizu Solar Solutions Godo Kaisha and is not able to compensate. The guarantee agreement is JPY 28 million per annum, with a guarantee facility totalling JPY 280 million, covering the period of operation and maintenance of

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

power system from solar energy contract. Under the conditions within the loan agreement between Tarumizu Solar Solutions Godo Kaisha and certain financial institution in Japan, it is specified that the parent company is responsible for the guarantee of possible damage loss.

BCPG Public Company Limited, which is a subsidiary of the Group, has entered into guarantee agreement for loans from financial institutions of a subsidiary, in the amount not exceeding USD 172 million. As at 31 December 2022, the balance of loans from financial institutions is USD 117 million (2021: USD 157 million) with a condition of installment payment of principal and interest within the year 2030.

#### *Joint Venture Agreement*

On 23 November 2021, Board of Directors' Meeting of BCPG Public Company Limited, which is subsidiary of the Group, approved BCPG Indochina Co., Ltd. ("BIC"), which is an indirect subsidiary of the Group, to acquire 25% ordinary shares of Nam Tai Hydropower Co., Ltd. ("Nam Tai") from Phongsubthavy Group Sole Co., Ltd. ("Seller") to invest in transmission line system in the Lao People's Democratic Republic with total amount of not exceeding USD 32 million. On 31 December 2021, BIC entered into the share purchase agreement and the consideration is identified as electricity account receivable from Electricite du Laos (EDL) which is a part of the Group's trade accounts receivable in the statement of financial position as at 31 December 2021 (See Note 7) totaling USD 32 million which consists of USD 2.25 million for the share and USD 29.75 million for the loan to Nam Tai.

On 10 August 2022, all pre-conditions stipulated in the share purchase agreement was satisfied by BIC and the Seller. The Group transferred electricity account receivable from Electricite du Laos (EDL) to the seller for the payment of share amounting to USD 2.25 million (approximately Baht 80 million) and the shares of Nam Tai were transferred. The Group had transaction costs related to this investment amounting to USD 0.28 million (approximately Baht 10 million) including in the cost of the investment. This acquisition results in 50% right to receive revenue and business benefits relating to the development of 220-kilovolt electric transmission line system and substation on Nam Tai Hydropower project in the Lao People's Democratic Republic which will be connected to Vietnam Electricity's (EVN) electric transmission line system at the border of both countries.

### 6 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Cash on hand	118	106	-	-
Cash at banks - current accounts	7,393	8,614	256	98
Cash at banks - savings accounts	28,821	15,844	15,436	7,690
Highly liquid short-term investments	9,600	7,458	1,500	-
<b>Total</b>	<b>45,932</b>	<b>32,022</b>	<b>17,192</b>	<b>7,788</b>

As at 31 December 2022, certain subsidiaries and indirect subsidiaries has a restricted deposits at financial institution totaling Baht 1,182 million (2021: Baht 1,576 million) under the long-term loan agreement with several financial institutions which required such indirect subsidiaries to obtain a permission on withdrawal of restricted deposits with the financial institution.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 7 Trade accounts receivables

<i>31 December</i>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Within credit terms	11,648	7,440	6,549	5,930
Overdue:				
Less than 3 months	717	736	175	205
3-6 months	354	341	6	4
6-12 months	434	404	2	1
Over 12 months	289	413	25	10
<b>Total</b>	<b>13,442</b>	<b>9,334</b>	<b>6,757</b>	<b>6,150</b>
<i>Less allowance for expected credit loss</i>	<i>(463)</i>	<i>(76)</i>	<i>(22)</i>	<i>(3)</i>
<b>Net</b>	<b>12,979</b>	<b>9,258</b>	<b>6,735</b>	<b>6,147</b>

<i>Allowance for expected credit loss</i>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
At 1 January	76	919	3	883
Addition	372	37	19	-
Reversal	(3)	(13)	-	(11)
Classified as non-current assets	-	(905)	-	(905)
Effect of change in exchange rates	18	38	-	36
<b>At 31 December</b>	<b>463</b>	<b>76</b>	<b>22</b>	<b>3</b>

Information of credit risk is disclosed in note 30 (c.1).

As disclosed in note 5, on 10 August 2022, the Group transferred electricity account receivable from Electricite du Laos (EDL) amounting to USD 32 million (approximately Baht 1,134 million) to Phongsubthavy Group Sole Co., Ltd. for the payment of share and loan to (This electricity account receivable from Electricite du Laos (EDL) is a part of the Group's trade accounts receivable in the statement of financial position as at 31 December 2021).

During the year ended 31 December 2022, a trade account receivable of the Group has higher overdue balance, therefore the Group sets up additional allowance for expected credit loss to reflect the credit risk of such account receivable.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 8 Other current receivables

	Note	Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
		<i>(in million Baht)</i>			
<b>Related parties</b>	5	<b>1</b>	<b>13</b>	<b>24</b>	<b>50</b>
<b>Other parties</b>					
Underlift of petroleum products		2,078	848	-	-
Accrued income		1,518	1,854	-	-
Working capital and overcall, joint operation/licenses		1,364	619	-	-
Receivable from revenue department		1,295	1,117	609	685
Receivable from oil hedging settlement		884	-	884	-
Prepaid expenses		524	253	34	17
Advance payment for goods		366	436	1	-
Indemnification assets		-	314	-	-
Others		1,190	522	809	469
<b>Total</b>		<b>9,220</b>	<b>5,976</b>	<b>2,361</b>	<b>1,221</b>

#### 9 Inventories

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Crude oil and other raw materials	16,177	9,483	13,192	7,989
Finished oil products	11,527	7,535	10,562	6,548
Materials and supplies	2,264	1,680	1,201	1,151
Consumer products	102	52	-	-
Semi - finished products	81	127	-	-
	30,151	18,877	24,955	15,688
Less: allowance for obsolete and slow moving allowance for decline in value	(286) (332)	(378) (2)	(286) (324)	(378) -
<b>Net</b>	<b>29,533</b>	<b>18,497</b>	<b>24,345</b>	<b>15,310</b>
Inventories recognised in cost of sale (Note 25)				
- Cost of sale	192,143	104,718	180,781	92,973
- Write-down to net realisable value	330	2	324	-
<b>Total</b>	<b>192,473</b>	<b>104,720</b>	<b>181,105</b>	<b>92,973</b>

As at 31 December 2022 and 2021, the Company's inventories included petroleum legal reserve of 329 million liters with approximated value of Baht 7,480 million and 253 million liters with approximated value of Baht 4,388 million, respectively.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 10 Investments in subsidiaries

<i>Year ended 31 December</i>	<b>Separate financial statements</b>	
	2022	2021
	<i>(in million Baht)</i>	
At 1 January	16,492	13,851
Addition	1,945	2,516
Sale of investment	(16)	-
Reclassification	(3)	-
Reversal of loss from impairment	155	125
<b>At 31 December</b>	<b><u>18,573</u></b>	<b><u>16,492</u></b>

*Change in investment in subsidiaries*

*BCPG Public Co., Ltd.*

During the year 2023, BCPG Public Company Limited (“BCPG”) issued the registered share capital for an exercise of warrant of BCPG No.1 (BCPG-W1) for 13.66 million shares. The Company’s ownership interest in BCPG has decreased to be 57.19% without change in control over BCPG.

On 15 November 2022, the Board of directors meeting of BCPG approved the acquisition of all shares in Asia Link Terminal Co., Ltd. from Pan Asia Storage & Terminal Co., Ltd. for an amount of not exceeding Baht 9,000 million. On 30 December 2022, BCPG had already entered into the share purchase agreement and anticipates this transaction will be completed approximately in March 2023, provided that all condition precedents specified are satisfied or waived by relevant parties. The management views that the acquisition of this company, which operates an oil terminal and seaport business in Phetchaburi Province, is the investment in public utility infrastructure platform supporting the energy sector and other businesses in the future.

*BBGI Public Company Limited*

At the Extraordinary General Meeting of Shareholders of BBGI Public Company Limited (“BBGI”) held on 24 December 2021, the shareholders approved to change the par value from 5 Baht per share to 2.50 baht per share. BBGI registered the change in the par value with the Department of Business Development, Ministry of Commerce on 6 January 2022. The change in the par value will cause the number of shares of BBGI to increase from 506 million shares to 1,013 million shares.

On 14 March 2022, BBGI completed its Initial Public Offering (“IPO”) by issuing 433.20 million new ordinary shares with an offering price of Baht 10.50 per share (par value of Baht 2.50 per share and share premium of Baht 8 per share) amounting to Baht 4,549 million. BBGI registered the increase in paid-up capital with the Ministry of Commerce on 15 March 2022. BBGI’s shares has been trading on the Security Exchange of Thailand (SET) since 17 March 2022. As a result of IPO, the Company’s ownership interest in BBGI decreased from 60% to 42.02%. In addition, during the period, the Company purchase additional ordinary shares of BBGI which resulted in the Company’s ownership interest at 45% as at 31 December 2022.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

##### *BCP Trading Pte. Ltd.*

On 29 July 2021, at the Board of Directors' meeting of the Company, the Board approved an increase in the registered share capital of USD 10 million of BCP Trading Pte. Ltd. ("BCPT") in 2022 from the existing share capital of USD 20 million to USD 30 million (equivalent to Baht 991 million) through newly issued 10 million ordinary shares at a par value of USD 1 each. The Company's ownership interest in BCPT has not been changed. The subsidiary registered the increase in paid-up share capital on 14 January 2022.

##### *Mee Tee Mee Ngern Company Limited (Formerly, BCV Bio Based Co., Ltd.)*

On 9 June 2022, the Company entered into Memorandum of Understanding (MOU) for the joint venture with the Government Saving Bank ("GSB") and Dhipaya Group Holding Public Company Limited ("TIPH") to invest in land loan and consignment business, which BCV Biobased Co., Ltd. ("BCVB"), a subsidiary of the Company, will be a joint venture company. In July 2022, the Company sold shares of BCVB to GSB and TIPH for 980,000 shares and 620,000 shares, amounting to Baht 9.8 million and Baht 6.2 million or at 49% and 31% ownership interest, respectively. After the sale of shares, the Company has 20% ownership interest in BCVB. As a result, BCVB became an associate of the Company. Subsequently, BCVB registered the change of the company name to Mee Tee Mee Ngern Company Limited ("MTMN") and on 14 September 2022, MTMN offered newly issued ordinary shares (Rights Offering) which the Company made additional investment for the same proportion of the ownership interest for 19.6 million shares at a par value of Baht 10 each, amounting to Baht 196 million. The Company paid an increase in share capital on 3 October 2022 and MTMN registered the increase in paid-up share capital with Ministry of Commerce on 21 November 2022.

##### *BSGF Co., Ltd.*

On 18 August 2022, the Company has entered into an agreement with BBGI Public Company Limited ("BBGI") and Thanachok Oil Light Company Limited to jointly invest in BSGF Company Limited ("BSGF") to invest in business related to securing raw materials and production together with distribution of sustainable aviation fuel from used oil. The Company purchased 30,000 ordinary shares and 21,000 preferred shares, par value at Baht 10 each, amounting to Baht 510,000 or equivalent to 51% and BBGI invested in 20,000 ordinary shares of BSGF, amounting to Baht 200,000 or equivalent to 20%. In addition, Thanachok Oil Light Company Limited invested in 28,999 ordinary shares of BSGF, amounting to Baht 289,990 or equivalent to 29%. BSGF registered the initial authorised share capital of Baht 1 million on 21 September 2022 and the Company paid all share capital on 21 October 2022. On 16 November 2022, BSGF called for payment of the new shares amounting to Baht 200 million with the same percentage of ownership remains. The Company and BBGI paid all share capital in November 2022 and recorded such amount as non-current assets in statement of financial position. BSGF is in process of registering the increase in paid-up share capital with Ministry of Commerce.

##### *BCV Innovation Co., Ltd.*

On 1 September 2022, at the Board of Directors' meeting of the Company, the Board approved an increase in share capital of BCV Innovation Co., Ltd. ("BCVI") amounting to Baht 100 million from the existing share capital of Baht 65 million to Baht 165 million to invest in WINNONIE Company Limited which the businesses are electric motorcycle rental and battery replacement service. The Company's ownership interest in BCVI has not been changed. The subsidiary registered the increase in paid-up share capital with Ministry of commerce on 7 September 2022.



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

##### *BCV Energy Co., Ltd.*

On 14 October 2022, at the Board of Director's meeting of the Company, the Board approved an increase in share capital of BCV Energy Co., Ltd. ("BCVE") amounting to Baht 1,000 million from the existing share capital of Baht 20 million to Baht 1,020 million to invest in suitable business further. The Subsidiary registered the increase in paid-up share capital with Ministry of Commerce on 28 October 2022.

##### *Impairment of investment in subsidiary*

During the year ended 31 December 2022, the Group reversed impairment loss of investment in BCPR Co., Ltd. in the separate financial statements amounting to Baht 155 million to adjust the book value to be close to the recoverable amount.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

Investments in subsidiaries as at 31 December 2022 and 2021 and dividend income from the investment for each year were as follows:

	Separate financial statements										Dividend income		
	Note	Ownership interest		Paid-up capital		Cost		Impairment		At cost - net		for the year	
		2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
		(%)						(in million Baht)					
<b>Subsidiaries</b>													
Bangchak Green Net Co., Ltd.		49.00	49.00	1	1	-	-	-	-	-	-	69	54
BCPG Public Company Limited		57.19	57.46	14,538	14,470	9,780	9,780	-	-	9,780	9,780	615	537
Bangchak Retail Co., Ltd.		100.00	100.00	1,500	1,500	1,500	1,500	-	-	1,500	1,500	-	-
BCP Innovation Pte. Ltd.		100.00	100.00	1,790	1,790	1,790	1,790	-	-	1,790	1,790	-	-
BCP Trading Pte. Ltd.		100.00	100.00	991	661	707	371	-	-	707	371	-	59
BBGI Public Company Limited		45.00	60.00	3,615	2,532	2,145	1,700	-	-	2,145	1,700	130	301
BCPR Co., Ltd.		100.00	100.00	661	661	661	661	(162)	(317)	499	344	-	-
Mee Tee Mee Ngern Co., Ltd. (Formerly, BCV Bio Based Co., Ltd.)		-	100.00	-	20	-	20	-	-	-	20	-	-
BCV Energy Co., Ltd.		100.00	100.00	1,020	20	1,020	20	-	-	1,020	20	-	-
BCV Innovation Co., Ltd.		100.00	100.00	165	65	165	65	-	-	165	65	-	-
BTSG Company Limited		51.00	51.00	200	200	102	102	-	-	102	102	-	-
General Energy Manning Co., Ltd.		49.00	49.00	1	1	-	-	-	-	-	-	-	-
Bangkok Fuel Pipeline and Logistics Co., Ltd.		100.00	100.00	800	800	800	800	-	-	800	800	-	-
BSGF Co., Ltd.		51.00	-	1	-	1	-	-	-	1	-	-	-
Oam Suk Social Enterprise Co., Ltd.	11	50.40	-	126	-	64	-	-	-	64	-	-	-
						<b>18,735</b>	<b>16,809</b>	<b>(162)</b>	<b>(317)</b>	<b>18,573</b>	<b>16,492</b>	<b>814</b>	<b>951</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### Non-controlling interests

The following table summarises the information relating to each of the Group's subsidiaries and indirect subsidiaries that have a material non-controlling interest, before any intra-group eliminations:

	BCPG Public Company Limited		BBGI Public Company Limited		OKEA ASA	
	For the year ended 31 December 2022	For the year ended 31 December 2021	For the year ended 31 December 2022	For the year ended 31 December 2021	For the year ended 31 December 2022	From 1 July to 31 December 2021
	<i>(in million Baht)</i>					
Non-controlling interest percentage	43%	43%	55%	40%	55%	54%
Current assets	22,928	13,933	5,138	3,037	12,874	13,708
Non-current assets	33,282	44,788	8,968	9,870	42,250	32,904
Current liabilities	(3,462)	(4,678)	(1,467)	(2,940)	(10,083)	(6,736)
Non-current liabilities	(23,472)	(26,815)	(2,358)	(3,063)	(37,708)	(33,438)
<b>Net assets</b>	<b>29,276</b>	<b>27,228</b>	<b>10,281</b>	<b>6,904</b>	<b>7,333</b>	<b>6,438</b>
Carrying amount of non- controlling interest	12,563	11,623	6,083	3,134	3,999	3,477
Revenue	5,405	4,669	13,374	14,095	23,349	10,068
Profit attribute to the Company	2,630	2,011	20	960	2,435	1,448
Other comprehensive income (loss)	389	1,499	(895)	(62)	(452)	40
<b>Total comprehensive income (loss)</b>	<b>3,019</b>	<b>3,510</b>	<b>(875)</b>	<b>898</b>	<b>1,983</b>	<b>1,488</b>
Profit allocated to non-controlling interest	1,120	807	11	384	1,399	817
Dividends to non- controlling interest	456	346	159	426	591	-
Cash flows from operating activities	2,981	2,426	500	1,742	11,738	5,606
Cash flows from investing activities	12,344	(4,117)	(1,652)	(167)	(8,530)	(1,813)
Cash flows from financing activities	(6,223)	1,622	2,183	(1,349)	(7,191)	(1,187)

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 11 Investments in associates and joint ventures

<i>Year ended 31 December</i>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b>Associates</b>				
At 1 January	13,486	14,149	-	-
Share of net profit of associates	112	1,015	-	-
Share of other comprehensive income of associates	-	8	-	-
Dividend income	-	(179)	-	-
Reversal of loss from impairment	-	400	-	-
Effect of change in exchange rates	(282)	1,596	-	-
Addition	563	-	231	-
Sale of investment	(12,148)	(128)	-	-
Reclassification	(1,174)	(3,375)	4	-
<b>At 31 December</b>	<b>557</b>	<b>13,486</b>	<b>235</b>	<b>-</b>
<b>Joint ventures</b>				
At 1 January	184	182	73	73
Share of net profit of joint ventures	76	26	-	-
Dividend income	(146)	(24)	-	-
Effect of change in exchange rates	(54)	-	-	-
Addition	37	-	-	-
Reclassification	1,198	-	(1)	-
<b>At 31 December</b>	<b>1,295</b>	<b>184</b>	<b>72</b>	<b>73</b>
<b>Total</b>				
At 1 January	13,670	14,331	73	73
Share of net profit of associates and joint ventures	188	1,042	-	-
Share of other comprehensive income of associates	-	8	-	-
Dividend income	(146)	(203)	-	-
Reversal of loss from impairment	-	400	-	-
Effect of change in exchange rates	(336)	1,595	-	-
Addition	600	-	231	-
Sales of investment	(12,148)	(128)	-	-
Reclassification	24	(3,375)	3	-
<b>At 31 December</b>	<b>1,852</b>	<b>13,670</b>	<b>307</b>	<b>73</b>

*Changes in investments in associates and joint ventures*

*Oam Suk Social Enterprise Co., Ltd.*

On 17 December 2021, at the Board of Director's meeting of the Company, the Board approved an increase in share capital of Oam Suk Social Enterprise Co., Ltd. ("OSSE") for investing in Keha Sukpracha Public Company Limited. On 14 March 2022, the Company purchased 599,999 shares from other shareholders amounting to Baht 1.5 million and paid for paid-up capital that was not fully paid amounting to Baht 7.5 million. As a result, investment in OSSE has been changed from investment in joint venture to subsidiary.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

Subsequently on 15 March 2022, OSSE registered the increase in share capital from Baht 10 million to Baht 126 million through newly issued 11.6 million ordinary shares at a par value of Baht 10 each. The Company invested in OSSE for additional 5.35 million shares, amounting to Baht 53.5 million, resulted in an increase in the Company's ownership interest to 50.40%. In addition, BCPG Public Company Limited, which is a subsidiary of the Group, also invested in OSSE for 6.25 million shares, amounting to Baht 62.5 million or at 49.60% ownership interest. As a result, the Group has a total of 100% ownership interest in OSSE.

OSSE has invested in Keha Sukpracha Public Company Limited, which established on 21 March 2022 with the initial authorised share capital of Baht 500 million, amounting to Baht 125 million or at 25% ownership interest. As a result, Keha Sukpracha Public Company Limited became an associate of the Group.

#### *Star Energy Group Holdings Pte. Ltd.*

On 3 March 2022, BCPG Public Company Limited ("BCPG") sold the whole investment in Star Energy Group Holdings Pte. Ltd. to Springhead Holdings Pte. Ltd., which is not the related party of the Group, for a consideration of USD 440 million (equivalent to Baht 14,551 million). The investment cost using equity method on that date is Baht 12,148 million. BCPG recognised loss which previously recognised in other comprehensive income amounting to Baht 321 million and expenses related to disposal amounting to Baht 52 million. Consequently, the Group recognised a net gain on disposal of an investment of Baht 2,031 million.

#### *Data Cafe Company Limited*

On 31 May 2022, at the Board of Director's meeting of the Company, the Board approved an investing in Data Cafe Company Limited ("DC") which the principal business is to provide business data analysis services and information technology personnel services to various business organizations. The Company purchased newly issued share capital of DC for 215,385 shares, amounting to Baht 35 million or at 35% ownership interest. As a result, DC became an associate of the Company.

#### *Transitus Energy Ltd.*

On 28 June 2022, BCP Innovation Pte. Ltd. ("BCPI"), which is subsidiary of the Company, invested in Transitus Energy Ltd. ("Transitus") which the principal business is to produce natural gas and blue hydrogen. BCPI purchased share capital of Transitus for 186 shares, amounting to USD 1 million (equivalent to Baht 34 million) or at 40.10% ownership interest. As a result, Transitus became an associate of the Group.

#### *BIOM Company Limited*

On 7 April 2022, BBGI Public Company Limited ("BBGI") signed a joint venture agreement with BIOM Company Limited ("BIOM"), which BBGI agreed to purchase new shares of BIOM in the amount not exceeding Baht 83 million. As a result, the subsidiary's shareholding in BIOM is at 20% of the total share issued and paid-up, the other 80% shareholding owned by the former shareholder. On 29 April 2022, BBGI made a first payment of the purchase amounting to Baht 30 million and have contingent consideration amounting to Baht 53 million which expect to be paid after the year 2024 and 2027 onward, respectively. The contingent consideration will be split into 2 installments, Baht 10 million and Baht 43 million, respectively, when BIOM is able to match its performance with the key performance indicator (KPI) as stipulated in the agreement. As at 31 December 2022, the Group has recognised the contingent consideration as other non-current financial liabilities in the Consolidated statement of financial position.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

##### *Nam Tai Hydropower Co., Ltd.*

As disclosed in note 5, on 10 August 2022, all pre-conditions stipulated in the share purchase agreement was satisfied by BCPG Indochina Co., Ltd. which is an indirect subsidiary of the Group, and Phongsobthavy Group Sole Co., Ltd. (“Seller”). The Group transferred electricity account receivable from Electricite du Laos (EDL) to the seller for the payment of share amounting to USD 2.25 million (approximately Baht 80 million) and the shares of Nam Tai Hydropower Co., Ltd. (“Nam Tai”) were transferred. The Group had transaction costs related to this investment amounting to USD 0.28 million (approximately Baht 10 million) including in the cost of the investment. This acquisition results in 50% right to receive revenue and business benefits relating to the development of 220-kilovolt electric transmission line system and substation on Nam Tai Hydropower project in the Lao People’s Democratic Republic which will be connected to Vietnam Electricity’s (EVN) electric transmission line system at the border of both countries.

##### *PetroWind Energy Inc.*

On 22 November 2022, the Board of Directors’ meeting of PetroWind Energy Inc., which is a joint venture of the Group, approved the call-up share capital of PHP 148 million. The Group made the payment of 40% ownership interest amounting to PHP 59 million (approximately Baht 37 million).

##### *Pathumwan Smart District Cooling Co., Ltd.*

On 8 December 2022, BCPG Public Company Limited (“BCPG”) sold 80,000 ordinary shares of Prathumwan Smart District Cooling Co., Ltd., which is an indirect subsidiary of the Group, to Keppel DHCS Pte. Ltd., which is a co-investor and not the Group’s related party, for a consideration of Baht 8 million. The Group recognised gain on this disposal of Baht 0.31 million. Consequently, BCPG’s ownership interest has decreased from 60% to 44% and such investment is reclassified from investment in subsidiary to investment in associate.



# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

### For the year ended 31 December 2022

Investments in associates and joint ventures as at 31 December 2022 and 2021 and dividend income for each year were as follows:

	Note	Consolidated financial statements										Dividend income for the year			
		Ownership interest		Paid-up capital		Cost		Equity		Impairment		At equity - net		2022	2021
		2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
		(%)						(in million Baht)							
<b>Associates</b>															
Star Energy Group Holding Pte. Ltd.		-	33.33	-	25,214	-	10,949	-	12,295	-	-	-	12,295	-	100
Keha Sukpracha Public Company Limited		25.00	-	500	-	125	-	102	-	-	-	102	-	-	-
BIOM Company Limited		20.00	-	69	-	83	-	81	-	-	-	81	-	-	-
Data Cafe Company Limited		35.00	-	12	-	35	-	36	-	-	-	36	-	-	-
Mee Tee Mee Ngerm Company Limited (Formerly, BCV Bio Based Co., Ltd.)	10	20.00	-	1,000	-	200	-	196	-	-	-	196	-	-	-
Transitus Energy Ltd.		40.10	-	-	-	34	-	34	-	-	-	34	-	-	-
Nam Tai Hydropower Co., Ltd.		25.00	-	319	-	90	-	87	-	-	-	87	-	-	-
Pathumwan Smart District Cooling Co., Ltd.		44.00	-	50	-	22	-	21	-	-	-	21	-	-	-
						<b>589</b>	<b>10,949</b>	<b>557</b>	<b>12,295</b>	<b>-</b>	<b>-</b>	<b>557</b>	<b>12,295</b>	<b>-</b>	<b>100</b>
<b>Joint ventures</b>															
Bongkot Marine Services Co., Ltd.		30.00	30.00	240	240	72	72	79	144	-	-	79	144	146	24
Oam Suk Social Enterprise Co., Ltd.		-	40.00	-	3	-	1	-	1	-	-	-	1	-	-
PetroWind Energy Inc. Impact Energy Asia Development Limited		40.00	40.00	988	895	1,228	922	1,182	1,191	-	-	1,182	1,191	-	-
WIN Ingredients Co., Ltd.		45.00	45.00	-	-	-	-	-	-	-	-	-	-	-	-
		51.00	51.00	81	81	41	41	34	39	-	-	34	39	-	-
						<b>1,341</b>	<b>1,036</b>	<b>1,295</b>	<b>1,375</b>	<b>-</b>	<b>-</b>	<b>1,295</b>	<b>1,375</b>	<b>146</b>	<b>24</b>
<b>Total</b>						<b>1,930</b>	<b>11,985</b>	<b>1,852</b>	<b>13,670</b>	<b>-</b>	<b>-</b>	<b>1,852</b>	<b>13,670</b>	<b>146</b>	<b>124</b>

As at 31 December 2022, none of the Group's equity-accounted investee is publicly listed and consequently does not have published price quotations.

## Notes to the financial statements

For the year ended 31 December 2022

	Ownership interest		Paid-up capital		Separate financial statements						Dividend income for the year	
	2022	2021	2022	2021	Cost		Impairment		At cost - net		2022	2021
	2022		2021		2022	2021	2022	2021	2022	2021	2022	2021
<i>Associates</i>												
Data Cafe Company Limited	35.00	-	12	-	35	-	-	-	35	-	-	-
Mee Tee Mee Ngern Company Limited (Formerly, BCV Bio Based Co., Ltd.)	20.00	-	1,000	-	200	-	-	-	200	-	-	-
<b>Total</b>					<b>235</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>235</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Joint ventures</i>												
Bongkot Marine Services Co., Ltd.	30.00	30.00	240	240	72	72	-	-	72	72	146	24
Oam Suk Social Enterprise Co., Ltd.	-	40.00	-	3	-	1	-	-	-	1	-	-
<b>Total</b>					<b>72</b>	<b>73</b>	<b>-</b>	<b>-</b>	<b>72</b>	<b>73</b>	<b>146</b>	<b>24</b>

None of the Company's equity-accounted investee is publicly listed and consequently does not have published price quotation.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 12 Investment properties

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b>Cost</b>				
At 1 January	127	127	683	683
<b>At 31 December</b>	<b>127</b>	<b>127</b>	<b>683</b>	<b>683</b>
<b>Depreciation and impairment losses</b>				
At 1 January	-	-	-	-
<b>At 31 December</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Net book value</b>				
<b>At 31 December</b>	<b>127</b>	<b>127</b>	<b>683</b>	<b>683</b>

The leases of investment properties comprise a number of commercial properties that are leased to BCPG Public Company Limited, which is a subsidiary of the Group (*see note 5*), are leased to third parties under operating leases. Each of the leases contains an initial non-cancellable period of 2 - 3 years. Subsequent renewals are negotiated with the lessee. For all investment property leases, the rental income is fixed under the contracts, but some leases require the lessee to reimburse the insurance costs of the Group. When this is the case, the amounts of insurance costs are determined annually.

The fair value is appraised by an independent appraiser at market comparison value. As at 31 December 2022, investment properties had fair value for consolidate and separate financial statements at Baht 346 million and Baht 1,180 million, respectively (*2021: Baht 346 million and Baht 1,180 million, respectively*).

## Notes to the financial statements

For the year ended 31 December 2022

### 13 Property, plant and equipment

	Consolidated financial statements										
	Land	Buildings	Machinery, equipment refinery plants and terminal	Electricity producing equipment	Exploration and production of petroleum assets	Marketing and office equipment <i>(in million Baht)</i>	Platinum catalyst	Vehicles	Other assets	Construction work in progress	Total
<b>Cost</b>											
At 1 January 2021	4,095	3,976	51,405	12,301	-	9,097	239	371	28	14,954	96,466
Additions	18	20	63	10	2,793	45	-	52	-	7,727	10,728
Acquisitions through business combination	-	301	-	-	2,283	47	-	-	-	8,406	11,037
Transfers	16	1,173	11,922	1,927	9,034	240	-	1	-	(24,461)	(148)
Disposals	-	(443)	(1,728)	(98)	-	(104)	-	(7)	-	-	(2,380)
Effect of movement in exchange rate	(1)	8	-	(10)	8	2	-	-	-	224	231
<b>At 31 December 2021 and 1 January 2022</b>	<b>4,128</b>	<b>5,035</b>	<b>61,662</b>	<b>14,130</b>	<b>14,118</b>	<b>9,327</b>	<b>239</b>	<b>417</b>	<b>28</b>	<b>6,850</b>	<b>115,934</b>
Additions	9	9	260	4	4,161	142	-	107	-	3,013	7,705
Acquisitions through business acquisitions <i>(Note 4)</i>	-	-	-	-	7,013	-	-	-	-	-	7,013
Transfers	156	1,523	1,578	3,577	11	287	-	13	-	(6,794)	351
Reclassification	-	-	-	(22)	-	22	-	-	-	(30)	(30)
Disposals	-	-	(167)	(2)	-	(67)	-	(3)	-	(1)	(240)
Effect of movement in exchange rate	(42)	(95)	-	(438)	(1,915)	(8)	-	-	-	(270)	(2,768)
<b>At 31 December 2022</b>	<b>4,251</b>	<b>6,472</b>	<b>63,333</b>	<b>17,249</b>	<b>23,388</b>	<b>9,703</b>	<b>239</b>	<b>534</b>	<b>28</b>	<b>2,768</b>	<b>127,965</b>

## Notes to the financial statements

For the year ended 31 December 2022

	<b>Consolidated financial statements</b>										
	Land	Buildings	Machinery, equipment refinery plants and terminal	Electricity producing equipment	Exploration and production of petroleum assets	Marketing and office equipment  <i>(in million Baht)</i>	Platinum catalyst	Vehicles	Other assets	Construction work in progress	Total
<b><i>Depreciation and impairment losses</i></b>											
At 1 January 2021	(6)	(1,446)	(31,735)	(3,079)	-	(5,374)	-	(252)	(7)	-	(41,899)
Depreciation charge for the year	-	(209)	(3,052)	(616)	(1,117)	(581)	-	(39)	(2)	-	(5,616)
Impairment losses	(1)	-	(121)	(49)	(840)	-	-	-	(1)	-	(1,012)
Transfer	-	(91)	39	52	-	-	-	-	-	-	-
Disposals	-	131	1,700	29	-	92	-	7	-	-	1,959
Effect of movement in exchange rate	-	(6)	-	-	(126)	(1)	-	-	-	-	(133)
<b>At 31 December 2021 and 1 January 2022</b>	<b>(7)</b>	<b>(1,621)</b>	<b>(33,169)</b>	<b>(3,663)</b>	<b>(2,083)</b>	<b>(5,864)</b>	-	<b>(284)</b>	<b>(10)</b>	-	<b>(46,701)</b>
Depreciation charge for the year	-	(298)	(3,261)	(774)	(2,250)	(555)	-	(52)	(1)	-	(7,191)
Reversal of (impairment losses)	-	-	39	-	(2,304)	(13)	-	-	-	(48)	(2,326)
Transfer	-	-	(54)	-	-	-	-	(2)	-	-	(56)
Disposals	-	-	156	1	-	65	-	3	-	-	225
Effect of movement in exchange rate	-	4	-	41	1,049	4	-	-	-	4	1,102
<b>At 31 December 2022</b>	<b>(7)</b>	<b>(1,915)</b>	<b>(36,289)</b>	<b>(4,395)</b>	<b>(5,588)</b>	<b>(6,363)</b>	-	<b>(335)</b>	<b>(11)</b>	<b>(44)</b>	<b>(54,947)</b>
<b><i>Net book value</i></b>											
At 31 December 2021	<u>4,121</u>	<u>3,414</u>	<u>28,493</u>	<u>10,467</u>	<u>12,035</u>	<u>3,463</u>	<u>239</u>	<u>133</u>	<u>18</u>	<u>6,850</u>	<u>69,233</u>
At 31 December 2022	<u>4,244</u>	<u>4,557</u>	<u>27,044</u>	<u>12,854</u>	<u>17,800</u>	<u>3,340</u>	<u>239</u>	<u>199</u>	<u>17</u>	<u>2,724</u>	<u>73,018</u>

During the period ended 31 December 2022, the Group recognised an impairment loss of the solar power plant project assets in Japan such as assets under construction (including in property, plant and equipment) amounting to JPY 169 million (approximately Baht 48 million), intangible assets amounting to JPY 705 million (approximately Baht 201 million), other non-current assets amounting to JPY 65 million (approximately Baht 18 million), and the unavoidable future obligation if the project is cancelled amounting to JPY 0.30 million (approximately Baht 0.08 million), totaling of JPY 939 million (approximately Baht 267 million). The group adjusted the book value to be close to the recoverable amount due to the project may not be obtained the permits on time.

## Notes to the financial statements

### For the year ended 31 December 2022

During the period ended 31 December 2022, the Group recognised impairment loss of oil exploration and production assets amounting to NOK 642 million (equivalent to Baht 2,304 million) to adjust the book value to be close to the recoverable amount.

As at 31 December 2022, certain subsidiaries and indirect subsidiaries have mortgaged its land, buildings and machinery as collateral with financial institutions for credit facilities totalling Baht 35,021 million (2021: Baht 30,306 million).

As at 31 December 2022, the Group has capitalised borrowing costs relating to construction of the new factory amounted to Baht 146 million (2021: Baht 339 million), with a capitalisation rate of 2.25% - 3.83% p.a. (2021: 0.90% - 3.83% p.a.) (see note 26).



# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### Separate financial statements

	Land	Buildings	Machinery, equipment refinery plants and terminal	Electricity producing equipment	Marketing and office equipment <i>(in million Baht)</i>	Platinum catalyst	Vehicles	Other assets	Construction work in progress	Total
<b>Cost</b>										
At 1 January 2021	2,369	683	46,339	72	8,461	239	301	28	10,483	68,975
Additions	6	-	35	-	-	-	4	-	3,018	3,063
Transfers	-	8	11,695	-	251	-	-	-	(11,954)	-
Disposals	-	(6)	(1,706)	-	(69)	-	(7)	-	(1)	(1,789)
<b>At 31 December 2021 and 1 January 2022</b>	<b>2,375</b>	<b>685</b>	<b>56,363</b>	<b>72</b>	<b>8,643</b>	<b>239</b>	<b>298</b>	<b>28</b>	<b>1,546</b>	<b>70,249</b>
Additions	-	-	256	-	-	-	37	-	1,027	1,320
Transfers	-	34	1,066	-	204	-	-	-	(1,335)	(31)
Disposals	-	-	(162)	-	(46)	-	(3)	-	-	(211)
<b>At 31 December 2022</b>	<b>2,375</b>	<b>719</b>	<b>57,523</b>	<b>72</b>	<b>8,801</b>	<b>239</b>	<b>332</b>	<b>28</b>	<b>1,238</b>	<b>71,327</b>
<b>Depreciation and impairment losses</b>										
At 1 January 2021	(6)	(497)	(29,828)	(15)	(4,934)	-	(208)	(8)	-	(35,496)
Depreciation charge for the year	-	(22)	(2,756)	(6)	(508)	-	(29)	(1)	-	(3,322)
Impairment losses	-	-	(121)	-	-	-	-	(1)	-	(122)
Disposals	-	5	1,684	-	57	-	2	-	-	1,748
<b>At 31 December 2021 and 1 January 2022</b>	<b>(6)</b>	<b>(514)</b>	<b>(31,021)</b>	<b>(21)</b>	<b>(5,385)</b>	<b>-</b>	<b>(235)</b>	<b>(10)</b>	<b>-</b>	<b>(37,192)</b>
Depreciation charge for the year	-	(23)	(2,956)	(6)	(472)	-	(24)	(2)	-	(3,483)
Reversal of (impairment losses)	-	-	39	-	(13)	-	-	-	-	26
Disposals	-	-	154	-	45	-	3	-	-	202
<b>At 31 December 2022</b>	<b>(6)</b>	<b>(537)</b>	<b>(33,784)</b>	<b>(27)</b>	<b>(5,825)</b>	<b>-</b>	<b>(256)</b>	<b>(12)</b>	<b>-</b>	<b>(40,447)</b>
<b>Net book value</b>										
<b>At 31 December 2021</b>	<b>2,369</b>	<b>171</b>	<b>25,342</b>	<b>51</b>	<b>3,258</b>	<b>239</b>	<b>63</b>	<b>18</b>	<b>1,546</b>	<b>33,057</b>
<b>At 31 December 2022</b>	<b>2,369</b>	<b>182</b>	<b>23,739</b>	<b>45</b>	<b>2,976</b>	<b>239</b>	<b>76</b>	<b>16</b>	<b>1,238</b>	<b>30,880</b>

Capitalised borrowing costs relating to construction of the new plant amounted to Baht 29 million (2021: Baht 139 million), with a capitalisation rate of 3.14% - 3.93% p.a. (2021: 3.14% - 3.83% p.a.) (see note 26).

Notes to the financial statements

For the year ended 31 December 2022

14 Right-of-use assets

	Consolidated financial statements						
	Land and buildings	Rental	Tank farm	Machinery, equipment refinery plants and terminal (in million Baht)	Marketing and office equipment	Vehicle and oil tanker	Total
<b>Cost</b>							
At 1 January 2021	11,025	11	2,017	23	-	1,390	14,466
Acquisitions through business combination	-	626	-	-	-	-	626
Additions	1,083	301	168	-	-	2,191	3,743
Transfers	2	-	-	-	-	-	2
Disposals	(8)	-	-	-	-	-	(8)
Effect of movement in exchange rate	1	6	-	-	-	-	7
<b>At 31 December 2021 and 1 January 2022</b>	<b>12,103</b>	<b>944</b>	<b>2,185</b>	<b>23</b>	<b>-</b>	<b>3,581</b>	<b>18,836</b>
Acquisitions through business acquisition (Note 4)	-	62	-	-	-	-	62
Additions	3,108	43	2,458	-	4	168	5,781
Transfers	(340)	-	-	(23)	-	(2)	(365)
Disposals	(68)	(1)	(1,126)	-	-	(558)	(1,753)
Effect of movement in exchange rate	(55)	(80)	-	-	-	-	(135)
<b>At 31 December 2022</b>	<b>14,748</b>	<b>968</b>	<b>3,517</b>	<b>-</b>	<b>4</b>	<b>3,189</b>	<b>22,426</b>

Notes to the financial statements

For the year ended 31 December 2022

	Consolidated financial statements						
	Land and buildings	Rental	Tank farm	Machinery, equipment refinery plants and terminal (in million Baht)	Marketing and office equipment	Vehicle and oil tanker	Total
	Consolidated financial statements						
	Land and buildings	Rental	Tank farm	Machinery, equipment refinery plants and terminal (in million Baht)	Marketing and office equipment	Vehicle and oil tanker	Total
<b>Depreciation and impairment losses</b>							
At 1 January 2021	(2,255)	(2)	(643)	(5)	-	(474)	(3,379)
Depreciation for the year	(779)	(49)	(608)	(5)	-	(392)	(1,833)
Transfers	-	-	(2)	-	-	(1)	(3)
Disposals	7	-	-	-	-	-	7
Effect of movement in exchange rate	-	(3)	-	-	-	-	(3)
<b>At 31 December 2021 and 1 January 2022</b>	<b>(3,027)</b>	<b>(54)</b>	<b>(1,253)</b>	<b>(10)</b>	<b>-</b>	<b>(867)</b>	<b>(5,211)</b>
Depreciation for the year	(934)	(113)	(599)	(10)	-	(455)	(2,111)
Transfers	38	-	-	20	-	2	60
Disposals	68	1	1,125	-	-	557	1,751
Effect of movement in exchange rate	6	26	-	-	-	-	32
<b>At 31 December 2022</b>	<b>(3,849)</b>	<b>(140)</b>	<b>(727)</b>	<b>-</b>	<b>-</b>	<b>(763)</b>	<b>(5,479)</b>
<b>Net book value</b>							
At 31 December 2021	9,076	890	932	13	-	2,714	13,625
At 31 December 2022	10,899	828	2,790	-	4	2,426	16,947

Notes to the financial statements

For the year ended 31 December 2022

	Separate financial statements				Total
	Land and buildings	Rental	Tank farm (in million Baht)	Vehicle and oil tanker	
<b>Cost</b>					
At 1 January 2021	9,807	11	2,017	1,370	13,205
Additions	990	-	168	567	1,725
Transfers	1	-	-	-	1
Disposals	(8)	-	-	-	(8)
<b>At 31 December 2021 and 1 January 2022</b>	<b>10,790</b>	<b>11</b>	<b>2,185</b>	<b>1,937</b>	<b>14,923</b>
Additions	1,571	-	2,458	152	4,181
Disposals	(63)	(1)	(1,126)	(554)	(1,744)
<b>At 31 December 2022</b>	<b>12,298</b>	<b>10</b>	<b>3,517</b>	<b>1,535</b>	<b>17,360</b>
<b>Depreciation and impairment losses</b>					
At 1 January 2021	(1,706)	(2)	(643)	(467)	(2,818)
Depreciation for the year	(725)	(1)	(609)	(382)	(1,717)
Transfers	1	-	(2)	(1)	(2)
Disposals	8	-	-	-	8
<b>At 31 December 2021 and 1 January 2022</b>	<b>(2,422)</b>	<b>(3)</b>	<b>(1,254)</b>	<b>(850)</b>	<b>(4,529)</b>
Depreciation for the year	(808)	(1)	(599)	(364)	(1,772)
Disposals	63	1	1,126	554	1,744
<b>At 31 December 2022</b>	<b>(3,167)</b>	<b>(3)</b>	<b>(727)</b>	<b>(660)</b>	<b>(4,557)</b>
<b>Net book value</b>					
At 31 December 2021	<b>8,368</b>	<b>8</b>	<b>931</b>	<b>1,087</b>	<b>10,394</b>
At 31 December 2022	<b>9,131</b>	<b>7</b>	<b>2,790</b>	<b>875</b>	<b>12,803</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 15 Leases

<i>Year ended 31 December</i>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b><i>Amounts recognised in profit or loss</i></b>				
Interest on lease liabilities	428	227	302	186
Expenses relating to short-term leases	57	28	44	2
Expenses relating to leases of low-value assets	10	11	4	7
Variable lease payments	673	430	673	408

In 2022, total cash outflow for leases of the Group and the Company were Baht 2,083 million and Baht 1,457 million, respectively (*2021: Baht 1,665 million and Baht 1,542 million, respectively*).

#### 16 Goodwill

	<b>Consolidated financial statements</b> <i>(in million Baht)</i>
<b><i>Cost</i></b>	
At 1 January 2021	2,129
Acquisitions through business combination	2,365
Loss from impairment	(571)
Effect of movement in exchange rate	99
<b>At 31 December 2021 and 1 January 2022</b>	<b>4,022</b>
Acquisitions through business acquisitions ( <i>Note 4</i> )	1,888
Effect of movement in exchange rate	(122)
<b>At 31 December 2022</b>	<b>5,788</b>

*Impairment testing for the cash generating unit containing goodwill*

*BCEPG Public Company Limited*

Goodwill amounted to Baht 606 million from business combinations of BCEPG Public Company Limited Group, the Group calculated the recoverable amount by using the value in use models which was determined by discounting future cash flows. The key assumptions used in the estimation of the future cash flows were based on the concession agreements, power purchase agreements, estimated selling production unit of electricity, with reference to historical data and external source such as inflation and exchange rate.

The discount rate was weighted average after-tax cost of capital by using Capital Asset Pricing Model (CAPM). Risk free rate was derived from long-term U.S. treasury bond yield. The adjustment for market risk premium to reflect risk of equity investment and country risk premium is also taking into consideration.

The estimated recoverable amount of the CGU exceeded its carrying amount, therefore no impairment loss is recognised at 31 December 2022.

The management have also conducted sensitivity test by increasing discount rate or inflation 0.6% and found no impairment for goodwill.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

##### *BBGI Public Company Limited*

For goodwill amounted to Baht 1,602 million from business combinations of BBGI Public Company Limited Group, the Group calculated the recoverable amount by using the value in use models which was determined by discounting future cash flows for the next 5 years. The key assumptions used in the estimation of the recoverable amount included the discount rate which was a post-tax measure based on the rate of 10-year government bonds issued by the government in the relevant market and in the same currency as the cash flows, adjusted for a risk premium to reflect both the increased risk of investing in equities generally.

The discount rates of the relevant industries in which the Company operates are ranged from 5% - 8%. The subsidiary's discount rate which applied in the calculation of recoverable amounts was fall within the industries' range.

The impairment test has been prepared by the management and no impairment charges are required for goodwill.

If the assumption used in the calculation on impairment tests for goodwill change, the selling price decrease by 1 Baht per Litre or cost of raw material increase by 1 Baht per litre, there is still no impairment of goodwill.

##### *OKEA ASA*

At 31 December 2022, the Group has goodwill amounted to NOK 1,015 million (equivalent to Baht 3,580 million) which consisted of goodwill from gain of control of OKEA ASA ("OKEA") amounted to NOK 487 million (equivalent to Baht 1,718 million) and goodwill from acquisition of working interest in oil field of OKEA during the year 2022 (See Note 4) amounted to NOK 528 million (equivalent to Baht 1,862 million).

For goodwill from gain of control of OKEA ASA ("OKEA") amounted to NOK 487 million, the Group calculated the recoverable amount by using the fair value less costs of disposal, estimated using market approach. The fair value measurement was categorised as a Level 1 fair value

The estimated recoverable amount of the CGU exceeded its carrying amount, therefore no impairment loss is recognised at 31 December 2022.



Notes to the financial statements

For the year ended 31 December 2022

17 Intangible assets

	Consolidated financial statements						
	Right to use and cost of development of computer software	Right to connect electric transmission line	Power purchase agreement	Power purchase agreement and assets under concession agreement (in million Baht)	Exploration and evaluation expenditure	Intangible assets under development	Total
<b>Cost</b>							
At 1 January 2021	1,138	1,197	1,421	8,290	3,190	372	15,608
Acquisitions through business combination	-	-	-	-	82	-	82
Additions	69	-	-	-	22	5	96
Transfers	9	161	-	-	-	(166)	4
Disposals	-	-	-	-	(3,469)	(3)	(3,472)
Effect of movements in exchange rates	-	(2)	-	935	215	2	1,150
<b>At 31 December 2021 and 1 January 2022</b>	<b>1,216</b>	<b>1,356</b>	<b>1,421</b>	<b>9,225</b>	<b>40</b>	<b>210</b>	<b>13,468</b>
Additions	75	9	-	-	1,146	147	1,377
Transfers	14	(1,101)	1,109	-	-	(7)	15
Disposals	-	-	-	-	(517)	-	(517)
Effect of movements in exchange rates	-	(20)	(145)	315	(19)	(28)	103
<b>At 31 December 2022</b>	<b>1,305</b>	<b>244</b>	<b>2,385</b>	<b>9,540</b>	<b>650</b>	<b>322</b>	<b>14,446</b>

Notes to the financial statements

For the year ended 31 December 2022

Consolidated financial statements

	Right to use and cost of development of computer software	Right to connect electric transmission line	Power purchase agreement	Power purchase agreement and assets under concession agreement <i>(in million Baht)</i>	Exploration and evaluation expenditure	Intangible assets under development	Total
<b>Amortisation and impairment losses</b>							
At 1 January 2021	(723)	(32)	(110)	(373)	(3,190)	-	(4,428)
Amortisation for the year	(148)	(6)	(64)	(363)	-	-	(581)
Disposals	-	-	-	-	3,404	-	3,404
Effect of movement in exchange rates	-	-	-	(58)	(214)	-	(272)
<b>At 31 December 2021 and 1 January 2022</b>	<b>(871)</b>	<b>(38)</b>	<b>(174)</b>	<b>(794)</b>	-	-	<b>(1,877)</b>
Amortisation for the year	(137)	(13)	(97)	(398)	-	-	(645)
Impairment losses <i>(Note 13)</i>	-	-	-	-	-	(201)	(201)
Transfers	-	19	(16)	-	-	-	3
Effect of movement in exchange rates	(1)	2	15	(21)	-	17	12
<b>At 31 December 2022</b>	<b>(1,009)</b>	<b>(30)</b>	<b>(272)</b>	<b>(1,213)</b>	-	<b>(184)</b>	<b>(2,708)</b>
<b>Net book value</b>							
At 31 December 2021	345	1,318	1,247	8,431	40	210	11,591
At 31 December 2022	296	214	2,113	8,327	650	138	11,738

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

	Separate financial statements	
	Right to use and cost of development of computer software	
	2022	2021
	<i>(in million Baht)</i>	
<b>Cost</b>		
At 1 January	1,072	1,013
Additions	73	59
<b>At 31 December</b>	<b>1,145</b>	<b>1,072</b>
<b>Amortisation and impairment losses</b>		
At 1 January	(785)	(657)
Amortisation for the year	(118)	(128)
<b>At 31 December</b>	<b>(903)</b>	<b>(785)</b>
<b>Net book value</b>		
<b>At 31 December</b>	<b>242</b>	<b>287</b>

### 18 Loans and debentures

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b>Current</b>				
Short-term loan from financial institutions				
secured	27	75	-	-
unsecured	1,074	1,181	-	-
	<b>1,101</b>	<b>1,256</b>	-	-
Current portion of long-term loans from financial institutions				
secured	944	2,447	-	-
unsecured	6,125	2,372	3,904	700
	<b>7,069</b>	<b>4,819</b>	<b>3,904</b>	<b>700</b>
Current portion of other long-term loans				
secured	162	146	-	-
	<b>162</b>	<b>146</b>	-	-
Debenture				
unsecured	2,400	4,500	2,400	4,000
	<b>2,400</b>	<b>4,500</b>	<b>2,400</b>	<b>4,000</b>
<b>Total current</b>	<b>10,732</b>	<b>10,721</b>	<b>6,304</b>	<b>4,700</b>
<b>Non-current</b>				
Long-term loans from financial institutions				
secured	8,133	6,508	-	-
unsecured	6,725	13,661	3,591	4,895
	<b>14,858</b>	<b>20,169</b>	<b>3,591</b>	<b>4,895</b>
Other long-term loans				
secured	1,631	1,714	-	-
	<b>1,631</b>	<b>1,714</b>	-	-

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Debentures secured	4,159	8,645	-	-
unsecured	49,859	39,259	37,065	26,476
	<u>54,018</u>	<u>47,904</u>	<u>37,065</u>	<u>26,476</u>
<b>Total non-current</b>	<b><u>70,507</u></b>	<b><u>69,787</u></b>	<b><u>40,656</u></b>	<b><u>31,371</u></b>
<b>Total</b>	<b><u>81,239</u></b>	<b><u>80,508</u></b>	<b><u>46,960</u></b>	<b><u>36,071</u></b>

The loan agreements contain certain conditions regarding maintaining of particular financial ratios such as debt to equity ratio, debt service coverage ratio and current ratio, and transfer right of any agreements. The borrowings of the Company's subsidiaries and indirect subsidiaries are secured by mortgage of the land, building, land improvement and infrastructure, machinery, and the share capital of the subsidiaries.

The movements of loans and debentures during the year were as follows:

<i>Year ended 31 December</i>	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
At 1 January	80,507	63,244	36,071	31,739
Acquisitions through business combination	-	8,994	-	-
Increase	21,045	25,446	15,500	7,000
Decrease	(20,803)	(19,073)	(4,700)	(2,925)
Transaction cost capitalised-net of amortisation	116	72	(2)	(15)
Effect of change in exchange rates	750	1,824	91	272
Effect from financial statements translation	(385)	-	-	-
Change in fair value of hedged items	9	-	-	-
<b>Total</b>	<b><u>81,239</u></b>	<b><u>80,507</u></b>	<b><u>46,960</u></b>	<b><u>36,071</u></b>
<i>Less</i> Current portion of long-term loans	(7,231)	(4,964)	(3,904)	(700)
Current portion of debentures	(2,400)	(4,500)	(2,400)	(4,000)
Short term loans	(1,101)	(1,256)	-	-
<b>At 31 December</b>	<b><u>70,507</u></b>	<b><u>69,787</u></b>	<b><u>40,656</u></b>	<b><u>31,371</u></b>

The Group had unutilised credit facilities as follow:

<b>As at 31 December</b>	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Baht	9,699 million	11,399 million	2,530 million	5,030 million
JPY	6,175 million	8,703 million	-	-

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### Debentures

Detail of debentures as at 31 December 2022 and 2021 were as follows:

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Debentures	56,516	52,589	39,500	30,500
Less Unamortised deferred expenses on debentures	(98)	(185)	(35)	(24)
	<b>56,418</b>	<b>52,404</b>	<b>39,465</b>	<b>30,476</b>
Less Current portion due within one year	(2,400)	(4,500)	(2,400)	(4,000)
<b>Total</b>	<b>54,018</b>	<b>47,904</b>	<b>37,065</b>	<b>26,476</b>

The Company and its subsidiaries issued name-registered unsubordinated unsecured debentures which have no debenture holders' representative (except debentures no.5 to 14 and 17 which have debenture holders' representatives) and no early redemption right and interest is on a term of the debentures. The details are as follows:

No.	Consolidated Financial statements		Separate financial statements		Interest rate (% p.a.)	Term (years)	Maturity Date
	2022	2021	2022	2021			
	<i>(in million Baht)</i>						
<i>Bangchak Corporation Public Company Limited</i>							
1	-	1,000	-	1,000	5.35	10	30 April 2022
2	3,500	3,500	3,500	3,500	5.18	10	11 April 2024
3	2,000	2,000	2,000	2,000	4.72	12	3 March 2027
4	1,000	1,000	1,000	1,000	5.05	15	3 March 2030
5	400	400	400	400	2.96	5	10 August 2023
6	600	600	600	600	3.42	7	10 August 2025
7	7,000	7,000	7,000	7,000	4.04	10	20 December 2028
8	-	3,000	-	3,000	2.60	2	8 May 2022
9	500	500	500	500	3.00	7	8 May 2027
10	4,500	4,500	4,500	4,500	3.40	10	8 May 2030
11	2,000	2,000	2,000	2,000	1.45	2	5 November 2023
12	1,000	1,000	1,000	1,000	2.29	5	5 November 2026
13	1,400	1,400	1,400	1,400	3.11	8	5 November 2029
14	2,600	2,600	2,600	2,600	3.43	10	5 November 2031
15	4,500	-	4,500	-	2.84	3	25 August 2025
16	2,000	-	2,000	-	3.26	5	25 August 2027
17	3,500	-	3,500	-	4.00	10	25 August 2032
18	3,000	-	3,000	-	3.60	4	21 October 2026
<i>BBGI Public Company Limited</i>							
19	-	500	-	-	2.53	1.5	11 November 2022
20	800	800	-	-	3.30	3	11 May 2024
<i>BCPG Public Company Limited <sup>(1)</sup></i>							
21	2,000	2,000	-	-	1.64	3	15 September 2024
22	1,000	1,000	-	-	2.14	5	15 September 2026
23	1,000	1,000	-	-	2.51	7	15 September 2028
24	4,000	4,000	-	-	3.31	10	15 September 2031
25	4,000	4,000	-	-	3.61	12	15 September 2033

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

No.	Consolidated Financial statements		Separate financial statements		Interest rate (% p.a.)	Term (years)	Maturity Date
	2022 (in million Baht)	2021 (in million Baht)	2022 (in million Baht)	2021 (in million Baht)			
	<i>OKEA ASA</i> <sup>(2)</sup>				LIBOR 3 months plus 6.50%	5	27 June 2023
26	-	4,762	-	-	8.75	5	10 December 2024
27	4,216	4,027	-	-			
	<u>56,516</u>	<u>52,589</u>	<u>39,500</u>	<u>30,500</u>			

(1) Name-registered unsubordinated unsecured Green Bonds issued to institutional investors and high-net-worth investors. These debentures have par value of Baht 1,000 and interest payable semi-annually.

(2) Unsubordinated secured debentures with debenture holders' representatives and early redemption right amounting to USD 265 million. These debentures have par value of USD 100,000 with interest payable semi-annually.

In connection with the terms of the rights and responsibilities of the debentures issuer, the Company, as the issuer, has to comply with certain restrictions and conditions as stipulated therein, such as maintaining certain financial ratios, etc.

On 13 July 2022, a subsidiary announced a voluntarily redemption of OKEA02 bonds, with a remaining net outstanding of USD 100 million to be called at the current call price of 102.75% of the nominal amount. The bonds were settled on 27 July 2022.

Secured interest-bearing liabilities as at 31 December were secured on the following assets:

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Property, plant and equipment	35,021	30,306	-	-
Investment in subsidiaries/associates	4,763	4,742	-	-
Restricted cash at bank	47	58	-	-
<b>Total</b>	<u>39,831</u>	<u>35,106</u>	<u>-</u>	<u>-</u>

### 19 Other current payables

	Note	Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
		<i>(in million Baht)</i>			
<b>Related parties</b>	5	-	48	118	85
<b>Other parties</b>					
Accrued expenses		6,682	3,566	787	580
Advance payment for goods		1,788	-	-	-
Payable for utilities		365	361	365	361
Payable for project construction		350	614	201	169
Accrued interest		344	207	227	60
Other accounts payable		1,507	1,076	802	625
<b>Total</b>		<u>11,036</u>	<u>5,872</u>	<u>2,500</u>	<u>1,880</u>



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 20 Provisions for employee benefits

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b>Statement of financial position</b>				
<b>Non-current provisions for:</b>				
Post-employment benefits	2,258	2,413	1,983	2,227
Other long-term employee benefits	90	64	88	57
<b>Total</b>	<b>2,348</b>	<b>2,477</b>	<b>2,071</b>	<b>2,284</b>
Current	61	89	61	140
Non-current	2,287	2,388	2,010	2,144
<b>Total</b>	<b>2,348</b>	<b>2,477</b>	<b>2,071</b>	<b>2,284</b>
<b>Year ended 31 December</b>				
<b>Statement of comprehensive income:</b>				
<b>Recognised in profit or loss</b>				
Post-employment benefits	157	154	109	128
Other long-term employee benefits	35	7	35	5
<b>Total</b>	<b>192</b>	<b>161</b>	<b>144</b>	<b>133</b>
<b>Recognised in other comprehensive income:</b>				
Actuarial gain recognised in the year	(233)	(159)	(236)	(167)
Cumulative actuarial losses recognised	263	499	292	528
<b>Defined benefit plan</b>				
<p>The Group and the Company operate a defined benefit plan based on the requirement of Thai Labour Protection Act B.E 2541 (1998) to provide retirement benefits to employees based on pensionable remuneration and length of service. The defined benefit plans expose the Group to actuarial risks, such as longevity risk, currency risk, interest rate risk and market (investment) risk.</p>				
<b>Present value of the defined benefit obligations</b>				
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
At 1 January	2,529	2,643	2,284	2,538
Acquisition through business combination	-	125	-	-
Decrease from sale of investment in subsidiary	-	(15)	-	-
<b>Include in profit or loss:</b>				
Current service costs and interest on obligation	192	161	144	133
	<b>192</b>	<b>161</b>	<b>144</b>	<b>133</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

<i>Present value of the defined benefit obligations</i>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b><i>Included in other comprehensive income:</i></b>				
Actuarial (gain) loss				
- Demographic assumptions	22	16	21	16
- Financial assumptions	(252)	198	(244)	192
- Experience adjustment	(3)	(376)	(13)	(375)
Effect of movements in exchange rate	(14)	3	-	-
	<u>(247)</u>	<u>(159)</u>	<u>(236)</u>	<u>(167)</u>
<b>Others</b>				
Benefit paid	(126)	(226)	(121)	(220)
<b>At 31 December</b>	<b><u>2,348</u></b>	<b><u>2,529</u></b>	<b><u>2,071</u></b>	<b><u>2,284</u></b>

<b><i>Principal actuarial assumptions</i></b>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(%)</i>			
Discount rate	0.1 - 3.45	0.1 - 3.16	2.52 - 3.45	1.36 - 1.81
Future salary growth	2 - 6	2 - 6	6	6
Employee turnover	0 - 57.3	0 - 57.3	1.67 - 11.46	1.91 - 8.6

Assumptions regarding future mortality rate is based on published statistics and mortality tables.

At 31 December 2022, the weighted-average duration of the defined benefit obligation was 4 - 28 years (2021: 5 - 29 years).

#### ***Sensitivity analysis***

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below.

<b><i>Impact to the employee benefits obligation at 31 December</i></b>	<b>Consolidated financial statements</b>			
	1% increase in assumption		1% decrease in assumption	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Discount rate	(132)	(203)	148	233
Future salary growth	192	242	(172)	(215)
Employee turnover	(40)	(111)	44	126
	<b>Separate financial statements</b>			
	1% increase in assumption		1% decrease in assumption	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Discount rate	(124)	(195)	139	224
Future salary growth	182	234	(164)	(207)
Employee turnover	(31)	(102)	33	117

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### 21 Treasury shares

At the Board of Directors' meeting held on 21 November 2019, the Board approved the share repurchase program for financial management purpose (Treasury Stock), in the maximum amount of share repurchased not exceeding Baht 2,100 million and maximum number of shares not exceeding 70 million shares with a par value of Baht 1 per share. The number of shares to be repurchased is 5% of the total issued shares. The Company is allowed to repurchase the share during the period from 6 December 2019 to 5 June 2020 with the condition that the share repurchased must be sold after 6 months after the date when the repurchase is completed but must not exceed 3 years.

As at 31 December 2022, the Company has repurchased treasury shares under such a program totalling 9 million shares, at Baht 248 million (2021: 19 million shares at Baht 505 million) and presented as a separated item in equity and as a deduction item in equity in the consolidated financial statements. Accordingly, the Company has appropriated retained earnings for treasury share reserve at the same amount.

#### *Share-based payment*

During the year ended 31 December 2022, the Company has agreed with its directors, management team, and employees to provide a share-based payment by giving them the right to purchase 18 million treasury shares of the Company at the price of Baht 28.14. The payment for shares shall be made in cash. The outstanding shares under the scheme as at 31 December 2022 is 8 million shares.

### 22 Surpluses and reserves

#### *Share premium*

Section 51 of the Public Companies Act B.E. 2535 (1992) requires companies to set aside share subscription monies received in excess of the par value of the shares issued to a reserve account ("share premium"). Share premium is not available for dividend distribution.

#### *Capital surplus on registered and paid-up share reduction*

Capital surplus on share reduction is from capital surplus on registered and paid-up share reduction in the Company's registered share capital from Baht 1,032,761,220 to Baht 843,143,461 and the paid-up share capital from Baht 753,040,940 to Baht 563,423,181. These changes were due to the reduction of 189,617,759 shares.

#### *Other surpluses*

#### *Surplus from the change in the ownership interest in subsidiaries*

Change in parent's ownership interest in subsidiaries within equity comprises of effect from dilution of the Company's holding percentage in a subsidiary and difference from changes in parent's ownership interest in subsidiaries that do not result in a loss of control.

#### *Surplus from business combination*

Surplus from business combination represents the measurement of net assets acquired and recognised at fair value from business combination.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### *Legal reserve*

Section 116 of the Public Companies Act B.E. 2535 (1992) requires that a company shall allocate not less than 5% of its annual net profit, less any accumulated losses brought forward (if any), to a reserve account (“legal reserve”), until this account reaches an amount not less than 10% of the registered authorised capital. The legal reserve is not available for dividend distribution.

#### *Treasury shares reserve*

The treasury shares reserve is the amount appropriated from the retained earnings equal to the cost of the Company’s own shares held by the Company. The treasury shares reserve is not available for dividend distribution.

#### *Other components of equity*

##### **Translation reserve**

The translation reserves comprises all foreign currency differences arising from the translation of the financial statements of foreign operations, as well as the effective portion of any foreign currency differences arising from hedges of a net investment in a foreign operation (see note 3 (d.4)).

##### **Hedging reserve**

The hedging reserve comprises the effective portion of the cumulative net change in the fair value of hedging instruments used in cash flow hedges pending subsequent recognition in profit or loss or directly included in the initial cost or other carrying amount of a non-financial asset or non-financial liability.

##### **Fair value reserve**

The fair value reserve comprise the cumulative net change in the fair value of equity securities designated at FVOCI.

### **23 Subordinated perpetual debentures**

On 18 October 2019, the Company completed the issuance of Subordinated Perpetual Debentures of Baht 10,000 million. The debentures are unsecured, unconvertible, with debenture holder representatives and no scheduled repayment of principal. Bullet payment is upon dissolution of the Company or upon the exercise of the debenture issuer’s early redemption right per conditions as stipulated in the terms and conditions of the debentures. These debentures bear fixed interest rate of 5% per annum during the first year to the fifth year. The debenture issuer will adjust the interest rate of the debentures every 5 years and interest is payable on a semi-annual basis throughout the term of the debentures. The Company has the sole right to unconditionally defer interest and cumulative interest payments to debentures holders without time and deferral amount limitation. If the Company defers the interest payment, the Company shall not declare and make any dividend payment. From the determination of the terms and conditions of the debentures, Subordinated perpetual debentures are classified as equity. Issuance cost of debentures of Baht 59 million are recognised as a part of equity in the consolidated and separate financial statements as at 31 December 2022. The Company paid coupon payment on perpetual subordinated debentures of Baht 500 million (2021: Baht 500 million) which were recognised as a part of equity in consolidated and separate financial statement.

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### 24 Operating segments

Management determined that the Group has six reportable segments, as described below, which are the Group's strategic divisions for different products and services, and are managed separately because they require different technology and marketing strategies. The following summary describes the operations in each of the Group's reportable segments.

<i>Segment 1</i>	<i>Refinery and oil trading</i>
<i>Segment 2</i>	<i>Marketing</i>
<i>Segment 3</i>	<i>Electricity</i>
<i>Segment 4</i>	<i>Bio-based product</i>
<i>Segment 5</i>	<i>Natural resource</i>
<i>Segment 6</i>	<i>Others</i>

Each segment's performance is measured based on segment profit (loss) before tax, financial costs, depreciation and amortisation, gain on foreign exchange, gain (loss) on derivatives from forward contracts and impairment losses ("Group's Profit (loss) from operating segment"), as included in the internal management reports that are reviewed by the Group's CODM. Group's Profit (loss) from operating segment is used to measure performance as management believes that such information is the most relevant in evaluating the results of certain segments relative to other entities that operate within these industries. Inter-segment pricing determined on an arm's length basis.

## Notes to the financial statements

For the year ended 31 December 2022

<i>For the year ended 31 December 2022</i>	Consolidated financial statements							Total
	Refinery and oil trading	Marketing	Electricity	Bio-based product <i>(in million Baht)</i>	Natural resources	Others	Eliminations	
External revenue	96,328	184,897	5,395	1,980	23,583	19	-	312,202
Inter-segment revenue	173,940	41	10	11,393	-	-	(185,384)	-
<b>Total revenue</b>	<b>270,268</b>	<b>184,938</b>	<b>5,405</b>	<b>13,373</b>	<b>23,583</b>	<b>19</b>	<b>(185,384)</b>	<b>312,202</b>
Profit (loss) from operating segment	17,864	2,909	6,400	617	17,625	(691)	-	44,724
Depreciation and amortisation								(10,004)
Gain from derivatives								104
Gain on foreign exchange								1
Impairment loss								(2,844)
Finance costs								(3,977)
Tax expense								(12,852)
<b>Profit for the year</b>								<b>15,152</b>
Interest income	46	12	140	11	94	-	-	303
Financial costs	(1,140)	(488)	(878)	(95)	(1,285)	(91)	-	(3,977)
Depreciation and amortisation	(4,181)	(1,463)	(1,499)	(423)	(2,358)	(80)	-	(10,004)
Segments assets	98,788	22,706	55,111	13,314	51,336	1,090	-	242,345
Investments in associates and joint ventures	80	-	1,290	114	34	334	-	1,852
Capital expenditure	(866)	(1,618)	(1,911)	(387)	(5,098)	(88)	-	(9,968)



## Notes to the financial statements

For the year ended 31 December 2022

### Consolidated financial statements

<i>For the year ended 31 December 2021</i>	Refinery and oil trading	Marketing	Electricity	Bio-based product <i>(in million Baht)</i>	Natural resources	Others	Eliminations	Total
External revenue	65,161	117,265	4,661	2,234	10,093	3	-	199,417
Inter-segment revenue	108,483	3	8	11,861	-	-	(120,355)	-
<b>Total revenue</b>	<b>173,644</b>	<b>117,268</b>	<b>4,669</b>	<b>14,095</b>	<b>10,093</b>	<b>3</b>	<b>(120,355)</b>	<b>199,417</b>
Profit (loss) from operating segment	9,363	2,614	4,193	1,863	8,251	(466)	-	25,818
Depreciation and amortisation								(8,075)
Loss from derivatives								(1)
Gain on foreign exchange								251
Gain from fair value adjustment of investment								43
Impairment loss								(1,388)
Finance costs								(2,540)
Tax expense								(4,263)
<b>Profit for the year</b>								<b>9,845</b>
Interest income	-	14	52	2	117	-	-	185
Financial costs	(644)	(414)	(892)	(108)	(397)	(85)	-	(2,540)
Depreciation and amortisation	(3,854)	(1,388)	(994)	(415)	(1,373)	(51)	-	(8,075)
Segments assets	68,104	18,365	58,645	12,084	44,512	75	-	201,785
Investments in associates and joint ventures	144	1	13,486	39	-	-	-	13,670
Capital expenditure	(4,437)	(1,117)	(3,341)	(482)	(1,083)	(28)	-	(10,488)

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### *Disaggregation of revenue*

Timing of revenue recognition of major revenues of the Group and the Company are point in time, except power plant segment, which timing of revenue recognition is over time.

### *Geographical segments*

In presenting information on the basis of geographical segments, segment sales are based on the entity's country of domicile. Segment non-current assets (exclude derivatives and deferred tax) are based on the geographical location of the assets.

### *Geographical information*

Thailand  
Singapore  
Norway  
Korea  
Others  
**Total**

### **Consolidated financial statements** **Revenue**

	2022	2021
	<i>(in million Baht)</i>	
	208,426	137,977
	48,640	39,765
	23,349	10,068
	20,387	7,127
	11,400	4,480
	<b>312,202</b>	<b>199,417</b>

### *Geographical information*

Thailand  
Norway  
Laos  
Japan  
Indonesia  
Others  
**Total**

### **Consolidated financial statements** **Non-current assets**

	2022	2021
	<i>(in million Baht)</i>	
	69,469	67,415
	35,918	12,689
	10,904	9,469
	8,524	9,478
	-	12,312
	5,326	7,518
	<b>130,141</b>	<b>118,881</b>

### *Major customer*

Revenues from one customer of the Group's 1 and 2 segments represents approximately Baht 20,387 million (2021: Baht 16,637 million) of the Group's total revenues.

### *Promotional privileges*

The Group has been granted promotional certificates by the Office of the Board of Investment by virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520 for Petroleum Refinery process, production of Biodiesel and production of electricity from solar cell. The privileges granted include:

#### *Production of Biodiesel, Ethanol and Biogas*

- Exemption from payment of import duty on machinery approved by the Board;
- Exemption from payment of income tax for certain operations for a period of six and eight years from the date on which the income is first derived from such operations.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### *Production of electricity from solar cell*

- (a) Exemption from payment of import duty on machinery approved by the Board;
- (b) Exemption from payment of income tax for certain operations for a period of eight years from the date on which the income is first derived from such operations.
- (c) A 50% reduction in the normal income tax rate on the net profit derived from certain operations for a period of five years, commencing from the expiry date in (b) above.

As promoted companies, the Group must comply with certain terms and conditions prescribed in the promotional certificates.

Summary of revenue from promoted and non-promoted businesses:

	<b>Consolidated financial statements</b>					
	2022			2021		
	Promoted businesses	Non- promoted businesses	Total	Promoted businesses	Non- promoted businesses	Total
	<i>(in million Baht)</i>					
Export sales	141	130,468	130,609	91	78,657	78,748
Local sales	11,147	317,768	328,915	10,955	194,509	205,464
Eliminations	-	-	(147,322)	-	-	(84,795)
<b>Total</b>	<b>11,288</b>	<b>448,236</b>	<b>312,202</b>	<b>11,046</b>	<b>273,166</b>	<b>199,417</b>

The Company has no revenue from promoted business.

### 25 Expenses by nature

	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Changes in inventories of finished goods and work in progress	3,430	(65)	4,013	(155)
Raw materials and consumables used	192,143	104,718	180,781	92,973
Tax expenses and oil fuel fund	6,183	24,386	6,183	24,386
Depreciation and amortisation	10,004	8,075	5,425	5,221
Employee benefit expenses	6,868	4,579	2,519	2,117
Advertisement expenses	791	553	660	399
Transportation expenses	1,908	1,580	1,788	1,375
Professional and advisory fees	426	723	158	232
Loss from decline in value of inventories	330	2	324	-

#### *Defined contribution plans*

The defined contribution plans comprise provident funds established by the Group for its employees. Membership to the funds is on a voluntary basis. Contributions are made monthly by the employees at rates ranging from 3% to 15% of their basic salaries and by the Group at rates ranging from 3% to 10% of the employees' basic salaries. The provident funds are registered with the Ministry of Finance as juristic entities and are managed by licensed Fund Manager.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 26 Finance costs

	Note	Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
<i>(in million Baht)</i>					
<b>Interest expense</b>					
Financial institutions		751	993	257	153
Debentures		2,225	1,402	1,178	1,003
Lease liabilities		428	194	302	186
<b>Total interest expense</b>		<b>3,404</b>	<b>2,589</b>	<b>1,737</b>	<b>1,342</b>
Amortisation of transaction costs capitalised		143	121	19	17
Others finance costs		576	169	-	1
		<b>4,123</b>	<b>2,879</b>	<b>1,756</b>	<b>1,360</b>
Less Amount included in the cost of property, plant and equipment under construction	13	(146)	(339)	(29)	(139)
<b>Net</b>		<b>3,977</b>	<b>2,540</b>	<b>1,727</b>	<b>1,221</b>

#### 27 Income tax

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
<i>(in million Baht)</i>				
<b>Income tax recognised in profit or loss</b>				
<b>Current tax expense</b>				
Current year	9,709	2,831	1,132	-
(Over) under provided in prior years	29	(17)	-	(10)
	<b>9,738</b>	<b>2,814</b>	<b>1,132</b>	<b>(10)</b>
<b>Deferred tax expense</b>				
Movements in temporary differences	3,114	1,449	1,240	831
	<b>3,114</b>	<b>1,449</b>	<b>1,240</b>	<b>831</b>
<b>Total tax expense</b>	<b>12,852</b>	<b>4,263</b>	<b>2,372</b>	<b>821</b>

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
<i>(in million Baht)</i>				
<b>Reconciliation of effective tax rate</b>				
<b>Profit before income tax expense</b>	<b>28,004</b>	<b>14,108</b>	<b>14,298</b>	<b>7,135</b>
Corporate income tax rate (%)	20.00	20.00	20.00	20.00
Profit before income tax using the Thai corporation tax rate	5,601	2,821	2,859	1,427
Effect of difference tax rates in foreign jurisdictions	7,204	2,735	-	-
Income not subject to tax / Expenses that are deductible at a greater amount	(783)	(1,556)	(315)	(320)
Expenses not deductible / Other adjustments	646	177	(172)	(276)
Current year losses for which no deferred tax assets was recognised	172	78	-	-
Over (under) provided in prior years	29	(17)	-	(10)
Others	(17)	25	-	-
<b>Total</b>	<b>12,852</b>	<b>4,263</b>	<b>2,372</b>	<b>821</b>
<b>Tax rate (%)</b>	<b>45.89</b>	<b>30.22</b>	<b>16.59</b>	<b>11.50</b>



Notes to the financial statements

For the year ended 31 December 2022

Movements in total deferred tax assets and liabilities during the year were as follows:

	<b>Consolidated financial statement</b>					At 31 December 2022
	At 1 January 2022	Charged / Credited to: Profit or loss	Other comprehensive income <i>(in million Baht)</i>	Acquisition through business acquisitions <i>(note 4)</i>	Exchange differences	
<b><i>Deferred tax assets</i></b>						
Loss from impairment of assets	124	(28)	-	-	1	97
Property, plant and equipment	119	12	-	-	-	131
Provisions for employee benefits	466	12	(46)	-	-	432
Provision for the decommissioning cost	5,095	118	-	2,557	(350)	7,420
Loss carry forward	1,364	(1,339)	-	-	-	25
Others	201	263	-	-	(4)	460
<b>Total</b>	<b>7,369</b>	<b>(962)</b>	<b>(46)</b>	<b>2,557</b>	<b>(353)</b>	<b>8,565</b>
<b><i>Deferred tax liabilities</i></b>						
Property, plant and equipment	(6,334)	(1,035)	-	(3,912)	503	(10,778)
Intangible assets	(848)	(466)	-	-	38	(1,276)
Inventories	(548)	(679)	-	(1,014)	46	(2,195)
Others	(131)	28	76	-	-	(27)
<b>Total</b>	<b>(7,861)</b>	<b>(2,152)</b>	<b>76</b>	<b>(4,926)</b>	<b>587</b>	<b>(14,276)</b>
<b>Net</b>	<b>(492)</b>	<b>(3,114)</b>	<b>30</b>	<b>(2,369)</b>	<b>234</b>	<b>(5,711)</b>



Notes to the financial statements

For the year ended 31 December 2022

	<b>Consolidated financial statement</b>					At 31 December 2021
	At 1 January 2021	Charged / Credited to:			Exchange differences	
	Profit or loss	Other comprehensive income <i>(in million Baht)</i>	Acquisition through business combinations			
<b><i>Deferred tax assets</i></b>						
Loss from impairment of assets	1,074	(950)	-	-	-	124
Property, plant and equipment	158	(39)	-	-	-	119
Provisions for employee benefits	525	(25)	(34)	-	-	466
Provision for the decommissioning cost	-	217	-	4,823	55	5,095
Loss carry forward	1,231	130	-	3	-	1,364
Others	86	115	-	-	-	201
<b>Total</b>	<b>3,074</b>	<b>(552)</b>	<b>(34)</b>	<b>4,826</b>	<b>55</b>	<b>7,369</b>
<b><i>Deferred tax liabilities</i></b>						
Property, plant and equipment	(83)	(1,212)	-	(4,986)	(53)	(6,334)
Intangible assets	(776)	516	-	(551)	(37)	(848)
Inventories	-	(103)	-	(442)	(3)	(548)
Others	(29)	(98)	16	(20)	-	(131)
<b>Total</b>	<b>(888)</b>	<b>(897)</b>	<b>16</b>	<b>(5,999)</b>	<b>(93)</b>	<b>(7,861)</b>
<b>Net</b>	<b>2,186</b>	<b>(1,449)</b>	<b>(18)</b>	<b>(1,173)</b>	<b>(38)</b>	<b>(492)</b>

Notes to the financial statements

For the year ended 31 December 2022

	Separate financial statements			Separate financial statements			At 31 December 2021
	At 1 January 2022	Charged / Credited to:		At 1 January 2021	Charged / Credited to:		
		Profit or loss	Other comprehensive income		Profit or loss	Other comprehensive income	
		<i>(in million Baht)</i>			<i>(in million Baht)</i>		
<b><i>Deferred tax assets</i></b>							
Loss from impairment of assets	116	(27)	-	89	1,074	(958)	116
Property, plant and equipment	62	15	-	77	90	(28)	62
Provisions for employee benefits	447	8	(47)	408	508	(28)	447
Loss carry forward	1,321	(1,321)	-	-	1,197	124	1,321
Others	187	216	-	403	83	104	187
<b>Total</b>	<b>2,133</b>	<b>(1,109)</b>	<b>(47)</b>	<b>977</b>	<b>2,952</b>	<b>(786)</b>	<b>2,133</b>
<b><i>Deferred tax liabilities</i></b>							
Property, plant and equipment	(66)	73	-	7	(21)	(45)	(66)
Others	(1)	(204)	-	(205)	(1)	-	(1)
<b>Total</b>	<b>(67)</b>	<b>(131)</b>	<b>-</b>	<b>(198)</b>	<b>(22)</b>	<b>(45)</b>	<b>(67)</b>
<b>Net</b>	<b>2,066</b>	<b>(1,240)</b>	<b>(47)</b>	<b>779</b>	<b>2,930</b>	<b>(831)</b>	<b>2,066</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### 28 Earnings per share

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
Profit for the year attributable to ordinary shareholders of the Company	12,575	7,624	11,926	6,314
Less Cumulative coupon payment for the year on perpetual subordinated debentures	(500)	(500)	(500)	(500)
<b>Profit for calculating earnings per share</b>	<b>12,075</b>	<b>7,124</b>	<b>11,426</b>	<b>5,814</b>
Number of ordinary shares outstanding	1,377	1,377	1,377	1,377
Effect of treasury shares	(19)	(19)	(19)	(19)
<b>Weighted average number of ordinary shares outstanding</b>	<b>1,358</b>	<b>1,358</b>	<b>1,358</b>	<b>1,358</b>
<b>Earnings per share (basic) (in Baht)</b>	<b>8.89</b>	<b>5.25</b>	<b>8.42</b>	<b>4.28</b>

#### 29 Dividends

	Approval Date	Payment schedule	Dividend rate per share (Baht)	Amount (in million Baht)
<b>2022</b>				
An interim dividend 2022	18 August 2022	13 September 2022	1.25	1,697
Annual dividend 2021	8 April 2022	22 April 2022	2.00	2,715
An interim dividend 2021	26 August 2021	21 September 2021	(1.00)	(1,357)
<b>Dividend payment during the year 2022</b>			<b>2.25</b>	<b>3,055</b>
<b>2021</b>				
Annual dividend 2020	8 April 2021	22 April 2021	0.40	543
An interim dividend 2021	26 August 2021	21 September 2021	1.00	1,357
<b>Dividend payment during the year 2021</b>			<b>1.40</b>	<b>1,900</b>

#### 30 Financial instruments

##### (a) Carrying amounts and fair values

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy. It does not include fair value information for financial assets and financial liabilities measured at amortised cost if the carrying amount is a reasonable approximation of fair value.

## Notes to the financial statements

For the year ended 31 December 2022

	Consolidated financial statements						Fair value		
	Fair value - applied hedge accounting	Fair value through profit or loss	Carrying amount Fair value through other comprehensive income	Amortised cost - net <i>(in million Baht)</i>	Total	Level 1	Level 2	Level 3	Total
<b>At 31 December</b>									
<b>2022</b>									
<b>Financial assets</b>									
Investment in equity instruments	-	51	1,214	-	1,265	1,265	-	-	1,265
Investment in convertible bond	-	914	-	-	914	-	-	914	914
Investment in other non-marketable equity instruments	-	5	1,313	-	1,318	-	-	1,318	1,318
Loans to (fixed interest rate)	-	-	-	1,823	1,823	-	1,800	-	1,800
Derivatives assets	72	561	-	-	633	2	631	-	633
<b>Financial liabilities</b>									
Loans from (fixed interest rate)	-	-	-	5,528	5,528	-	3,441	1,793	5,234
Debentures	-	-	-	56,418	56,418	4,159	43,921	-	48,080
Derivatives liabilities	63	1,991	-	-	2,054	-	2,054	-	2,054
<b>2021</b>									
<b>Financial assets</b>									
Investment in equity instruments	-	41	1,713	-	1,754	1,754	-	-	1,754
Investment in convertible bond	-	914	-	-	914	-	914	-	914
Investment in other non-marketable equity instruments	-	-	1,865	-	1,865	-	-	1,865	1,865
Loans (fixed interest rate)	-	-	-	428	428	-	440	-	440
Derivatives assets	84	202	-	-	286	-	286	-	286
<b>Financial liabilities</b>									
Loans (fixed interest rate)	-	-	-	4,008	4,008	-	2,244	1,859	4,103
Debentures	-	-	-	52,404	52,404	9,081	43,253	-	52,334
Derivatives liabilities	32	507	-	-	539	-	539	-	539

Notes to the financial statements

For the year ended 31 December 2022

	Separate financial statements					Fair value			
	Fair value - applied hedge accounting	Fair value through profit or loss	Carrying amount Fair value through other comprehensive income	Amortised cost - net <i>(in million Baht)</i>	Total	Level 1	Level 2	Level 3	Total
<b>At 31 December</b>									
<b>2022</b>									
<b>Financial assets</b>									
Investment in equity instruments	-	51	425	-	476	476	-	-	476
Investment in other non-marketable equity instruments	-	-	525	-	525	-	-	525	525
Loans to (fixed interest rate)	-	-	-	810	810	-	-	808	808
Derivatives assets	-	524	-	-	524	-	524	-	524
<b>Financial liabilities</b>									
Loans (fixed interest rate)	-	-	-	900	900	-	916	-	916
Debentures	-	-	-	39,465	39,465	-	40,099	-	40,099
Derivatives liabilities	-	1,991	-	-	1,991	-	1,991	-	1,991
<b>2021</b>									
<b>Financial assets</b>									
Investment in equity instruments	-	41	342	-	383	383	-	-	383
Investment in other non-marketable equity instruments	-	-	525	-	525	-	-	525	525
Loans to (fixed interest rate)	-	-	-	2,957	2,957	-	-	2,997	2,997
Derivatives assets	-	7	-	-	7	-	7	-	7
<b>Financial liabilities</b>									
Loans (fixed interest rate)	-	-	-	1,201	1,201	-	1,245	-	1,245
Debentures	-	-	-	30,476	30,476	-	30,845	-	30,845
Derivatives liabilities	-	507	-	-	507	-	507	-	507

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

Level 2 fair values for simple over-the-counter derivative financial instruments are based on broker quotes. Those quotes are tested for reasonableness by discounting expected future cash flows using market interest rate for a similar instrument at the measurement date. Fair values reflect the credit risk of the instrument and include adjustments to take account of the credit risk of the Group and counterparty when appropriate.

Level 3 fair values for debt instruments and equity instruments measured at fair value through profit and loss and equity instruments measured at fair value through other comprehensive income are as follows;

- For investments in non-marketable securities, the fair values are based on cost which considered as estimated fair values, except there are significant changes in their operations.

#### (b) Marketable financial instruments

<b>Consolidated financial statements</b>							
<i>Marketable equity securities</i>	At 1 January	Purchase	Disposal	Transfer	Fair value adjustment	Effect of change in exchange rates	At 31 December
<i>(in million Baht)</i>							
<b>2022</b>							
<b>Non-current financial assets</b>							
Equity securities measured at							
- FVTPL	41	-	-	-	10	-	51
- FVOCI	1,713	-	-	-	(513)	14	1,214
<b>2021</b>							
<b>Non-current financial assets</b>							
Equity securities measured at							
- FVTPL	-	52	-	-	(11)	-	41
- FVOCI	192	431	(381)	1,491	(41)	21	1,713
<b>Separate financial statements</b>							
<i>Marketable equity securities</i>	At 1 January	Purchase			Fair value adjustment		
<i>(in million Baht)</i>							
<b>2022</b>							
<b>Non-current financial assets</b>							
Equity securities measured at							
- FVTPL	41	-	-	-	10		
- FVOCI	341	-	-	-	84		
<b>2021</b>							
<b>Non-current financial assets</b>							
Equity securities measured at							
- FVTPL	-	-	-	52	(11)		
- FVOCI	-	-	431	-	(90)		

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

(c) *Financial risk management policies*

*Risk management framework*

The Group's board of directors has overall responsibility for the establishment and oversight of the Group's risk management framework. The board of directors has established the risk management committee, which is responsible for developing and monitoring the Group's risk management policies. The committee reports regularly to the board of directors on its activities.

The Group's risk management policies are established to identify and analyses the risks faced by the Group, to set appropriate risk limits and controls and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities.

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board monitors the return on capital, which the Group defines as result from operating activities divided by total shareholders' equity, excluding non-controlling interests and also monitors the level of dividends to ordinary shareholders.

(c.1) *Credit risk*

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's receivables from customers and loans to related parties of the Group.

(c.1.1) Trade accounts receivables

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the factors that may influence the credit risk of its customer base, including the default risk associated with the industry and country in which customers operate.

The Group limits its exposure to credit risk from trade accounts receivables by performing an impairment analysis at each reporting date. The provision rates of expected credit loss are based on actual credit loss experience over the past 1 year. These rates have included the consideration of current economic conditions and the Group's view of economic conditions over the expected lives of the receivables. The normal credit term granted by the Group ranges from 1 day to 120 days.

Information relevant to trade accounts receivables is disclosed in note 7



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

(c.1.2) Loans to related parties and accrued interest.

The following table presents the exposure to credit risk and expected credit loss for loans to related parties and accrued interest.

<i>Movement of allowance for expected credit loss of loans to related parties and accrued interest</i>	12-months ECL (Stage 1)	Consolidated financial statements		Total
		Lifetime ECL- not credit-impaired (Stage 2)	Lifetime ECL - credit-impaired (Stage 3)	
		<i>(in million Baht)</i>		
<b>2022</b>				
At 1 January	-	11	-	11
Net remeasurement of loss allowance	-	15	-	15
Effect of change in exchange rates	-	1	-	1
<b>At 31 December</b>	<b>-</b>	<b>27</b>	<b>-</b>	<b>27</b>
<b>2021</b>				
At 1 January	-	7	-	7
New financial assets acquired	-	3	-	3
Effect of change in exchange rates	-	1	-	1
<b>At 31 December</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>11</b>
<i>Movement of allowance for expected credit loss of loans to related parties and accrued interest</i>	12-months ECL (Stage 1)	Separate financial statements		Total
		Lifetime ECL- not credit-impaired (Stage 2)	Lifetime ECL- credit-impaired (Stage 3)	
		<i>(in million Baht)</i>		
<b>2022</b>				
At 1 January	-	963	-	963
Financial assets repaid	-	(985)	-	(985)
Effect of change in exchange rates	-	22	-	22
<b>At 31 December</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>2021</b>				
At 1 January	94	2,156	1,411	3,661
Net remeasurement of loss allowance	-	(651)	(1,411)	(2,062)
Financial assets repaid	(94)	(709)	-	(803)
Effect of change in exchange rates	-	167	-	167
<b>At 31 December</b>	<b>-</b>	<b>963</b>	<b>-</b>	<b>963</b>

(c.1.3) Cash and cash equivalents and derivatives

The Group's exposure to credit risk arising from cash and cash equivalents and derivative assets is limited because the counterparties are banks and financial institutions for which the Group considers to have low credit risk.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### (c.2) Liquidity risk

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Group's operations and to mitigate the effects of fluctuations in cash flows.

The following table are the remaining contractual maturities of financial liabilities at the reporting date. The amounts are gross and undiscounted and include contractual interest payments and exclude the impact of netting agreements.

<i>At 31 December</i>	Carrying amount	Consolidated financial statements			Total
		1 year or less	More than 1 year but less than 5 years <i>(in million Baht)</i>	Contractual cash flows More than 5 years	
<b>2022</b>					
<b><i>Non-derivative financial liabilities</i></b>					
Trade payables	17,913	17,913	-	-	17,913
Contingent consideration	243	105	138	-	243
Loans from financial institutions	23,029	8,231	8,302	7,363	23,896
Lease liabilities	11,782	1,412	4,140	6,933	12,485
Debentures	56,418	2,426	15,525	28,000	45,951
	<b>109,385</b>	<b>30,087</b>	<b>28,105</b>	<b>42,296</b>	<b>100,488</b>
<b><i>Derivative financial liabilities</i></b>					
Interest rate swaps					
- Cash outflow	-	(142)	(358)	(24)	(524)
- Cash inflow	7	159	346	28	533
Forward exchange contracts					
- Cash outflow	(18)	(32)	-	-	(32)
- Cash inflow	-	-	-	-	-
Crude and product oil price hedging contract					
- Cash outflow	(1,973)	(1,973)	-	-	(1,973)
- Cash inflow	-	-	-	-	-
	<b>(1,984)</b>	<b>(1,988)</b>	<b>(12)</b>	<b>4</b>	<b>(1,996)</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

<i>At 31 December</i>	Carrying amount	<b>Consolidated financial statements</b>				Total
		1 year or less	Contractual cash flows More than 1 year but less than 5 years	Contractual cash flows More than 5 years		
<i>(in million Baht)</i>						
<b>2021</b>						
<b>Non-derivative financial liabilities</b>						
Trade payables	9,779	9,779	-	-		9,779
Contingent consideration	150	150	-	-		150
Loans from financial institutions	26,245	6,093	17,420	14,838		38,351
Lease liabilities	8,738	1,251	4,013	4,316		9,580
Debentures	52,404	4,500	20,089	28,000		52,589
	<b>97,316</b>	<b>21,773</b>	<b>41,522</b>	<b>47,154</b>		<b>110,449</b>
<b>Derivative financial liabilities</b>						
Interest rate swaps						
- Cash outflow	(32)	(22)	(67)	(36)		(125)
- Cash inflow	-	15	44	23		82
Forward exchange contracts						
- Cash outflow	(13)	(23)	-	-		(23)
- Cash inflow	-	-	-	-		-
Crude and product oil price hedging contract						
- Cash outflow	(494)	(494)	-	-		(494)
- Cash inflow	-	-	-	-		-
	<b>(539)</b>	<b>(524)</b>	<b>(23)</b>	<b>(13)</b>		<b>(560)</b>
<b>Separate financial statements</b>						
<i>At 31 December</i>	Carrying amount	<b>Contractual cash flows</b>				Total
		1 year or less	More than 1 year but less than 5 years	More than 5 years		
<i>(in million Baht)</i>						
<b>2022</b>						
<b>Non-derivative financial liabilities</b>						
Trade payables	14,763	14,763	-	-		14,763
Loans from financial institutions	7,495	3,904	3,600	-		7,504
Lease liabilities	8,997	1,077	3,271	4,649		8,997
Debentures	39,465	2,400	17,100	20,000		39,500
	<b>70,720</b>	<b>22,144</b>	<b>23,971</b>	<b>24,649</b>		<b>70,764</b>

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### Notes to the financial statements

For the year ended 31 December 2022

<i>At 31 December</i>	Carrying amount	Separate financial statements			Total
		1 year or less	Contractual cash flows More than 1 year but less than 5 years <i>(in million Baht)</i>	More than 5 years	
<b>Derivative financial liabilities</b>					
Forward exchange contracts					
- Cash outflow	(18)	(32)	-	-	(32)
- Cash inflow	-	-	-	-	-
Crude and product oil price hedging contract					
- Cash outflow	(1,973)	(1,973)	-	-	(1,973)
- Cash inflow	-	-	-	-	-
	<u>(1,991)</u>	<u>(2,005)</u>	<u>-</u>	<u>-</u>	<u>(2,005)</u>
<b>2021</b>					
<b>Non-derivative financial liabilities</b>					
Trade payables	8,591	8,591	-	-	8,591
Loans from financial institutions	5,595	700	4,913	-	5,613
Lease liabilities	6,964	1,008	2,840	3,235	7,083
Debentures	30,476	4,000	7,500	19,000	30,500
	<u>51,626</u>	<u>14,299</u>	<u>15,253</u>	<u>22,235</u>	<u>51,787</u>
<b>Derivative financial liabilities</b>					
Forward exchange contracts					
- Cash outflow	(13)	(23)	-	-	(23)
- Cash inflow	-	-	-	-	-
Crude and product oil price hedging contract					
- Cash outflow	(494)	(494)	-	-	(494)
- Cash inflow	-	-	-	-	-
	<u>(507)</u>	<u>(517)</u>	<u>-</u>	<u>-</u>	<u>(517)</u>

The cash inflows and cash outflows disclosed in the above table represent the contractual undiscounted cash flows relating to derivative financial liabilities held for risk management purposes and which are not usually closed out before contractual maturity. The disclosure shows net cash flow amounts for derivatives that are net cash-settled and gross cash inflow and outflow amounts for derivatives that have simultaneous gross cash settlement.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### (c.3) Market risk

The Group is exposed to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk is as follows:

##### *Managing interest rate benchmark reform (IBOR reform)*

The risk management committee monitors and manages the Group's transition to alternative rates. The committee evaluates the extent to which contracts reference IBOR cash flows, whether such contracts will need to be amended as a result of IBOR reform and how to manage communication about IBOR reform with counterparties. The committee reports to the Group's board of directors quarterly and collaborates with other business functions as needed. It provides periodic reports to management of interest rate risk and risks arising from IBOR reform.

The Group's main IBOR exposure at 31 December 2022 was indexed to LIBOR and THBFIX. The Group has finished the process of amending contractual terms for all of the LIBOR indexed exposures to incorporate THOR by 31 December 2022. In respect of THBFIX exposures, the Group has been a party to agreements that introduce fallback clauses into all such instruments. These clauses automatically switch the instruments from THBFIX to Fallback Rate (THBFIX) as and when THBFIX ceases.

The Group holds interest rate swaps for risk management purposes that are designated in cash flow hedging relationships. The interest rate swaps have floating legs that are indexed to THBFIX. The Group's derivative instruments are governed by contracts based on the International Swaps and Derivatives Association (ISDA)'s master agreements.

The Group replaced its THBFIX interest rate derivatives used in cash flow hedging relationships with economically equivalent interest rate derivatives referencing Fallback Rate (THBFIX) by the end of 2022.

The Group monitors the progress of transition from IBOR to new benchmark rate by reviewing the total amounts of contracts that have yet to transition to an alternative benchmark rate and the amounts of such contracts that include an appropriate fallback clause.

The following table shows the total amounts of financial instruments that have yet to transition to an alternative benchmark rates. The amounts of financial assets and financial liabilities are shown at their carrying amounts and derivatives are shown at their notional amounts.

<i>Key reference rate under the existing contracts</i>	<b>Consolidated financial statements</b>		<b>Separate financial Statements</b>	
	LIBOR	THBFIX	LIBOR	THBFIX
<i>At 31 December 2022</i>				
Derivatives assets	-	187	-	-
Loans from financial institutions	6,797	4,211	2,779	3,825

*(in million Bath)*

#### (c.3.1) Foreign currency risk

The Group is exposed to the transactions with foreign currency risk to the extent that there is a mismatch between the currencies in which sales, purchases, lending's and borrowings are denominated and the respective functional currencies of the Group. The functional currencies of the Group are primarily Thai Baht. The currencies in which these transactions are primarily denominated are US Dollars and Japanese Yen.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The Group primarily utilises forward exchange contracts with maturities of less than one year to hedge such financial assets and financial liabilities denominated in foreign currencies. The forward exchange contracts entered into at the reporting date also relate to anticipated sales, purchases and loans to denominated in foreign currencies. These contracts are designated as cash flow hedges. The Group's policy specifies the critical terms of the forward exchange contracts to align with the hedged item.

The Group primarily utilises cross currency swap contracts to hedge such financial liabilities denominated in foreign currencies. The cross-currency swap contracts entered into at the reporting date also relate to borrowings denominated in foreign currencies. These contracts are designated as cash flow hedges.

The Group determines the existence of an economic relationship between the hedging instrument and hedged item based on the currency, amount and timing of their respective cash flows. The Group assesses whether the derivative designated in each hedging relationship is effective in offsetting changes in cash flows of the hedged item using the hypothetical derivative method.

## Notes to the financial statements

For the year ended 31 December 2022

<i>Exposure to foreign currency at 31 December</i>	Consolidated financial statements				Separate financial statements			
	United States Dollars	Japanese Yen <i>(in million Baht)</i>	Others	Total	United States Dollars	Krone Norway <i>(in million Baht)</i>	Others	Total
<b>2022</b>								
Cash and cash equivalents	5,074	40	166	5,280	3,573	-	-	3,573
Trade and other receivables	1,844	-	200	2,044	1,765	-	-	1,765
Interest-bearing liabilities	(8,923)	(4,375)	-	(13,298)	(2,779)	-	-	(2,779)
Trade and other payables	(1,213)	(6)	(72)	(1,291)	(9,787)	-	-	(9,787)
<b>Net statement of financial position exposure</b>	<b>(3,218)</b>	<b>(4,341)</b>	<b>294</b>	<b>(7,265)</b>	<b>(7,228)</b>	<b>-</b>	<b>-</b>	<b>(7,288)</b>
Loans from financial institution designated as net investment hedge	-	591	-	591	-	-	-	-
Currency swaps contracts	136	-	-	136	-	-	-	-
Forward exchange purchase contracts	3,917	-	-	3,917	3,917	-	-	3,917
<b>Net exposure</b>	<b>835</b>	<b>(3,750)</b>	<b>294</b>	<b>(2,621)</b>	<b>(3,311)</b>	<b>-</b>	<b>-</b>	<b>(3,311)</b>
<b>2021</b>								
Cash and cash equivalents	3,814	20	492	4,326	2,183	-	-	2,183
Trade and other receivables	1,124	-	71	1,195	2,445	-	-	2,445
Loan to related parties	104	-	-	104	-	1,072	-	1,072
Interest-bearing liabilities	(16,016)	(4,966)	(2)	(20,984)	(2,688)	-	-	(2,688)
Trade and other payables	(1,741)	(2)	(38)	(1,781)	(4,990)	-	(4)	(4,994)
<b>Net statement of financial position exposure</b>	<b>(12,715)</b>	<b>(4,948)</b>	<b>523</b>	<b>(17,140)</b>	<b>(3,050)</b>	<b>1,072</b>	<b>(4)</b>	<b>(1,982)</b>
Loans from financial institution designated as net investment hedge	2,688	1,017	-	3,705	-	-	-	-
Currency swaps contracts	270	-	-	270	-	-	-	-
Forward exchange selling contracts	(447)	-	-	(447)	(447)	-	-	(447)
<b>Net exposure</b>	<b>(10,204)</b>	<b>(3,931)</b>	<b>523</b>	<b>(13,612)</b>	<b>(3,497)</b>	<b>1,072</b>	<b>(4)</b>	<b>(2,429)</b>



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### *Sensitivity analysis*

A reasonably possible strengthening (weakening) of the Thai Baht against all other currencies at the reporting date would have affected the measurement of financial instruments denominated in a foreign currency. This analysis assumes that all other variables, in particular interest rates, remain constant.

<i>Impact to profit or loss</i>	Movement (%)	Consolidated financial statements		Separate financial statements	
		Strengthening	Weakening <i>(in million Baht)</i>	Strengthening	Weakening
<i>At 31 December 2022</i>					
USD	5	75	(75)	(63)	63
JPY	2	(68)	68	-	-
<i>At 31 December 2021</i>					
USD	5	630	(630)	43	(43)
JPY	2	(94)	94	-	-
NOK	5	(54)	54	(54)	54

#### (c.3.2) Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows because loan interest rates are mainly float. The Group mitigates this risk by using interest rate swaps, to manage exposure to fluctuations in interest rates on specific borrowings.

The Group adopts a hedging policy to ensure that interest rate risk exposure is at an appropriate level. This is achieved partly by entering fixed-rate instruments and partly by borrowing at a floating rate and using interest rate swaps as hedges of the variability in cash flows attributable to movements in interest rates.

The Group determines the existence of a relationship between the hedging instrument and hedged item based on the reference interest rates, tenors, repricing dates and maturities and the notional or par amounts.

The Group assesses whether the derivative designated in each hedging relationship is expected to be effective in offsetting changes in cash flows of the hedged item using the hypothetical derivative method.

In these hedge relationships, the main sources of ineffectiveness are:

- the effect of the counterparty's and the Group's own credit risk on the fair value of the interest rate swaps, which is not reflected in the change in the fair value of the hedged cash flows attributable to the change in interest rates and;
- differences in repricing dates between the swaps and the borrowings.

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

<i>Exposure to interest rate risk at 31 December</i>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b><i>Financial instruments with variable interest rates</i></b>				
Financial liabilities	(30,626)	(27,601)	(6,594)	(4,394)
<b>Net statement of financial position exposure</b>	<b>(30,626)</b>	<b>(27,601)</b>	<b>(6,594)</b>	<b>(4,394)</b>
Interest rate swaps	639	740	-	-
<b>Net exposure</b>	<b>(29,987)</b>	<b>(26,861)</b>	<b>(6,594)</b>	<b>(4,394)</b>

#### *Fair value sensitivity analysis for fixed-rate instruments*

The Group does not account for any fixed-rate financial assets or financial liabilities, at FVTPL, and the Group does not designate derivatives (interest rate swaps) as hedging instruments under a fair value hedge accounting model. Therefore, a change in interest rates at the reporting date would not affect profit or loss.

#### *Cash flow sensitivity analysis for variable-rate instruments*

A reasonable possible change of 1% in interest rates at the reporting date; this analysis assumes that all other variables, in particular foreign currency exchange rates, remain constant.

<b><i>Impact to profit or loss</i></b>	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	0.25% increase in interest rate	0.25% decrease in interest rate	0.25% increase in interest rate	0.25% decrease in interest rate
	<i>(in million Baht)</i>			
<b>2022</b>				
Financial instruments with variable interest rate	45	(45)	(2)	2
<b>2021</b>				
Financial instruments with variable interest rate	(33)	33	2	(2)

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### (d) Hedge accounting

#### (d.1) Cash flow hedges

At 31 December 2022 and 2021, the Group held the following financial instruments to hedge exposures from changes in foreign currency and interest rates.

At 31 December	Consolidated financial statements					
	2022			2021		
	Within one year or less	Maturity More than 1 year but less than 5 years	More than 5 years	Within one year or less	Maturity More than 1 year but less than 5 years	More than 5 years
<b>Foreign currency risk</b>						
<i>Cross currency swaps</i>						
Net exposure (in million Baht)	15	62	75	48	121	124
Average THB:USD cross currency swaps	31.07	31.07	31.07	29.51	29.94	30.42
<i>Forward exchange contracts</i>						
Net exposure (in million Baht)	4,507	-	-	2,906	-	-
Average THB:USD forward contracts rate	34.06	-	-	-	-	-
Average THB:JPY forward contracts rate	0.2635	-	-	0.2986	-	-
<b>Interest rate risk</b>						
<i>Interest rate swaps</i>						
Net exposure (in million Baht)	14	41	16	15	44	23
Average fixed interest rate (%)	3.14	3.13	3.06	3.13	3.12	3.06

The amounts at the reporting date relating to items designated as hedged items were as follows.

At 31 December	Consolidated financial statements		
	Change in value used for calculating hedge ineffectiveness	Cash flow hedge reserve	Balance remaining in the cash flow hedge reserve from hedging relationships for which hedge accounting is no longer applied
<i>(in million Baht)</i>			
<b>2022</b>			
<b>Interest rate risk</b>			
Loans from financial institutions with variable interest rates	-	32	-
<b>2021</b>			
<b>Foreign currency risk</b>			
Loans from financial institutions denominated in foreign currencies	-	72	-
<b>Interest rate risk</b>			
Loans from financial institutions with variable interest rates	-	(38)	-

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The amounts relating to items designated as hedging instruments and hedge ineffectiveness were as follows.

	<b>Consolidated financial statements</b>	
	2022	2021
	<i>(in million Baht)</i>	
<b>Foreign currency risk</b>		
<b>At 31 December</b>		
Cross currency swaps – nominal amount	136	270
Carrying amount included in:		
- other current financial assets	-	3
- other non-current financial assets	-	13
Forward exchange contracts – nominal amount	4,507	2,906
Carrying amount included in:		
- other current financial assets	2	68
<b>For the year ended 31 December</b>		
<b>Recognised in OCI</b>		
- changes in value of the hedging instrument	(4)	-
<b>Interest rate risk</b>		
Interest rate swaps – nominal amount	72	82
Carrying amount included in:		
- other current financial assets (liabilities)	61	(3)
- other non-current financial liabilities	(55)	(29)
<b>For the year ended 31 December</b>		
<b>Recognised in OCI</b>		
- changes in value of the hedging instrument	32	72

The following table provides a reconciliation by risk category of components of equity and analysis of OCI items, net of tax, resulting from cash flow hedge accounting.

	<b>Consolidated financial statements</b>	
	2022	2021
	<i>(in million Baht)</i>	
<b>Balance at 1 January</b>	(45)	(114)
<b>Cash flow hedges</b>		
Changes in fair value:		
Foreign currency risk - Loans from financial institutions	(4)	-
Interest rate risk - Loans from financial institutions	32	72
<b>Balance at 31 December</b>	<b>(17)</b>	<b>(42)</b>

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

For the year ended 31 December 2022

#### (d.2) Net investment hedges

A foreign currency exposure arises from the Group's net investment in its Japanese subsidiary that has a Japanese Yen functional currency and the Group's net investment in its Singaporean subsidiary that has a United States Dollar functional currency. The risk arises from the fluctuation in spot exchange rates between the Japanese Yen and the Thai Baht and the fluctuation in spot exchange rates between the United States Dollar and the Thai Baht, which causes the amount of the net investment to vary.

The hedged risk in the net investment hedge is the risk of a weakening Japanese Yen against the Thai Baht and the risk of a weakening United States Dollar against the Thai Baht that will result in a reduction in the carrying amount of the Group's net investment in the Japanese and net investment in the Singapore subsidiaries.

The Group's net investment in its Japanese subsidiary is hedged by a Japanese Yen-denominated loans from financial institutions and the Group's net investment in its Singaporean subsidiary is hedged by a United States Dollar-denominated loans from financial institutions, which mitigates the foreign currency risk arising from the subsidiary's net assets. The loan is designated as a hedging instrument for the changes in the value of the net investment that is attributable to changes in the THB/JPY spot rate and THB/USD spot rate.

To assess hedge effectiveness, the Group determines the economic relationship between the hedging instrument and the hedged item by comparing changes in the carrying amount of the debt that is attributable to a change in the spot rate with changes in the investment in the foreign operation due to movements in the spot rate (the offset method). The Group's policy is to hedge the net investment only to the extent of the debt principal.

The amounts related to items designated as hedged items were as follows.

<b>Consolidated financial statements</b>			
	Change in value used for calculating hedge ineffectiveness	Foreign currency translation reserve <i>(in million Baht)</i>	Balance remaining in the foreign currency translation reserve from hedging relationships for which hedge accounting is no longer applied
<b>2022</b>			
USD net investment	1,123	(92)	1,031
JPY net investment	-	106	-
<b>2021</b>			
USD net investment	563	(167)	396
JPY net investment	1	-	-

## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

The amounts related to items designated as hedging instruments were as follows.

	<b>Consolidated financial statements</b>	
	2022	2021
	<i>(in million Baht)</i>	
<b><i>At 31 December</i></b>		
Foreign exchange - denominated debt (USD) - nominal amount	2,779	2,688
Foreign exchange - denominated debt (JPY) - nominal amount	590	1,017
Carrying amount included in borrowings	3,369	3,705
<b><i>For the year ended 31 December</i></b>		
<b><i>Recognised in OCI</i></b>		
- changes in value of the hedging instrument	16	(167)
<b><i>Recognised in profit or loss</i></b>		
- change in value used for calculating hedge ineffectiveness	-	1

#### Capital Management

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board regularly monitors the return on capital, by evaluating result from operating activities divided by total shareholders' equity, excluding non-controlling interests and also monitors the level of dividends to ordinary shareholders.

#### 31 Commitments with non-related parties

	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	2022	2021	2022	2021
	<i>(in million Baht)</i>			
<b><i>Capital commitment</i></b>				
Construction contracts	5,226	3,643	555	224
<b>Total</b>	<b>5,226</b>	<b>3,643</b>	<b>555</b>	<b>224</b>
<b><i>Other commitment</i></b>				
Bank guarantees	2,613	257	919	155
<b>Total</b>	<b>2,613</b>	<b>257</b>	<b>919</b>	<b>155</b>

# Bangchak Corporation Public Company Limited and its Subsidiaries

## Notes to the financial statements

For the year ended 31 December 2022

### 32 Contingent liabilities and contingent assets

In 2022, the Company became a defendant in a case where a property was claimed under land title deed No. 2465 in Tambon Bangchak, Amphoe PhraKhanong, Bangkok Metropolis. The Company was demanded to remove buildings and return such land, for which the claimant sought compensation of Baht 5 billion if such action is not taken. In 1995, the Ministry of Finance, Treasury Department, and the Company had faced litigation under the same land title deed, which in 2016 the Supreme Court dismissed, considering all the land under the title deed already eroded by the Chao Phraya River. So, this exercise represented resurrected litigation, for which the Company contested. On 28 December 2022, a lower court dismissed the claim in agreement with the facts previously decided by the Supreme Court that all the land had been eroded and had become public property. The verdict is currently under appeal by 28 February 2023. The Company believes that the outcome of this case will not impact the Company. Therefore, the Company did not recognise contingent liability that may occur from the case.

In 2022, the Company and its subsidiary received the notice of arbitration from the counterparty claiming that the Company and its subsidiary have breached the investment agreement, in turn, the Company and its subsidiary have to deliver a payment of a sum of approximately USD 23 million including interest of such sum and other related costs and damages. The Company and its subsidiary insist that it has performed and complied with the terms and conditions of the disputed agreement, and make a payment of the sum which the Company and its subsidiary believe to be the amount due and payable by it according to such agreement. In this regard, the Company and its subsidiary have filed a defence denying the excess and unfair claims against it, and proceeded to appoint an arbitrator in order to settle such dispute in accordance with the relevant procedure.

In July 2021, an indirect subsidiary of the Group has been filed an accusation of failing to comply with the hire of work agreement by a contractor. The dispute has requested the indirect subsidiary to compensate for the loss incurred from breaching the construction contract totaling Baht 121 million. In September 2021, the indirect subsidiary has filed an objection to the Arbitration Institute. This dispute is still in the arbitration process. Later in February 2022, the indirect subsidiary was filed a temporary suspense order to use the dispute asset. The Civil Court dismissed the suspense order to use the dispute asset. However, in October 2022, the indirect subsidiary has been filed a temporary suspense order to use the dispute asset again. Currently, the case is being in the Civil Court. The management of the indirect subsidiary believes that the indirect subsidiary has fully complied with the condition in the agreement. Therefore, as at 31 December 2022, the indirect subsidiary did not recognise contingent liability or other impact that may occur from the dispute.

### 33 Events after the reporting period

#### *Dividend payment*

At the Board of Directors' meeting held on 20 February 2023, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2022 dividend payment at the rate of Baht 2.25 per share of which Baht 1.25 per share was paid as an interim dividend. Thus, the remaining dividend will be at the rate of Baht 1.00 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 11 April 2023.

At the Board of Directors' meeting of BCPG Public Company Limited held on 20 February 2023 the Board of subsidiary approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2022 dividend payment at the rate of Baht 0.36 per share, of which Baht 0.20 per share was paid as an interim dividend. Thus, the remaining dividend will be at the rate of Baht 0.16 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 10 April 2023.



## Bangchak Corporation Public Company Limited and its Subsidiaries

### Notes to the financial statements

#### For the year ended 31 December 2022

At the Board of Directors' meeting of BBGI Public Company Limited held on 16 February 2023 the Board of subsidiary approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2022 dividend payment at the rate of Baht 0.25 per share, of which Baht 0.20 per share was paid as an interim dividend. Thus, the remaining dividend will be at the rate of Baht 0.05 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 5 April 2023.

At the Board of Directors' meeting held on 30 January 2023, the Board of subsidiary approved a dividend payment at the rate of Krone 1 per share, of which totaling NOK 104 million. This dividend will be paid in March 2023.

#### *Capital increase of PetroWind Energy Inc. ("PWEI")*

At the Board of Directors' meeting held on 20 December 2022, the Board of PetroWind Energy Inc. ("PWEI"), a joint venture of BCPG Wind Cooperatief U.A. ("BCPGW"), which is an indirect subsidiary of the Group, has approved a capital increase of Philippine Peso 156 million from the original registered capital of Philippine Peso 1,900 million to Philippine Peso 2,056 million. PWEI called for payment of the new shares issued amounting to Philippine Peso 9.75 million. On 11 January 2023, BCPGW paid 40% of the total amount according to its percentage of ownership interest, amounting to Philippine Peso 3.9 million (Approximately Baht 2.45 million). The percentage of investment of the indirect subsidiary in the joint venture remains at 40%.

#### *Investment in Esso (Thailand) Public Company Limited*

At the Board of Directors' meeting held on 11 January 2023, the Board approved to submit for approval at the Annual General Meeting of the Shareholders the acquisition of common shares in Esso (Thailand) Public Company Limited ("Esso") from ExxonMobil Asia Holdings Pte. Ltd. ("ExxonMobil"). The Company has entered a share purchase agreement with ExxonMobil on 11 January 2023 and the settlement of the purchase is expected to be completed in the latter half of 2023. The Company will acquire 2,283,750,000 common shares (account for 65.99% of the total outstanding shares of Esso as at 30 September 2022) from ExxonMobil which has net worth of Baht 55,500 million.

#### *Investment in combined cycle power generation plants*

On 24 January 2023, the Board of Directors Meeting of a subsidiary approved an investment in combined cycle power generation plants in the United States of America. On 15 February 2023, the subsidiary established indirect subsidiary incorporated in the United States for the purpose of investing in power plants. Such indirect subsidiary is wholly owned by the subsidiary. Subsequently, on 17 February 2023, the indirect subsidiary of the Group entered into a share purchase agreement for acquisition of 49% of the membership interest in AP-BCPG CCE Partners LLC ("AP-BCPG CCE") from AP Carroll County Holdings LLC ("APCCH") and acquisition of 49% of the membership interest in AP-BCPG SFE Partners LLC ("AP-BCPG SFE") from AP South Field Holdings LLC ("APSFH") with total amount of not exceeding USD 115 million, to acquire a generation capacity of 150.98 megawatts, proportionated to the membership's interest.

A person in a white suit and dark tie is seated at a desk. They are holding a silver pen over a document. On the desk, there is a black calculator, a clipboard with a document, and several other papers with charts and graphs. The background is slightly blurred, showing an office environment.

Part

Certification of Information  
and Data Accuracy

## Certification of information and data accuracy for submitting 56-1 One Report

Having carefully verified the information and data shown in this annual registration statement / annual report, Bangchak certifies that they are completely accurate, factual, and not misleading or lacking in essential detail. In addition:

1. The financial statements and data summarized in annual registration statement / annual report show essentially accurate information and data about its financial standing, performance, and cash flow of Bangchak and its subsidiaries.
2. It has put in place a good information and data disclosure system to ensure that it discloses essential details about itself and its subsidiaries completely and accurately, while ensuring due compliance.
3. It has put in place a good internal control system and ensured due compliance with such system. Bangchak has provided internal control system assessment details as of December 31, 2022, to the external auditor and the Audit Committee, including defects and key changes in the internal control system together with wrongdoing potentially affecting the preparation of the financial reports for itself and its subsidiaries.

As evidence that all documents are identical to those certified by Bangchak, the company has assigned Ms. Wannasiri Trongtrakulwong to put her initials on every page of the documents. Therefore, if her initials are missing on any given page, Bangchak will disown such data.

<b>Name</b>	<b>Position</b>	<b>Signature</b>
1. Mr. Pichai Chunhavajira	Chairperson	<i>(Signed) Pichai Chunhavajira</i>
2. Mr. Chaiwat Kovavisarach	Group Chief Executive Officer and President	<i>(Signed) Chaiwat Kovavisarach</i>
<b>Authorized person</b>	<b>Position</b>	<b>Signature</b>
Ms. Wannasiri Trongtrakulwong	Senior Vice President, Corporate Compliance and Company Secretary	<i>(Signed) Wannasiri Trongtrakulwong</i>

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# Attachment 1

## Profiles of Directors, Executives, Head of finance and accounting, Accounting Supervisor and Company Secretary

### The Board of Directors

#### Mr. Pichai Chunhavajira

Chairperson of the Board and Director with Authorized Signature (Independent Director)

(Started on April 24, 2012 and Independent director since June 1, 2017)

- Age 73
- Education/Training
  - Master of Business Administration, Indiana University of Pennsylvania, USA
  - Bachelor of Business Administration (Accounting), Thammasat University
  - Honorary Ph.D. (Accounting), Thammasat University
  - Honorary Ph.D. (Financial Management), Mahasarakham University
  - Honorary Ph.D. (Financial Management), Sripatum University
  - Diploma, The Joint State – Private Sector Course Class 13 , The National Defence College
  - Certified Auditor, Federation of Accounting Professions
  - Director Accreditation Program (DAP49/2006), Thai Institute of Directors (IOD)
  - Director Certification Program (DCP143/2011), Thai Institute of Directors (IOD)
  - Top Executive Program, Class 5, Capital Market Academy (CMA), Stock Exchange of Thailand
- Experience (5 years past experiences)
  - 2012 – Present : Chairperson of the Board, Bangchak Corporation Public Company Limited
  - 2014 – 2017 : Member of Board, Bank of Thailand
  - 2001 – 2013 : Director, PTT Exploration and Production Public Company Limited
- Other directorship positions/other positions at present
  - Other listed companies
    - o Chairman, BCPG Public Company Limited
    - o Chairman, BBGI Public Company Limited
  - Non-listed companies
    - o President, Thailand Boxing Association
    - o Vice President, National Olympic Committee of Thailand
    - o President of the Asian Boxing Confederation (ASBC)
- Shareholding in the Company: 450,000 shares or 0.033% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

**Mr. Suthep Wongvorazathe**  
**Vice Chairperson and Director with Authorized Signature**  
**(Started on October 30, 2012)**

- Age 74
- Education/Training
  - Master of Business Administration, University of Wisconsin, USA
  - Bachelor of Business Administration, University of Wisconsin, USA
  - Director Accreditation Program (DAP48/2005), Thai Institute of Directors (IOD)
- Experience (5 years past experiences)
  - 2019 : Director, HSH-Siam Chaophraya Holdings Company Limited
  - 2003 – 2016 : Chairman of Audit Committee and Independent Director, Chumporn Palm Oil Industry Public Company Limited
  - 2010 – 2011 : Chairman of the Executive Board, Export-Import Bank of Thailand
- Other directorship positions/other positions at present
  - Other listed companies
    - o Chairman, Khonburi Sugar Public Company Limited
    - o Chairman, M.K. Real Estate Development Public Company Limited
    - o Chairman of the Nomination Committee OKEA ASA – Oslo Stock Exchange (OSE)
  - Non-listed companies
    - o Chairman and Chairman of Executive Board, Thai Agro Exchange Company Limited
    - o Director, Asia Kangnam Company Limited
    - o Director, New Corp Company Limited
- Shareholding in the Company: 375,000 shares or 0.027% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

**Dr. Porameteer Vimolsiri****Independent Director (Started on June 7, 2018)****Chairperson of the Audit Committee**

- Age 62
- Education/Training
  - Doctor of Philosophy (Ph.D.) (Economics) Public Finance and Policy, Carleton University, Canada
  - Master of International Affairs (International Economics), Columbia University, USA
  - Bachelor of Economics, Chulalongkorn University
  - Diploma, National Defence Course (NDC51), The National Defence College
  - Director Certification Program (DCP86/2007), Thai Institute of Directors (IOD)
  - Audit Committee Program (ACP42/2013), Thai Institute of Directors (IOD)
  - Successful Formulation & Execution of Strategy (SFE19/2013) Thai Institute of Directors (IOD)
  - Executive Creative Economy Training (EXCET)
  - Chief Information Officer Program, Electronic Government Agency (EGA)
  - Top Executive Program in Commerce and Trade (TEPCoT), University of the Thai Chamber of Commerce
  - ASEAN Executive Management Programme
  - Business Development and Industry Investment for Executive, Institute of Business and Industrial Development (IBID)
- Experience (5 years past experiences)
  - Present : Chairman, Bank of Thailand
  - : Independent Director, Thaicom Public Company Limited
  - 2020 : Director, Electricity Generating Authority of Thailand
  - : Chairman, Government Pawnshop Board
  - 2018 – 2020 : Permanent Secretary, Ministry of Social Development and Human Security
  - 2015 – 2018 : Secretary General, Office of the National Economic and Social Development Board (NESDB)
- Other directorship positions/other positions at present
  - Other listed companies
    - o Independent Director, Thaicom Public Company Limited
  - Non-listed companies
    - o Chairman, Bank of Thailand
    - o Chairman, Office of Knowledge Management and Development
    - o Chairman, Stone One Public Company Limited
- Shareholding in the Company: 150,000 shares or 0.011% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



**Mr. Prasong Poontaneat****Independent Director (Started on November 1, 2021)****Chairperson of the Enterprise-wide Risk Management Committee**

- Age 63
- Education/Training
  - Ph.D. in Public Administration (Management for Development College), Thaksin University
  - Master of Business Administration (Organization Management), Dhurakij Pundit University
  - Bachelor of Business Administration in Accounting, Rajamangala University of Technology
  - Bachelor of Laws, Sukhothai Thammathirat Open University
  - Director Certification Program (DCP76/2006), Thai Institute of Directors (IOD)
  - Top Administrator Program Class 49, Interior College, Prince Damrong Rajanupab Institute of Research and Development
  - Senior Police Officers Course Class 18, Police College
  - Leader Program Class 14, Capital Market Academy, The Stock Exchange of Thailand
  - Executive Program, Energy Academy, Thailand Energy Academy (TEA2)
  - Diploma, National Defence Course (NDC52), The National Defence College
- Experience (5 years past experiences)
  - Present : Member of the Council of State, Office of the Council of State
  - 2020 : Chairperson, Krung Thai Public Company Limited
  - 2018 – 2020 : Permanent Secretary, Ministry of Finance
    - : Chairperson, The Office of Insurance Commission
    - : Commissioner, The Securities and Exchange Commission
    - : Chairperson, TMB Bank Public Company Limited
  - 2014 – 2020 : Chairperson, Airports of Thailand Public Company Limited
  - 2014 – 2018 : Director-General of the Revenue Department
  - 2012 – 2020 : Director, Bangchak Corporation Public Company Limited
  - 2011 : Chairperson, Export-Import Bank of Thailand
    - : Member of the Subcommittee on Finance, Thai Bar Association under the Royal Patronage
    - : Director of the Mahamakut Rajavidyalaya Foundation under Royal Patronage
- Other directorship positions/other positions at present
  - Other listed companies
    - o Chairman, Krungthai Card Public Company Limited
  - Non-listed companies
    - o Member of the Council of State, Office of the Council of State
    - o Director of the Mahasarakham University
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

**Mrs. Prisana Praharnkhasuk****Independent Director (Started on April 5, 2016)****Chairperson of the Nomination and Remuneration Committee**

- Age 68
- Education/Training
  - Master of Business Administration, Tarleton State University, USA
  - Bachelor of Business Administration, Chulalongkorn University
  - Bachelor of Business Administration (Accounting), Krirk University
  - Certificate of Insurance, College of Insurance, London, UK
  - Sasin Senior Executive Program (SEP13), Sasin Graduate Institute of Business Administration of Chulalongkorn University
  - Certificate of Completion CFO Certification Program, Federation of Accounting Professions
  - Certificate of NIDA-Wharton Executive Leadership Program, Wharton University of Pennsylvania
  - Director Certification Program (DCP119/2009), Thai Institute of Directors (IOD)
  - The Board's Role in Mergers and Acquisitions (M&A1/2011), Thai Institute of Directors (IOD)
  - Top Executive Program, Class 14, Capital Market Academy (CMA), Stock Exchange of Thailand
  - PTT Executive Leadership Development, GE Crotonville, USA
  - Financial and Fiscal Management Program for Senior Executive, Class 1
- Experience (5 years past experiences)
  - 2019 – 2021 : Director, OKEA ASA – Oslo Stock Exchange (OSE)
  - 2018 – 2019 : Director, Industrial Estate Authority of Thailand
  - 2017 – 2019 : Director, Siam Solar Power Public Company Limited
  - 2016 – 2019 : Director, Industrial Estate Authority of Thailand
  - 2015 – 2018 : Director, 10<sup>th</sup> Workmen's Compensation Fund Committee, Social Security Office
  - 2014 – 2015 : Senior Executive Vice President, Finance and Accounting, Thai Oil Public Company Limited
  - 2006 – 2013 : Executive Vice President, Corporate Accounting, PTT Public Company Limited
- Other directorship positions/other positions at present
  - Other listed companies
    - o Independent Director, Chairperson of the Audit Committee and Member of Nomination and Remuneration Committee TOA Paint (Thailand) Public Company Limited
    - o Independent Director and Chairperson of the Audit Committee, Siamese Asset Public Company Limited
  - Non-listed companies
    - o Independent Director and member of the Audit Committee, Siam Commercial Bank Public Company Limited
- Shareholding in the Company: 300,000 shares or 0.022% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

**Mr. Narin Kalayanamit****Independent Director (Started on April 8, 2022)****Chairperson of the Sustainability and Corporate Governance Committee**

- Age 64
- Education/Training
  - M.S. (Management and Human Relations), Abilene Christian University, TEXAS, U.S.A.
  - B.A. (Economic Political Science), Delhi University, INDIA
  - Certificate, Senior Administrator Program Class 48, Interior College Damrong Rajanupab Institute, Ministry of Interior
  - Management Development Program (Mini Master of Management Program (MMM)) Class 34, National Institute of Development Administration (NIDA)
  - Corporate Leadership Development under Globalization Fiscal Policy Research Institute, in collaboration with The Kellogg School of Management, The Schulich School of Business and The Maxwell School of Citizenship and Public Affairs
  - Director Certification Program (DCP 167/2012), Thai Institute of Directors (IOD)
  - Financial Statement for Directors (FSD 33/2017), Thai Institute of Directors (IOD)
  - The Board’s Role in Mergers and Acquisitions (BMA 1/2022), Thai Institute of Directors (IOD)
  - National Defence College (Class 50), The National Defence Course
  - Leadership Program Class 16, Capital Market Academy
  - Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives (PDI 14), King Prajadhipok’s Institute
  - Top Executive Program in Commerce and Trade (TEPCoT) Class 8, Commerce Academy
  - Advanced Certificate Course, Politics and Governance in Democratic Systems for Executives (Class 15), National Defence Collage
  - The Executive Program in Energy Literacy for a Sustainable Future TEA Class 12, Thailand Energy Academy
  - Tourism Management Program for Executives Class 1 (TME), Tourism Authority of Thailand
- Experience (5 years past experiences)
  - 2020 – Present : Qualified Director Life Insurance Fund Management Committee
    - : Chairman of Board of Directors, Industrial Estate Authority of Thailand
    - : Qualified Director of Insurance fund, Office of Insurance Commission (OIC)
  - 2019 – 2022 : Independent Director, BCPG Public Company Limited
  - 2018 – 2019 : Chairman, Government Housing Bank
    - : Director, The Commission of Victim Compensation Fund, Office of Insurance Commission
    - : Director, Civil Penalty Committee according “Securities and Exchange Act (No. 5) B.E. 2559”, The Securities and Exchange Commission, Thailand
  - 2017 – 2019 : Deputy Permanent Secretary, Ministry of Finance
    - : Director, Committee for the Protection of Credit Information
    - : Director, Neighboring Countries Economic Development Cooperation Agency
    - : Director of National Health Security Board, National Health Security Office
  - 2016 – 2017 : Chief Inspector General, Ministry of Finance
  - 2015 – 2019 : Director, CAT Telecom Public Company Limited
    - : Director and Chairman of the Audit Committee, Tourism Authority of Thailand
    - : Director and Chief Executive Officer, Government Housing Bank
  - 2014 – 2017 : Inspector – General, Ministry of Finance, Office of the Permanent Secretary

- Other directorship positions/other positions at present
  - Other listed companies  
None
  - Non-listed companies
    - o Chairman, Industrial Estate Authority of Thailand
    - o Qualified Director, Life Insurance Fund Management Committee
    - o Qualified Director, Insurance Fund, Office of Insurance Commission (OIC)
    - o Qualified Director, Economic, Finance or Fiscal, The Development of People's Finance Institution Committee, Bureau of Financial Inclusion Policy and Development, Fiscal Policy Office, Ministry of Finance
    - o Qualified Director, Economic, Ratchaphatsadu Land Committee, The Treasury Department, Ministry of Finance
- Shareholding in the Company: 300,000 shares or 0.022% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



**Pol.Lt.Gen. Chaiwat Chotima****Independent Director and Director with Authorized Signature (Started on April 9, 2014)**

- Age 70
- Education/Training
  - Master of Political Science, New Mexico University, USA
  - Bachelor of Political Science, Thammasat University
  - Advance Security Management Program (ASMP), Class 3, The National Defence College
  - Diploma, The Joint State – Private Sector Course Class 19, The National Defence College
  - Advanced Police Administration Program, Class 17, Institute of Police Administration Development
  - Conference concerning Narcotics and launder money Control in other countries, i.e., USA, UK, Canada, Germany, Australia, Japan, Hong Kong etc.
  - Director Certification Program (DCP194/2014), Thai Institute of Directors (IOD)
  - Financial Statements for Directors (FSD26/2014), Thai Institute of Directors (IOD)
  - Certificate, Executive Program in Energy Literacy for a Sustainable Future, Class 7, Thailand Energy Academy (TEA)
  - Top Executive Program, Class 15, Capital Market Academy (CMA), Stock Exchange of Thailand
- Experience (5 years past experiences)
  - 2011 : Commissioner, Narcotics Suppression Bureau
  - 2010 : Inspector-General (Inspection Division 8)
- Other directorship positions/other positions at present
  - Other listed companies  
None
  - Non-listed companies
    - o Vice President and Secretary, Thailand Boxing Association
    - o Vice Chairman, Asian Boxing Confederation (ASBC)
- Shareholding in the Company: 300,000 shares or 0.022% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Pol.Lt.Gen. Samran Nualma

### Independent Director (Started on April 8, 2022)

- Age 49
- Education/Training
  - Master of Political Science, Ramkhamhaeng University
  - Bachelor of Political Science, Royal Police Cadet Academy
  - Director Certification Program (DCP322/2022), Thai Institute of Directors (IOD)
- Experience (5 years past experiences)
  - Present : Assistant Commissioner of Royal Thai Police
  - 2021 – 2022 : Commissioner General of Metropolitan Police Bureau, Royal Thai Police
  - 2019 : Deputy Commissioner General of Metropolitan Police Bureau, Royal Thai Police
  - 2018 : Commander of Patrol and Special Operation Division
  - 2016 : Deputy Superintendent of Patrol and Special Operation Division  
: Superintendent of Patrol and Special Operation Division
  - 2012 : Superintendent, Don Mueang Police Station
- Other directorship positions/other positions at present
  - Other listed companies  
None
  - Non-listed companies  
None
- Shareholding in the Company: 300,000 shares or 0.022% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



## Mr. Achporn Charuchinda

Independent Director and Director with Authorized Signature (Started on January 4, 2022)

- Age 69
- Education/Training
  - Bachelor of Laws, Thammasat University
  - Thai Barrister-at-Law, Institute of Legal Education of the Thai Bar Association
  - Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
  - Law Drafting Certificate, India
  - Diploma, National Defence Course (NDC46), The National Defence College
- Experience (5 years past experiences)
  - Present : Member of the Council of State, The Office of the Council of State
  - 2017 – 2019 : Chairman, National Reform Committee in Justice Process, National Reform Committee  
: Board Member in Legal, Office of the National Economic and Social Development (NESDB)
  - 2016 : Director, Thailand Tobacco Monopoly, Ministry of Finance
  - 2015 – 2020 : Board Member, Office of the National Economic and Social Development (NESDB)
  - 2015 – 2018 : Board Member, Highland Research and Development Institute (Public Organization)
  - 2014 – 2020 : Board Member, Office of Insurance Commission
  - 2013 – 2021 : Director, PTT Exploration and Production Public Company Limited
  - 2013 – 2017 : Board Member, The Bank of Thailand
  - 2013 – 2016 : Director, Thai Smile Airways Company Limited
  - 2013 – 2015 : Chairperson, the Securities and Exchange Commission
  - 2012 – 2015 : Member of the Legal Committee, Thai Airways International Public Company Limited
- Other directorship positions/other positions at present
  - Other listed companies  
None
  - Non-listed companies
    - o Executive Board Life Insurance Fund
    - o Advisory Board, The Crown Property Bureau
    - o Special Advisory Committee, Highland Research and Development Institution (Public Organization)
    - o Member of the Risk Oversight Committee, The Bank of Thailand
    - o Member, Constitution Drafting Committee
    - o Member of the Council of State, The Office of the Council of State
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Mr. Chaovalit Ekabut

### Independent Director (Started on January 27, 2022)

- Age 64
- Education/Training
  - Master of Engineering, Industrial and Manufacturing Engineering, Asian Institute of Technology (AIT)
  - Bachelor of Engineering, Mechanical Engineering (Honor), Chulalongkorn University
  - Advanced Management Program (AMP), Harvard Business School, USA
  - Director Accreditation Program (DAP27/2004), Thai Institute of Directors (IOD)
  - Director Certification Program (DCP84/2007), Thai Institute of Directors (IOD)
  - Role of Chairman Program (RCP24/2010), Thai Institute of Directors (IOD)
  - Cyber Resilience for Directors of Financial Institutions, Bank of Thailand
- Experience (5 years past experiences)
  - 2020 – Present : Independent Director and Member of the Audit Committee,  
Siam Commercial Bank Public Company Limited
  - 2019 – Present : Advisor to President & CEO, The Siam Cement Public Company Limited
  - 2018 – Present : Director, SCG Ceramics Public Company Limited
  - 2018 : Vice President, Office of President & CEO, The Siam Cement Public Company Limited
  - 2015 – 2018 : Director, Thai Plastic and Chemicals Public Company Limited
  - 2011 – 2019 : Commissioner, PT Chandra Asri Petrochemical Tbk, Indonesia
  - 2011 – 2018 : Vice President – Finance and Investment & CFO,  
The Siam Cement Public Company Limited and SCG Companies
- Other directorship positions/other positions at present
  - Other listed companies
    - o Director, SCG Ceramics Public Company Limited
    - o Advisor to President & CEO, The Siam Cement Public Company Limited
  - Non-listed companies
    - o Independent Director and Chairman of the Audit Committee, Siam Commercial Bank Public Company Limited
    - o Director and Treasurer, Friends of AIT Foundation
    - o Executive Director, SCG Foundation
    - o Member of the Executive Committee and Chairman of the Audit Committee, Asian Institute of Technology (AIT)
    - o Director and Strategy Committee on Integrated Operations of the Institute under the Industry Development Foundation
    - o Director, Thailand Productivity Institute
- Shareholding in the Company: 300,000 shares or 0.022% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Mr. Chamroen Phothiyod

Director (Started on October 1, 2021)

- Age 59
- Education/Training
  - Master of Public Administration, National Institute of Development Administration
  - Bachelor of Laws, Ramkhamhaeng University
  - Capital Market Academy Programs, Class 31, Capital Market Academy, The Stock Exchange of Thailand (SET)
  - Senior Public Sector Finance and Fiscal Manager Program, Class 7, The Comptroller General's Department
  - Certificate, Executive Program in Energy Literacy for a Sustainable Future, Class 13, Thailand Energy Academy (TEA)
  - Top Executive Program in Commerce and Trade (TEPCoT), Class 11, Commerce Academy, University of the Thai Chamber of Commerce
  - Executive Professional Development Course : Port and Shipping Trend & Technology, World Maritime University
  - Corporate Governance Program for Directors and Executives of State Enterprises and Public Organizations (PDI), Class 17, King Prajadhipok's Institute
  - Director Certification Program (DCP242/2017), Thai Institute of Directors (IOD)
  - Ethical Leadership Program (ELP27/2022), Thai Institute of Directors (IOD)
  - Inspector General Course for the Fiscal Year 2017, The Office of the Permanent Secretary, The Prime Minister's Office.
  - Diploma, National Defence Course (NDC 58), The National Defence College
  - Anti-corruption Strategic Management for Senior Executives Course, Class 4, Sanya Dharmasakti Anti-Corruption Institute, Office of the National Anti-Corruption Commission
  - Senior Executive Program, Class 73, College of Administrators, Civil Service Development Institute, The office of the Civil Service Commission
- Experience (5 years past experiences)
  - Present : Director General, The Treasury Department  
: Chairman of the Board of Directors, Dhanarak Asset Development Company Limited
  - 2021 – 2022 : Director, National Telecom Public Company Limited  
: Director, Bank for Agriculture and Agricultural Cooperatives  
: Deputy Permanent Secretary, Ministry of Finance
  - 2019 – 2020 : Director, Bangkok Mass Transit Authority  
: Director, Sports Authority of Thailand
  - 2018 – 2020 : Chief Inspector General, Ministry of Finance
  - 2018 – 2019 : Director, National Housing Authority
  - 2016 – 2019 : Director, S.R.T. Electrified Train
  - 2016 – 2018 : Inspector General, Ministry of Finance
  - 2014 – 2019 : Director, Port Authority of Thailand
- Other directorship positions/other positions at present
  - Other listed companies  
None
  - Non-listed companies
    - o Chairman of the Board of Directors, Dhanarak Asset Development Company Limited
    - o Director, Anti-Corruption Foundation
- Shareholding in the Company: 600,000 shares or 0.044% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



## Mr. Boonchob Suthamanuswong

Director (Started on October 28, 2021)

- Age 59
- Education/Training
  - Bachelor of Arts (Political Science), Ramkhamhaeng University
  - Master of Public Administration, National Institute of Development Administration
  - Director Accreditation Program (DAP196/2022), Thai Institute of Directors (IOD)
  - Certificate, Senior Executive Program, Class 48
  - Advanced Certificate Course in Public Administration and Law for Executives, Class 7
  - Diploma, The Joint State – Private Sector Course Class 25 , The National Defence College
  - Corporate Governance Program for Committee Members and Senior Officials of State Enterprises and Public Organizations, Class 12
  - Certificate, Executive Program in Energy Literacy for a Sustainable Future, Class 5, Thailand Energy Academy (TEA)
  - E-Government Program for Senior Officials (e-GSO), Class 1
  - Senior Executive Program in Urban Development Management, Class 5
  - Inspector-General Program, 2015
  - Certificate, Justice Administration for Senior Officials, Class 6
  - Certificate, Public Laws Administration for Senior Officials, Class 4
  - Volunteer Spirit 904 Training, Permanent Core Curriculum Cohort no. 4/62
  - Environmental Governance Certificate Program for Senior Executives, Class 8
  - Rule of Law for Democracy Program, Class 10
  - Top Executive Program on China Business Insights and Network (TEPCIAN 2)
- Experience (5 years past experiences)
  - 2021 – Present : Permanent Secretary, Ministry of Labour
  - 2014 – 2021 : Chief of Inspector-General, Ministry of Natural Resources and Environment
  - 2012 – 2014 : Director-General, Royal Forest Department
  - 2011 : Director-General, Department of Marine and Coastal Resources
- Other directorship positions/other positions at present
  - Other listed companies
    - o Chairman, Tasco International Company Limited
  - Non-listed companies
    - o Permanent Secretary, Ministry of Labour
    - o Director, Debaratana Vejjanukula Foundation
    - o Director, The Royal Initiative Discovery Institute (RIDl)
    - o Advisor to Chairman, Pid Thong Lang Phra Foundation
    - o Advisor, Mae Fah Luang Foundation under the Royal Patronage
    - o Qualified Director, Anti-Money Laundering Committee
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Executive Director

### Mr. Chaiwat Kovavisarach

Group Chief Executive Officer and President

Executive Director, Director with Authorized Signature

(Started on October 30, 2012 and served as the President since January 1, 2015)

- Age 56
- Education/Training
  - Master of Engineering, Asian Institute of Technology (AIT)
  - Master of Business Administration (MBA), Thammasat University
  - Bachelor of Engineering (Honor), King Mongkut's Institute of Technology Ladkrabang (KMITL)
  - Investment Banking, Kellogg Business School, Northwestern University
  - Director Certification Program (DCP 168/2013), Thai Institute of Directors (IOD)
  - Role of the Nomination and Governance Committee (RNG 4/2013), Thai Institute of Directors (IOD)
  - Diploma, National Defence Course (NDC58), The National Defence College
  - Certificate, Executive Program in Energy Literacy for a Sustainable Future, Class 10, Thailand Energy Academy (TEA)
  - Top Executive Program, Class 26 Capital Market Academy (CMA), Stock Exchange of Thailand
  - Senior Justice Administration, College of Justice, Judicial Training Institute, Class 25
  - Role of the Chairman Program (RCP 46/2020), Thai Institute of Directors (IOD)
- Experience (5 years past experiences)
  - 2022- Present : Group Chief Executive Officer and President, Bangchak Corporation Public Company Limited
  - 2015 : President and Chief Executive Officer, Bangchak Corporation Public Company Limited
- Other directorship positions/other positions at present
  - Other listed companies
    - o Vice Chairman, BCPG Public Company Limited
    - o Director, BBGI Public Company Limited
    - o Chairman, OKEA ASA – Oslo Stock Exchange (OSE)
  - Non-listed companies
    - o President, Suan Kulab Witthayalai Alumnus Association Under the Royal Patronage of H.M. the King
    - o Expert Member, Government Pension Fund
    - o Chairman of Thai-Europe Business Council, Joint Committee on Private Sector 3 Institutions (Kor.Kor.Ror.)
    - o Advisory Board, The Petroleum and Petrochemical College, Chulalongkorn University
    - o Director, Thailand Management Association (TMA)
    - o Executive Chairman/Board of Trustees, Asian Institute of Technology (AIT)
    - o Vice Chairman, The Federation of Thai Industries
    - o Advisor, Investment Subcommittee, Government Pension Fund
- Shareholding in the Company: 1,950,000 shares or 0.142% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## The Executives

### Mr. Pativat Tivasasit

#### Chief Operation Officer, Refinery Business Group

Age 62

- Education / Training
  - Bachelor of Science (Chemical Technology), Chulalongkorn University
  - Executive Development Program (EDP), Thai Listed Companies Association (TLCA)
  - Advanced Diploma, Public Administration and Public Law, Class17/2018, King Prajadhipok's Institute
  - Advanced Security Management Program, Class 11/2019, Security Management Foundation
- Experience
  - Bangchak Corporation Public Company Limited
    - Present : Chief Operation Officer, Refinery Business Group
    - 2021 – 2022 : Chief Operation Officer & Senior Executive Vice President, Refinery Business Group
    - 2020 : Senior Executive Vice President, Refinery Business Group
    - 2019 : Executive Vice President, Refinery Manufacturing Business acting Senior Executive Vice President, Refinery Business Unit
    - 2017 : Executive Vice President, Refinery Manufacturing Business
    - 2016 : Acting Executive Vice President, Refinery Manufacturing Business
    - 2015 : Senior Vice President, Refinery Operation
    - 2014 : Vice President, Refinery Operation
    - 2012 : Vice President, Safety Health and Environment
    - 2009 : Senior Manager, Process Division 2
    - 2006 : Senior Manager, Commissioning Project
  - Other directorship positions / Other positions at present
    - Other listed companies
      - None
    - Non-listed companies
      - o Director, BCP Trading Pte. Ltd.
      - o Director, General Energy Manning Company Limited
  - Shareholding in the Company: 99,500 shares (spouse 48,500 shares) or 0.0072% (As of December 31, 2022)
  - Familial relationship between directors and executives: None
  - Criminal records on violation of securities and futures contract laws: None



## Mr. Somchai Tejavanija

### Chief Marketing Officer and Senior Executive Vice President, Marketing Business Group

- Age 60
- Education / Training
  - Master of Business Administration (MBA), Thammasat University
  - Bachelor of Engineering, Kasetsart University
  - Stanford–SEAC Leading in a Disruptive World 4 (LDW4) The Stanford Center for Professional Development (SCPD), Stanford University
  - Strategy and Innovation for Business in Asia (SIBA7) Massachusetts Institute of Technology (MIT), College of Management Mahidol University (CMMU)
  - Director Certification Program (DCP157/2012), Thai Institute of Directors (IOD)
  - Successful Formulation & Execution of Strategy (SFE28/2016), Thai Institute of Directors (IOD)
  - Top Executive Program, Class 30, Capital Market Academy (CMA), Stock Exchange of Thailand
  - Top Executive Program in Commerce and Trade (TEPCoT11/2018), University of the Thai Chamber of Commerce
  - Advanced Master of Management Program Class 8, National Institute of Development Administration
  - Executive Management with Business Development and Investment (IBID3), Institute of Business and Industrial Development
  - Advanced Security Management Program (ASMP) class 6, The National Defence College
  - Thammasat Leadership Program (Class4), Thammasat University
  - Advanced Certificate Course in Public Administration and Law for Executives (Class12), King Prajadhipok's Institute
  - Executive Development Program (EDP6), Thai Listed Companies Association (TLCA)
  - Energy Leadership Development for Senior Managers (Class4), Ministry of Energy
- Experience
  - Bangchak Corporation Public Company Limited
    - 2017 – Present : Chief Marketing Officer and Senior Executive Vice President, Marketing Business Group
    - 2016 : Senior Executive Vice President, Natural Resources and Business Development
    - 2014 : Senior Executive Vice President, Corporate Strategy and Business Development
    - 2013 : Executive Vice President, Business Development and Strategy
    - 2011 : Executive Vice President, Marketing Business, responsible for Retail Marketing, and Acting Vice President, Marketing Business Strategy and Planning
    - 2010 : Senior Vice President–Marketing Business Strategy and Planning, Marketing Business
- Other directorship positions / Other positions at present
  - Other listed companies  
None
  - Non-listed companies
    - o Chairman, Bangchak Retail Company Limited
    - o Director, Bangchak Green Net Company Limited
- Shareholding in the Company: 79,522 shares or 0.00578% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Mr. Surachai Kositsareewong

### Senior Executive Advisor

- Age 60
- Education / Training
  - Master of Business Administration, Steton School of Economics and Business Administration Mercer University, USA
  - Bachelor of Business Administration, Chulalongkorn University
  - Director Certification Program (DCP152/2011), Thai Institute of Directors (IOD)
  - Director Accreditation Program (DAP49/2006), Thai Institute of Directors (IOD)
  - Audit Committee Program (ACP16/2007), Thai Institute of Directors (IOD)
  - CFO Certification Program, Federation of accounting professions
  - The Training Program on Structured Notes, Thailand Securities Institute
  - Frontiers in Infrastructure Finance Distance Learning Course, The World Bank Institute
  - Energy Training Program, AON
  - Executive Development Program (EDP), Fiscal Policy Research Institute
  - Intermediate Certificate Course in Good Governance for Middle Level Executives, Class 12, Public Director Institute
  - Diploma, The National Defence Course (NDC56), The National Defence College
  - CEDI BABSON Entrepreneurial Leadership Program, Babson College Wellesley, Massachusetts, USA
  - Top Executive Program, Class 23, Capital Market Academy (CMA), Stock Exchange of Thailand
  - Certificate, Program for Thai – Chinese Leadership Institute, Huachew Chalermprakiet University
  - Certificate, Program for Thammasat World Leadership Program (TWLP3)
  - Certificate, Thai Financial Reporting Standards 3 (Business Combination) (2019), EY Office Limited
  - Certificate, Thai Financial Reporting Standards 9 (Fundamental) (2019), Federation of Accounting Professions of Thailand
  - Financial Reporting Standards Program related to the operations of the group of companies (2020), KPMG Phoomchai Audit Company Limited
  - Accounting Update for the year 2021, KPMG Phoomchai Audit Company Limited
- Experience
  - Bangchak Corporation Public Company Limited
    - 2022 : Senior Executive Advisor
    - 2015 – 2022 : Senior Executive Vice President, Accounting and Finance Group
    - 2013 : Senior Executive Vice President, Accounting and Finance
    - 2012 : Acting Senior Executive Vice President, Accounting and Finance
    - 2009 : Executive Vice President, Accounting and Finance
  - Others
    - 2012 – 2018 : Commissioner of the Arbitration Committee
    - 2014 – 2017 : Commissioner, The Electronic Transactions Commission
    - 2012 – 2014 : Director, MCOT Public Company Limited
    - 2012 – 2014 : Director, Government Saving Bank
    - 2007 – 2009 : Vice President (Administration) and Chief Finance Officer, Dhanarak Asset Development Company Limited
- Other directorship positions / Other positions at present
  - Other listed companies  
None
  - Non-listed companies  
None
- Shareholding in the Company: 51,000 shares or 0.0037% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Mr. Chokchai Atsawarangsalit

### Senior Executive Vice President, Corporate Management and Organization Development

- Age 54
- Education / Training
  - Master of Business Administration, Kasetsart University
  - Director Certification Program (DCP108/2008), Thai Institute of Directors (IOD)
  - Executive Development Program (EDP), Thai Listed Companies Association (TLCA)
  - Energy Leadership Development for Senior Managers, Class6, Ministry of Energy
  - Senior Executive Program (SEP26), The Sasin Graduate Institute of Business Administration of Chulalongkorn University
  - Diploma courses in Public Economics Management for Executives, Class 13, King Prajadhipok's Institute
  - Leadership Succession Program (LSP5), Institute of Research and Development for Public Enterprises (IRDP)
  - Leading in a Disruptive World Program (LDW), Southeast Asia Center (SEAC), Stanford University
  - Diploma, The National Defence Course (NDC63), The National Defence College
  - Digital CEO Course Program Class 5, Digital Economy Promotion Agency (DEPA)
- Experience
  - Bangchak Corporation Public Company Limited
    - 2020 – Present : Senior Executive Vice President, Corporate Management, and Organization Development
    - 2019 : Executive Vice President acting Senior Executive Vice President, Corporate Management and Organization Development
    - 2015 : Executive Vice President, Marketing Business and Oil Terminal
      - : Executive Vice President, Exploration and Production, Corporate Strategy and Business Development
    - 2014 : Senior Vice President, Exploration and Production, Corporate Strategy and Business Development
    - 2012 : Senior Vice President, Business Development, Corporate Business Development
    - 2009 : Vice President, Business Development, Corporate Business Development
    - 2007 : Vice President, Company Secretariat, and Company Secretary
  - Other directorship positions / Other positions at present
    - Other listed companies
      - None
    - Non-listed companies
      - o Vice Chairman, Happiness Sharing Foundation (Bai Mai Pun Suk)
      - o Chairman, Winnonie Company Limited
      - o Director, General Energy Manning Company Limited
      - o Director, Data Café Company Limited
  - Shareholding in the Company: 34,500 shares or 0.0025% directly held (As of December 31, 2022)
  - Familial relationship between directors and executives: None
  - Criminal records on violation of securities and futures contract laws: None

## Mr. Kittiphong Limsuwannarot

### Senior Executive Vice President, appointed to BBGI Public Company Limited

- Age 58
- Education / Training
  - Master of Business Administration (MBA), University of Dallas, Texas, USA
  - Bachelor of Science, Chemical Engineering, Chulalongkorn University
  - Director Certification Program (DCP191/2014), Thai Institute of Directors (IOD)
  - Top Executive Program in Commerce and Trade (TEPCoT13/2020), University of the Thai Chamber of Commerce
  - McKinsey Management Program (MMP) 2020, Thai Listed Companies Association (TLCA) & McKinsey
  - Thunderbird School of American Graduate School of International Management Arizona, USA (2004)
  - Esso Leadership Program II, Malaysia (2002)
  - Esso Leadership Program, Singapore (2001)

- Experience

#### Bangchak Corporation Public Company Limited

- 2021 – Present : Senior Executive Vice President, Acting as President and Chief Executive Officer, BBGI Public Company Limited
- 2020 : Acting Senior Executive Vice President, appoint to BBGI Public Company Limited  
: Managing Director, Bangchak Biofuel Company Limited
- 2019 : Executive Vice President, Acting as Senior Vice President, Biodiesel and New Business, BBGI Public Company Limited

#### Others

- 2015 – 2020 : President Thai Bioplastics Industry Association : TBIA
- 2015 – 2019 : Vice President – Downstream Market Development PTT Global Chemical Public Company Limited
- 2014 – 2018 : Managing Director, Solution Creation Company Limited
- 2013 – 2015 : Vice President – Green Chemical Business  
: PTT Global Chemical Public Company Limited
- 2007 – 2012 : Product manager, Global Polypropylene and Global Hydrocarbon Fluids ExxonMobil Chemical, Texas, USA
- 2002 – 2007 : Regional Manager, Sales Supply, ExxonMobil Chemical, Texas, Hongkong
- Other directorship positions / Other positions at present
  - Other listed companies
    - o President and Chief Executive Officer, BBGI Public Company Limited
    - o Director, Ubon Bio Ethanol Public Company Limited
  - Non-listed companies
    - o Chairman, BBGI Utility and Power Company Limited
    - o Chairman, BBGI Bio diesel Company Limited
    - o Director, BBGI Bioethanol (Chachoengsao) Company Limited
    - o Director, BBGI Bioethanol Public Company Limited
    - o Director, Manus Bio Inc.,
    - o Director, BCP Trading Pte.Ltd
    - o Director, WIN Ingredients Company Limited
    - o Director, National Energy Technology Center
    - o Director, The Institute of Industrial Energy, The Federation of Thai Industries

- o Director, Industrial Promotion and Support, The Federation of Thai Industries
- o Vice Chairman, Engineering Institute of Thailand (Chemical and Petrochemical Engineering)
- o Director, National Center for Genetic Engineering and Biotechnology (BIOTEC)
- o Director, Council of Scientific and Technological Associations of Thailand (COSTAT)
- o Director, Plastics Institute of Thailand
- Shareholding in the Company: 73,800 shares or 0.0054% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Mr. Phuwadon Suntornwipart

### Senior Executive Vice President, appointed to BCPG Public Company Limited

- Age 54
- Education / Training
  - Bachelor of Engineering (Mechanical), Chulalongkorn University
  - Director Certification Program (DCP299/2020), Thai Institute of Directors (IOD)
  - Director Accreditation Program (DAP148/2018), Thai Institute of Directors (IOD)
- Experience
  - Bangchak Corporation Public Company Limited
    - Present : Senior Executive Vice President, Acting as President, BCPG Public Company Limited
    - 2021 – 2022 : Executive Vice President, Energy and Natural Resources Business Development
  - Others
    - 2019 – 2021 : Director and Chief Operating Officer and Business Development Inter Far East Energy Corporation Plc. (IFEC)
    - 2018 : Managing Director, DOD Biotech Plc.
    - 2016 – 2018 : CEO, Equator Solar Capital Company Limited
    - 2012 – 2016 : Managing Director–Thailand and Neighboring Countries, SunEdison Energy (Thailand) Co., Ltd.
    - 2009 – 2012 : Vice President ASEAN Government Relation, assigned to PTTEP Global Business, Bangkok, Schlumberger
    - 2007 – 2009 : Vice President Global Strategy & Quality, Texas, USA, Schlumberger
    - 2005 – 2007 : Regional Managing Director and CEO, North ASEAN and Bangladesh Region, Bangkok, Schlumberger
    - 2003 – 2005 : Country Managing Director Schlumberger Group Vietnam, Ho Chi Minh City, Vietnam, Schlumberger
- Other directorship positions / Other positions at present
  - Other listed companies
    - o President, BCPG Public Company Limited
  - Non-listed companies
    - o Director, Monsoon Wind Company Limited (MWP)
    - o Director, Huang Ming Japan Company Limited
    - o Director, BCPG Formosa Company Limited
    - o Director, BSE Power Holding (Thailand) Company Limited
    - o Director, Petroleum Institute of Thailand
    - o President, Thai Photovoltaic Industries Association
    - o Independent Director, Arkitektura Company Limited
    - o Member of Sub committee of Electricity Price Restructuring, House of Representatives
- Shareholding in the Company: 38,400 shares or 0.0028% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Mr. Thamarat Paryoonsuk

### Senior Executive Vice President, Refinery Business Group

- Age 52
- Education / Training
  - Master’s Degree, Business Administration, Ramkhamhaeng University
  - Bachelor’s Degree, Engineering, Kasem Bundit University
  - Product Distribution Course, Japan Cooperation Center Petroleum (JCCP)
  - Advanced Certificate Course in Public Administration and Law for Executives, King Prajadhipok’s Institute
  - Stategiest Course, National Defence Studies Institute
  - Anti-Corruption the Practical Guide (ACPG 47/2018), Thai Institute of Directors (IOD)
- Experience
  - Bangchak Corporation Public Company Limited
    - Present : Senior Executive Vice President, Refinery Business Group
    - 2021 – 2022 : Executive Vice President, Refinery and Logistics Business
    - 2019 – 2020 : Vice President, Refinery and Logistics Business
    - 2017 : Senior Manager, Logistics Business and Asset Availability Management Division
    - 2011 : Manager, Logistics Business
    - 2007 : Manager, Logistics Business (Tank Yard Section)
  - Other directorship positions / Other positions at present
    - Other listed companies
      - None
    - Non-listed companie
      - o Director, Fuel Pipeline Transportation Ltd.
      - o Director, General Energy Manning Co., Ltd.
      - o Director, Bangkok Fuel Pipeline and Logistics Co., Ltd
      - o Director, BCP Trading Pte., Ltd.
      - o Director, BSGF Co., Ltd.
- Shareholding in the Company: 140,400 shares or 0.0102% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



## Mr. Bundit Hansapaiboon

### Senior Executive Vice President, Corporate Sustainability Development and Strategic Synergy

- Age 50
- Education / Training
  - Master of Business Administration (MBA), LEHIGH University, USA
  - Bachelor of Engineering (Chemical Engineering), Chulalongkorn University
  - Director Certification Program (DCP 296/2020), Thai Institute of Directors (IOD)
  - Energy Academy for New Executives, Thailand Academy Energy (TEA)
  - Executive Development Program (EDP), Thai Listed Companies Association (TLCA)
  - Financial Statements for Directors (FSD), Thai Institute of Directors (IOD)
- Experience
  - Bangchak Corporation Public Company Limited
    - Present : Senior Executive Vice President, Corporate Sustainability Development and Strategic Synergy
    - 2019 – 2022 : Executive Vice President, Planning and Trading Business
    - 2018 – 2019 : Senior Vice President, Planning and Trading Business
    - 2017 : Senior Vice President, Refinery Strategic and Planning
    - 2016 – 2017 : Vice President Associate Business, Bio-based products business  
(Managing Director, Bangchak Bioethanol (Chacheongsao) Co. Ltd.)
    - 2014 – 2016 : Vice President Associate Business, Renewable Energy Business
    - 2012 – 2014 : Senior Manager Associate Business (Assistant Managing Director, Bangchak Biofuel Co. Ltd.)
  - Other directorship positions / Other positions at present
    - Other listed companies
      - None
    - Non-listed companies
      - o Director, BCP Trading Pte., Ltd.
      - o Director, Bangkok Fuel Pipeline and Logistic Co. Ltd.
      - o Director, BSGF Co., Ltd.
      - o Director, BCPR Company Limited
      - o Director, BCPR Pte. Ltd.
      - o Director, BCP Innovation Pte. Ltd.
      - o Director, BCV Innovation Company Limited
      - o Director, BCV Energy Company Limited
- Shareholding in the Company: 153,120 shares (Spouse 21,924 shares) or 0.0111% (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## The person taking the highest responsibility in finance and accounting since October 1, 2022

**Ms. Phatpuree Chinkulkitnivat**  
**Senior Executive Vice President, Accounting and Finance**  
**(Effective on January 1, 2023)**

- Age 48
- Education / Training
  - Master of Business Administration (High Distinction), School of Business Administration, University of Michigan, Ann Arbor, USA
  - Bachelor of Economics (First Class Honors), Faculty of Economics Chulalongkorn University, Thailand
  - Director Certification Program (DCP 300/2020) Thai Institute of Directors (IOD)
  - Advanced Management Program, Harvard Business School (AMP 192/2017)
  - Decentralized Finance and Blockchain, Chulalongkorn University (2022)
  - Bain APAC Executive Digital Immersion, Beijing (2017)
  - Bain Executive Digital Immersion, Silicon Valley, (2016)
  - CEDI-BABSON Entrepreneurial Leadership Program, Babson College (2013)
  - Pacific Rim Bankers Program, Foster School of Business, University of Washington (2011)
  - CFA (“Chartered Financial Analyst”) Charter holder (2002)
- Continuing Professional Development (CPD) in 2022
  - e-learning CFO’s Refresher Course, Stock Exchange of Thailand
- Experience
  - Bangchak Corporation Public Company Limited
    - Present : Senior Executive Vice President, Accounting and Finance, and Acting Executive Vice President, Financial Controller
    - 2019 – 2022 : Executive Vice President, Acting as Senior Executive Vice President, Finance and Accounting, BCPG Public Company Limited
  - Others
    - 2014 – 2018 : Senior Vice President, Strategic Planning Head/ Office of President, Commercial Banking Group
    - 2012 – 2014 : Senior Vice President and Regional Manager, Commercial Banking Group
- Other directorship positions / Other positions at present
  - Other listed companies  
None
  - Non-listed companies
    - o Director, BCP Trading Pte. Ltd.
    - o Director, BCPR Company Limited
    - o Director, BCPR Pte. Ltd.
    - o Director, BCV Innovation Company Limited
    - o Director, BCV Energy Company Limited
    - o Director, BCP Innovation Pte. Ltd.
    - o Director, Winnonie Company Limited
    - o Director, Mee Tee Mee Ngern Company Limited
    - o General Manager, NamSan 3A Sole Power Co.,Ltd.
    - o General Manager, NamSan 3B Sole Power Co.,Ltd.
- Shareholding in the Company: 133,800 shares or 0.0097% (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Company Secretary

### Ms. Wannasiri Trongtrakulwong

#### Senior Vice President, Corporate Compliance and Company Secretary

- Age 51
- Education / Training
  - Master of Business Administration (MBA), Chulalongkorn University
  - Bachelor's Degree in Commerce and Accounting, Thammasat University
  - Financial Advisor Course, Association of Investment Management Companies
  - Director Certification Program (DCP307/2021), Thai Institute of Directors (IOD)
  - Company Secretary Program (CSP126/2022), Thai Institute of Directors (IOD)
  - Corruption Risk and Control Workshop (CRC12/2022), Thai Institute of Directors (IOD)
  - Ethical Leadership Program (ELP27/2022), Thai Institute of Directors (IOD)
- Experience
  - Bangchak Corporation Public Company Limited
    - 2022 – Present : Senior Vice President, Corporate Compliance and Company Secretary
    - 2021 : Senior Vice President, Acting as Senior Executive Vice President, BBGI Public Company Limited
    - 2016–2021 : Senior Vice President, Acting as Senior Executive Vice President, Accounting and Finance, Bangchak Retail Company Limited
  - Others
    - 2007 – 2015 : Director and Deputy Managing Director, Avantgarde Capital Company Limited
    - 2004 – 2006 : Director, Investment Banking, Turnaround Company Limited
    - 1999 – 2004 : Manager, Deloitte Touche Tohmatsu Corporate Company Limited
- Other directorship positions / Other positions at present
  - Other listed companies  
None
  - Non-listed companies  
None
- Shareholding in the Company: 18,100 shares or 0.00131% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

#### Scope of duties

- o Prepare and maintain key documents, including the Board roster, meeting notices, minutes of Board meetings and shareholders' meetings, annual reports, and reports of vested interests
- o Schedule Board meetings and shareholders' meetings under the law and company regulations.  
Coordinate conformance to the resolutions of Board and shareholders' meetings
- o Advise and support the performance of directors and the management under the law and relevant regulations
- o Coordinate between the Chairman and the President and Chief Executive Officer together with his management team, which includes coordination between Bangchak and its shareholders
- o Encourage the directors, management, and employees to conform to corporate governance
- o Perform other lawful tasks and Board-assigned tasks.

## Accounting Supervisor

### Ms. Chantip Wongchieowittaya

Vice President, Corporate Accounting (The person assigned to the direct responsibility of supervising accounting preparation and be a professional accountant charged with accounting duties with qualifications and conditions prescribed by the Notification of the Department of Business Development)

- Age 44 years
- Education / Training
  - Master of Accountancy, Faculty of Commerce and Accountancy, Chulalongkorn University
  - Bachelor's degree of Accountancy, Faculty of Commerce and Accountancy, Thammasat University
  - TLCA Executive Development Program (EDP), Thai Listed Companies Association (TLCA)
  - Digital Transformation, Kasetsart University
  - Financial Management and Business Planning, Japan Cooperation Center Petroleum (JCCP)
  - Executive Management Development Program (EMDP), Thailand Management Association (TMA)
  - CFO Focus on Financial Reporting Class 6, Federation of Accounting Professions (TFAC)
- Continuing Professional Development (CPD) in 2022
  - Trend for Thai Financial Reporting Standard of 2022– CPD (Accounting) 6 hours
  - Summary Key Issues for Thai Financial Reporting Standard for Non-Publicly Accountable Entities (TFRS for NPAEs) – CPD (Accounting) 6 hours
  - Be a professional accountant charged with accounting duties with qualifications and conditions prescribed by the Notification of the Department of Business Development
- Experience
  - Bangchak Corporation Public Company Limited
    - 2020 – Present : Vice President, Financial Accounting
    - 2019 : Acting Vice President, Financial Accounting
    - 2017 – 2018 : Manager, Accounting Policy and Consolidation Division
  - Others
    - 2014 – 2016 : Senior Manager, EY Office Limited
- Other directorship positions / Other positions at present
  - Other listed companies
    - None
  - Non-listed companies
    - o Director, Bangchak Corporation Public Company Limited Registered Provident Fund
    - o Director, Happiness Sharing Foundation (Bai Mai Pun Suk)
    - o Director, Suvanabhumi Salt Company Limited
- Shareholding in the Company: 36,900 Shares or 0.0027% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Attachment 2

### Profiles of Subsidiaries' Directors

Subsidiary	Directors		Position
1. Bangchak Green Net Co., Ltd.	1.1 Mr. Meechai	Veeravaidya	X
	1.2 Mr. Somkiat	Thatrithorn	/
	1.3 Mr. Somchai	Tejavanija	/
	1.4 Mr. Seri	Anupantanan	/
	1.5 Mr. Vattana	Phornpatkul	/
	1.6 Mr. Preecha	Sutthilertaron	//
2. BCP Trading Pte. Ltd.	2.1 Mr. Pativat	Tivasasit	/
	2.2 Mr. Kittiphong	Limsuwannarot	/
	2.3 Ms. Phatpuree	Chinkulkitnivat	/
	2.4 Mr. Bundit	Hansapaiboon	/
	2.5 Mr. Nut	Pooaree	/
	2.6 Mr. Paroche	Hutachareon	/
	2.7 Mr. Thamarat	Paryoonsuk	/

- Note:
- As of December 31, 2022
  - The 1.3 to 1.6 and 2.1 to 2.7 directors are representative directors of Bangchak
  - X = Chairman / = Director // = Managing Director
  - Subsidiary is a significant subsidiary company with revenues exceeding 10% of total revenues reported in the latest annual consolidated statements of income of Bangchak.

## Attachment 3

### Details of Head of Internal Audit and Head of Compliance Department

#### Head of Internal Audit

**Ms. Pornjit Sojisunsanee**

**Vice President, Internal Audit Department**

- Age 50
- Education / Training
  - Master of Accountancy, Chulalongkorn University
  - Bachelor of Business Administration, (Accounting) (Honor), Prince of Songkla University
  - Certified Internal Auditor (CIA)
  - Certification in Risk Management Assurance (CRMA)
  - Strategic IT Governance & Information Security and Cybersecurity Management For Executives
- Experience
  - Bangchak Corporation Public Company Limited
    - 2020–present : Vice President, Internal Audit Department
    - 2015 : Senior Manager, Internal Audit Office
    - 2011 : Manager, Internal Audit Office
- Other directorship positions / Other positions at present
  - Other listed companies  
None
  - Non-listed companies  
None
- Shareholding in the Company: 6,166 shares or 0.00045% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None

## Head of Compliance Department

### Ms. Pakawadee Junrayapes

#### Executive Vice President Corporate Compliance

- Age 61
- Education / Training
  - Master of Law, Ramkhamhaeng University
  - Bachelor of Law, Thammasat University
  - Thai Barrister at law, The Institute of Legal Education Thai Bar Association Under The Royal Patronage
  - Certificate in Business Law, Thammasat University
  - Certificate in English for Specific Careers (Law), Sukhothai Thammathirat Open University
  - Company Secretary Program (CSP34/2010), Thai Institute of Directors (IOD)
  - Director Certification Program (DCP142/2010), Thai Institute of Directors (IOD)
  - Executive Development Program (EDP2012), Ministry of Finance
  - Successful Formulation and Execution of Strategy (SFE16/2012), Thai Institute of Directors (IOD)
  - Anti-Corruption: The Practical Guide (ACPG2/2013) Thai Institute of Directors (IOD)
  - Thailand and the ASEAN Economic Community class 4/2013, King Prajadhipok's Institute
  - Advances for Corporate Secretaries, Class 2/2017, Thai Listed Companies Association (TLCA)
  - Certificate of Top Management (2017), Company cooperate with Thailand Management Association (TMA) and Duke Corporate Education (DUKE)
  - Advanced Diploma, Public Administration and Public Law, Class 17/2018 King Prajadhipok's Institute
  - Executive Program for Senior Justice class 23/2018, Judicial Training Institute
  - Boards that Make a Difference (BMD9/2019), Thai Institute of Directors (IOD)
  - IOD Open House 2020, Thai Institute of Directors (IOD)
  - Director Briefing 2021, Thai Institute of Directors (IOD)
  - Director Forum 2021, Thai Institute of Directors (IOD)
- Experience
  - Bangchak Corporation Public Company Limited
    - 2022 – Present : Executive Vice President, Corporate Compliance
    - 2020 – 2021 : Executive Vice President, Corporate Compliance and Company Secretary
    - 2018 : Executive Vice President, Sustainability Development and Corporate Compliance and Company Secretary
    - 2015 : Senior Vice President, Corporate Compliance and Company Secretary, and Company Secretary
    - 2011 : Vice President, The Secretary to The Board of the Directors Office, and Company Secretary
    - 2009 : Senior Manager, The Secretary to The Board of the Directors Office, and Company Secretary
    - 2007 : Senior Manager, Legal Office
  - Others
    - 2006 – 2008 : Personal Specialist of National Legislative Assembly Member and Sub-Committee on Energy
- Other directorship positions / Other positions at present
  - Other listed companies
    - None
  - Non-listed companies
    - o Director, Thai Listed Companies Association, Thai Institute of Directors (IOD)
- Shareholding in the Company: 76,000 shares or 0.0055% directly held (As of December 31, 2022)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



## Attachment 4

### Review of Business Asset and Asset Revaluation

#### **Review of Business Asset**

Details appear under (1.2) Business Description

#### **Asset Revaluation**

None



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