

Annual Information Filing

As of December 31, 2019

BANGCHAK CORPORATION PUBLIC COMPANY LIMITED

(English Translation)

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1. Policy and Business Overview

1.1 Vision, Mission, Objectives, Goals, and Business Strategies

Vision

Evolving Greenovation

To be the leading Asian Greenovative group, founded on good corporate governance, through inclusiveness and sustainability

Mission

Bangchak is committed in bringing disruptive and inclusive Greenovation to delight our customers, being a trusted partner and value creator for all stakeholders, and promoting sustainable development to society.

We emphasize inclusive and sustainable business, pursue domestic and overseas expansion, embrace good corporate governance principles, and nurture a high-performance organization, learning culture and happy workplace.

Objectives and Goals

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

Valuing sustainable corporate growth, Bangchak strives to internationalize its management excellence while humbly applying the royal 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, pursuing the leading Asian Greenovation Group vision as well as business, social, and environmental goals by 2024. Below are the highlights.

1. Business goals

1.1 Refining and Oil Trading Business Group: Elevate competitiveness and constantly raise the refining capacity to 120,000 barrels per day by 2024. In September this year the refinery recorded an all-time-high average output of 123,500 barrels per day. It also maximized refining efficiency and stability in tandem with the reduction of carbon dioxide. For instance, the YES-R Project phase 1-3, designed to develop yield, energy, efficiency, safety, and reliability; investigation to extend the TAM cycle period from two to three years; goal-setting to profit from refining operation improvement with the Rocket Project of no less than Baht 900 million a year by the end of 2020; and the 3Es Project (Debottlenecking Hydrocracker Unit) for higher capacity. As for the trading business, BCP Trading Pte. Ltd. (BCPT), founded in Singapore, plans to raise sales volumes through BCPT to over 250 KBD by 2024.

In addition, construction of the Enclosed Ground Flare is expected to be completed in early 2020. The main elements of consideration here are the refinery's surroundings and environmental friendliness under a modern green refinery.



- 1.2 Marketing Business Group:** Drive sales through retail channels to maintain the No. 2 market share this year, while recording a maximum market share of 16.5% in September. Bangchak launched a new product, Diesel B20S, with a unique additive for the first time in Thailand. Bangchak set a target for growing this share to more than 18% by 2024 by developing quality and service standards to maximize customer satisfaction, maintaining the top Net Promoter Score (NPS) along with customer relations management in order to create brand loyalty & engagement, and developing services. At the same time, Bangchak will deliver Greenovative Experience through digitalization for service users in parallel with the image improvement of service stations for uniqueness and accommodation of modern Thai's way of life, where all live their lives while participating in sustainable stewardship of the environment. SPAR convenient stores and Inthanin Coffee outlets are growing by at least 160 branches a year, while the overseas lubricant agent base will continually be expanded.
- 1.3 Green Power Business:** Bangchak develops this business through BCPG Pcl domestically and abroad by leveraging the 4Es strategies:



Expanding: Focus on growth in its core business by expanding major power plants through organic growth and inorganic growth (acquisition)

Extending: Grow business to accommodate the emerging energy business direction by entering new businesses related to the core business, including digital energy and energy storage

Enhancing: Develop and grow the potential of current power plants and internal work processes for maximum efficiency

Evaluating: Manage assets by regularly monitoring performance outcomes and review investment portfolio management for satisfactory returns.

This year BCPG grew its renewable power capacity by investing in a 69-MW hydropower plant in Chiang Kwang, Lao PDR.

1.4 Bio-based Products Business Unit: Constantly grow capacities for biofuels, including biodiesel and ethanol, with a 2024 capacity goal of 2.05 million liters/day (1 million liters/day of biodiesel and 1.05 million liters/day of ethanol). Also, a project to improve process efficiency and construct a glycerin refinery to become Thailand's biggest biofuel business operator and seller that is poised to develop high-value bioplastics and bio-based products. Finally, Bangchak will pursue investment opportunities in the bio-based product business by mobilizing funds on the stock exchange to strengthen its group as Thailand's leader in bio-based product business.



This year steps were taken to get the Company ready to produce and sell B10 in response to government policy and accommodate future demand.

1.5 Natural Resources Business: Develop the exploration and production (E&P) business and new resource business, including lithium mining.

- **E&P Business:** BCPR Pte. Ltd. was founded in Singapore for investment in OKEA ASA's petroleum deposits. Holding rights to the Draugen, Gjoa, Ivar Aasen, Yme, and Grevling oil fields and exploration rights in many fields in Norway, with an output capacity of 20 KBOED, the company successfully listed on the Norway stock exchange and has set as its goal investment growth to raise the output capacity in high-potential fields.
- **New Resource Business:** BCP Innovation Pte. Ltd. was established in Singapore to engage in businesses related to overseas innovation. Today this company has the No. 2 shareholding in Lithium Americas Corp., which engages in the lithium mining business, developing two lithium mines in Argentina and the USA. In Argentina, the Cauchari Project, with a capacity of 40,000 tons/year in the first phase, is expected to come on stream by 2021.

1.6 Organization, management, and innovation: Bangchak strives to enhance its competitiveness and organizational management by



setting goals to become an outstanding employer, foster HR excellence, and promoting employees' joint creation of innovations in business processes and new products or business models in line with the corporate vision. Bangchak's change management through its Transformation Program aligns with the "I AM BCP" corporate values. Also, it strives to foster sustainability under the Dow Jones Sustainability Indices (DJSI), which embraces economic, environmental, and social aspects under corporate governance to ensure investors that Bangchak can yield decent, sustainable investment returns. Finally, new businesses that contribute to sustainability will be extended by Bangchak's pursuit of startup investment and R&D activities with external agencies through BiiC. This year USD 8 million was invested in bio-based businesses and USD 9 million in clean-energy businesses, including investment in Thai energy startups.

- 1.7 Being open, transparent, and auditable:** Open, transparent, and accountable: Bangchak engages in open, transparent, and accountable business conduct, whether information disclosure of transparent conduct under corporate governance or other applicable rules.



2 Environmental and social goals

2.1 Pursuit of minimized net emission of carbon dioxide for minimal impacts on climate change (low-carbon company):

Bangchak set a goal of minimized net emission of carbon dioxide by implementing a project on relentless refinery efficiency and resource efficiency improvement while growing its investment in alternative and renewable energy production projects that contribute to the reduction of carbon dioxide.

2.2 Business development hand in hand with socio-environmental development:

Bangchak fosters sustainability by engaging in businesses that benefit the environment and society in parallel with business growth. To this end, both CSR after-Process and the creation of shared values between business, society, and the environment via the CSR/CSV in-

Process are carried out. In addition, the company sets an

extended goal from CSR/CSV, that is, a social enterprise to

create jobs and income while promoting among community

residents environmental preservation in their respective

localities. Instances are the establishment of the Bai Mai Pun

Sook Foundation, promotion of farmers' quality and value

development of agricultural produce for distribution via Oam Suk

Social Enterprise Co., Ltd., and promotion of agricultural products

exporting via SPAR distribution channels. To elaborate,



Bangchak promotes sugarcane planting to produce fresh sugarcane juice for sale in SPAR outlets, and buying of kluai namwah bananas from Northeastern, Northern, and Central Region farmers, thus adding to the income of some 4,000 households, and packaging “Kluai Imjai” bananas for giveaways at Bangchak service stations.

Business Strategies

To achieve its short-term and long-term goals, Bangchak relies on the 3S Strategy.

1. Security (S1)

Upstream energy represents Bangchak's core businesses leading to national energy security. Bangchak carries out this strategy jointly through its Refinery, Marketing, Natural Resource, and Bio-based Product Businesses by supplying, producing, and distributing refined products and biofuels to meet the demand of the business sector and the public—governed by the overall trend of energy demand. Though EVs command a growth outlook, today we still see these businesses of Bangchak as a necessity for growing national energy demand.

2. Stability (S2):

Bangchak manages its portfolio for growth with an investment focus



on businesses with steady revenue streams as well as steady returns and low external risks (domestic and abroad), including green power plants (via BCPG) featuring streams of income. To diversify risks, the company engages in risk management throughout its production chain covering assorted businesses in order to sustain volatility.

3. Sustainability (S3):

Bangchak develops related businesses that support or extend its core businesses' growth and sustainability to accommodate future technology and change, including the lithium battery business that accommodates EV car growth. Another example is the development of high-value bio-based products like bioplastics and bio-based products. In addition, Bangchak leverages innovations benefiting the environment and society via BiiC, which focuses on the pursuit of startup investment and R&D activities jointly with external agencies to relentlessly grow green and bio-based product businesses worldwide. To this end, Bangchak also established a "Bangchak WOW" model as the scope of collaboration with assorted partners in the public and private sectors covering Bangchak sites, Bangkok, and operating sites worldwide. The model embraces three main aspects. First, well-being improvement, meaning joint development of the quality of life in several aspects, including a given area's garbage management, stewardship of communities,



projects on business for the environment, development of vocational knowledge for groups of farmers, joint development of a grassroots economy, and development of community goods with expanded goods distribution channels. O stands for oxygen enhancement, meaning reforestation and tree planting, contribution to PM 2.5 reduction, and improved landscaping. W stands for water management, including joint care of rivers and canals as well as the vicinity, including the Chao Phraya River banks around Bangchak Port, Bang Krachao area, Bangchak Canal, and the mobilization of Oil spill removal vessels to aid various operations on the Chao Phraya River.

To frame its businesses and investment for sustainability, Bangchak leverages its 4 Green (4Gs) strategies.

The 4 GREEN Strategies are made up of:

1. Green Business

Bangchak strives for investment in businesses that foster sustainable values. Besides growing revenue from new undertakings, this strategy is the green initiatives applied to businesses, including high-value bio-based products derived from agricultural produce by way of biotechnological innovation, in turn extended from former biofuel production and sales, including bioplastics and biocosmetic ingredients. The company also values green power businesses and energy management, among others, involving BiiC, which incubate startups that could further Bangchak's businesses in the future.



2. Green Production

Bangchak strives for output capacity rises that are friendly to the environment and safe through efficient resource consumption, particularly water and energy. It adopted the ISO 14001 and IWO 50001 management systems and the OHSAS 18001 occupational health and safety system, which is poised to turn into ISO 45001, while raising safety management through the Process Safety Management (PSM) system.

3. Greenovative Experience

Bangchak strives to create new experience and new-look green innovation, termed the Bangchak Greenovative Experience, to accommodate Thais' new lifestyles where all can spend their lives with sustainable environmental stewardship, including:

- **Greenovative Product:** Bangchak strives for product quality development catering to customers' needs as well as being green. Today it produces and distributes fuel products of the Euro 4 standard of the public sector while selling two kinds catering to the Euro 5 standard, namely gasohol E20s and Hi-Premium Diesel S (premium diesel), designed for modern engines and reduction of dust and smoke caused by combustion. Bangchak also develops and sells Hi-Diesel B20s for sale to customers in the transport truck group and Hi-Diesel S B10, a green product supporting oil palm growers. As for the non-oil business, Bangchak values the environment, as in Inthanin Coffee's a concept of "Each of your Inthanin cups for our world". So far,



several projects have evolved, including Bangchak's pioneering use of 100% biodegradable cups, tilted cup lids instead of straws, now adopted as standard by all branches, and choice of organic coffee beans derived from community farms of farmer groups in northern provinces. Projects regarding convenient stores include one to cut down on the use of plastic bags, processing fruits for sale in SPAR outlets, and the SPAR Awards project of community product development and SME businesses that are built on for domestic sale and overseas sale.

- **Greenovative Service Station:** A new look will be given to Bangchak service stations, developed for a unique identity through the 4Rs process (renewable, recycle, reuse, and reduce). To elaborate, a solar rooftop was installed at the Bangchak – Si Nakharin service station for solar power generation and power bidding with the Blockchain technology, also known as the Green Community Energy Management System (GEMS); expansion of service stations equipped with EV chargers; water-saving by using rainwater and reusing water to water trees; use of energy-saving equipment; addition of green, lush areas and installation of amenities, including toilet designs catering to seniors and the handicapped; and finally, automatic inflators for greater service convenience in the march toward The Most Admired Brand.
- **Greenovative Mind** – ICT systems compile customers' data to develop services for speed and efficiency; member database development; more extensive installation of the Point of Sale Automation System at service stations; application development



to facilitate customers' application usage, including the operator customer group, for whom the Application BCP Link system was developed, as was the Auto Ordering System (AOS). As for customers at large, a Mobile Application system was developed for basic application suiting customers' needs and addition was made to the privileges of the BCP Green Miles card.

- **Greenovative Communities** – This concept gives customers experience as part of social and environmental assistance while upholding good cultures, including the giving away of surplus agricultural products to customers or the drive to sell green products, the hiring of the handicapped, and the BCP Roadside Assistance Project development to give motorists preliminary help at Bangchak service stations, including jump start and backup tire replacement, and finally, the development of a project on organic vegetables at service stations, meant to bring a better quality of life to station attendants while giving surplus vegetables to customers.

4. **Green Society**

This is a consistently implemented strategy evident in Bangchak's stewardship of the environment and its participation in developing the quality of life of Thai society through projects promoting and extending overall social development work for better lives. This move relied on the King's Philosophy and innovation, while new projects are undertaken with skillful external networks to grow Bangchak's social activities to match the requirement for sustainable national development. The work of the past year resembled a social lab for efficient work tools to jointly measure



results of development guidelines that relied on engagement and implosion of communities. To begin with, Bangchak investigates the foundation of society—education—and the extension and promotion of farmers and the new generation's participation in the development of goods and services by leveraging innovation and technology to raise national competitiveness and expand on the concept of business growth for sustainability and happiness—termed the Green Impact. Target groups have been diversified. For instance, the youth group, to drive the country one day; farmers and agricultural cooperatives, the majority of the Thai population; the startup and social group, which is a business group of the new generation that brings change and contributes to national development in assorted aspects while addressing the UN SDGs through assorted activities: Ruam Patthana School for a Better Educational Future, a contest of goods and the Green Impact Click ... Overhaul the Country Project (an online social project), the Kasettakorn Pan Suk model, and the march toward dissemination of the Synthetic Biology (SynBio) innovation, which is seen to overhaul business in the future.

1.2 Transition and milestone development

2019

Refinery and Oil Trading Business Group

- **All-Time High monthly refining throughput of 123.5 KBD**

The Refinery Business returned to normal with a full-steam refining throughput after a partial shutdown for equipment repair in the first half of the year. The average production hit a record high of 123.5 KBD in September, the peak since the commissioning of the



Hydrocrack Unit. Note that the healthy GRM supported a high production capacity, which at the time corresponded to the rise in refined product sale through the Marketing Business.

Marketing Business Group

- **No. 2 market share maintained with a new record of 16.5% and more successful B20 sales in September**

The Marketing Business maintained Bangchak's No. 2 market share nationwide while achieving a new high of 16.5% share in September. It also registered resounding success in B20 sale through the retail market.

- **Bangchak grabs No.1 NPS Score**

Bangchak proudly reported that its customers had ranked it at the top out of the 2019 assessment of the Net Promotion Score.

Green Power Business

- **In April, BCPG puts 10-MW Lom Ligor wind power facilities in Nakhon Si Thammarat on commercial production**

Lom Ligor Co., Ltd., a subsidiary of BCPG PCL, began commercial production (COD) and distribution of 10 MW to the Provincial Electricity Authority (PEA) on April 11. The contract with PEA calls for distribution of 8.965 MW for 25 years, with Baht 3.5/unit in adder to the base electric tariff for 10 years.



- **BCPG Indochina PCL, a BCPG subsidiary, acquires all shares of Nam San 3A Power Sole Co., Ltd., to invest in LPDR's hydropower project**

In September, BCPG Indochina PCL, a BCPG subsidiary, invested in a hydropower project in Laos with an installed capacity of 69 MW. This was 100% acquisition in Nam San 3A Power Sole Co., Ltd. (“Nam San 3A”), worth up to USD 174 million (Baht 5.532 billion). Nam San 3A had won a Build-Operate-Transfer concession for the development and operation of power plants under a take-or-pay contract with Electricite du Laos for 27 years, effective from January 2016.

Natural Resources and Business Development Business

- **In January, BCP Innovation Pte. Ltd. approve recapitalization from USD 42 million to USD 45 million**

The Extraordinary General Meeting of the Shareholders (EGM) approved the recapitalization of this company from USD 42 million (42 million shares at USD 1 per share) to USD 45 million (45 million shares at USD 1 per share). The shares were paid up in full.

- **OKEA ASA (“OKEA”) offers 15 million IPO shares on Oslo Stock Exchange in June**

OKEA ASA (“OKEA”) offered IPO shares at 21 Norway Krone each, enabling the company to now command 101,839,050 shares of fully paid-up registered capital. Bangchak currently holds 47,477,563 shares, or 46.52% of OKEA's registered capital.



Bangchak Initiative and Innovation Center (BiiC)

- **In January, BiiC invests in Enevate Corporation startup from the USA to extend investment in green power**

Bangchak, through the Bangchak Initiative and Innovation Center (BiiC), engaged in additional startup investment through BCP

Innovation Pte. Ltd., Bangchak's subsidiary. The California, USA,

company is called Enevate Corporation, a renowned company with proficiency in lithium battery production for EVs. Thanks to its

advanced innovation, energy charging is made 10 times faster.

- **BiiC invests in Bonumose startup from the USA to build on its bio-based business in April**

Bangchak, through BiiC, engaged in additional startup investment through BCP Innovation Pte. Ltd., Bangchak's subsidiary, in

Bonumose, an expert in sugar production from high-starch plants, a high-potential technology that can add value to agricultural produce

and extend Bangchak's bio-based business.

Corporate

- **Bangchak's perpetual bonds worth Baht 10 billion warmly received in October**

On October 18, 2019, Bangchak successfully offered perpetual bonds worth Baht 10 billion, rated at BBB+ by TRIS Rating, with an

A corporate rating and a stable outlook. The interest rate is 5.00% for the first five years. Investors showed remarkable interest, which



- made Bangchak decide to increase the volume from Baht 6 billion to Baht 10 billion, the greenshoe option being worth Baht 4 billion. This success was attributed to investors' confidence in Bangchak, enabling it to mobilize funds as planned at a suitable cost of funds.
- **In November, Repurchase of treasury stocks of up to Baht 2.1 billion approved**
Bangchak's Board of Directors Meeting No. 11/2562 of November 21, 2019, approved a project for repurchasing treasury stocks worth up to Baht 2.1 billion, about 5.00% of all sold shares. The purchase will take place on SET for six months from December 6, 2019, to June 5, 2020.

Awards of 2019

- Awards from the SET Awards 2019 event, organized by the Stock Exchange of Thailand (SET) and the Money and Banking Magazine:
 - **Sustainability Excellence Award of Honor** for having won the Best Sustainability Award for three consecutive years. Bangchak is recognized as an inspiring role model for its sustainable business performance.
 - **Best Innovative Company Award** from the Green Community Energy Management System (GEMS), for the green community management system used at Bangchak service stations.



- **1 in 98 Thailand Sustainability Investment (THSI) listed companies** for the fifth consecutive year. The Company has applied environmental, social and governance measures to help develop a sustainable business, with sustainable management mechanisms to provide investors with a choice of a quality portfolio with a long-term returns option.
- **Thailand Corporate Excellence Awards 2019 and SMEs Excellence Award**, presented by the Thailand Management Association (TMA) and SASIN Graduate Institute of Business Administration of Chulalongkorn University:
 - **Leadership Excellence**
 - **Innovation Excellence**
 - **Sustainable Development.**
- **Prime Minister's Industry Award 2019, Outstanding S-Curve Industry.** This award honors innovative and diligent companies that contribute to Thailand's industrial development, serving as role models for industrial enterprises to achieve the 10 S-Curve targeted industries as part of the mechanism to drive Thailand's new economy through increased productivity based on technology and innovation, presented by the Ministry of Industry.
- **Board of the Year Awards 2018** for the seventh consecutive year, Silver Prize for listed companies with market values of Baht 30 – 100 billion. The award is given to effective boards with best governance practices, generating good returns for investors while looking after all stakeholders, presented by the Thai



Institute of Directors (IOD) in cooperation with SET, the Board of Trade of Thailand, the Federation of Thai Industries (FTI), the Thai Bankers' Association, the Thai Listed Company Association, and the Federation of Thai Capital Market Organization.

- **Thailand Energy Award 2019, Best Practices, Renewable Energy Project**, Off-Grid (Power) Category. The prize honors Bangchak's Green Community Energy Management System (GEMS), a form of futuristic power purchase, and the smart service station system installed at Bangchak Service Station, Srinagarindra Road, for being an exemplary and an outstanding enterprise that promotes energy conservation and renewable-energy development in Thailand. The award was presented by the Department of Alternative Energy Development and Efficiency.
- **ASEAN Energy Award 2019**, Energy , Off-Grid (Power) Category. The prize honors Bangchak's Green Community Energy Management System (GEMS), a form of futuristic power purchase, and the smart service station system installed at Bangchak Service Station, Srinagarindra Road, at the The 37th ASEAN Ministers on Energy Meeting event.
- **Thailand Enterprise Innovation Award 2019** for the BIG-D (BCP is Going Digital), a digital transformation project arising from the vision of the Company's executives that emphasizes the use of green technology and digital technology through energy innovations to promote and expand business in line with



organizational strategies. As a result, the systems and processes in the Company became simplified, faster, and smarter for business in the digital economy age. The award was presented by the Department of Digital Economy (DEPA).

- **Thailand Quality Class (TQC) 2018** for quality organizational management and for passing assessment in leadership, strategy, customers, evaluation, knowledge analysis and management, personnel, operation and outcome. The TQC was awarded by the Office of Thailand Quality Award and the Thailand Productivity Institute.
- **CAC Change Agent Award.** Bangchak was one of the five companies recognized for their emphasis on promoting systematic anti-corruption practices in private businesses by joining the CAC Change Agent Program. Bangchak also ensures that its supply chain is transparent and free of corruption by persuading more than 10 its SME suppliers to join the CAC SME Certification program in the past year. The award was presented by CAC.
- **The Global Good Governance (3G) Awards 2019** by Cambridge IFA, an international financial advisory in the UK:
 - **The 3G Best CSR Award 2019** for the second consecutive year for outstanding corporate responsibility
 - **The 3G Best Green Initiative Award 2019** for outstanding performance in new, eco-friendly projects.



- **9th Asian Excellence Recognition Awards 2019** with votes and opinions from readers of magazines, investors, analyses, etc., organized by the Corporate Governance Asia (Hong Kong) Magazine:
 - **Best Investor Relations Company** for the eighth consecutive year, awarded to outstanding companies in investor relations
 - **Asia's Best CEO (Investor Relations)** for the fourth consecutive year, awarded to the CEO
 - **Asia's Best CFO (Investor Relations)** for the second consecutive year, awarded to the CFO
 - **Best Investor Relations Professional (Thailand)** awarded to outstanding personnel in investor relations.
- **Platinum ESG Award** for the sixth consecutive year, awarded to outstanding companies in social and environmental responsibility with good governance at the Asset ESG Corporate Awards 2019 event, organized by the Asset (Hong Kong) Magazine.
- **Sustainability Disclosure Award** presented to enterprises that sustainably discloses information to the public and concerned stakeholders with completeness, credibility, and communication. The award was presented by Thaipat Institute and the Securities and Exchange Commission (SEC).
- **Superbrands 2018**. Superbrands are selected for brand quality, brand affinity, and brand personality through the voting of 15,000 consumers, market experts in brand building and public relations, and independent directors of Superbrands. The awards were



presented by Superbrands Thailand, an agency internationally recognized as an assessor of excellence in brand-building.

- **MAT Silver Award 2019** for its automobile and chemical industry's "Payback on the Day of Gasoline Price Hike" privilege campaign for members. The award was presented by the Marketing Association of Thailand in honor of outstanding innovative Thai marketing campaigns with significant measurable results.
- **Honorable Mention for Thailand HR Innovation Awards 2019** for the Employee Holistic Health & Wellness Project and the HR Digital Platform - Smart ME Projects. The award was presented jointly by the Thailand Productivity Institute, School of Human Resource Development (National Institute of Development Administration), Institute of Human Resource Professional Development, and the Personnel Management Association of Thailand.
- **Gold Award (Highest Level)** for Bangchak's QCC group of the Quality Analysis Division's international presentation at the International Convention on Quality Control Circle (ICQCC 2019), organized by the Ministry of Industry and the Union of Japanese Scientists and Engineers (JUSE) to promote quality work in the Asia-Pacific countries. More than 300 projects were presented by agencies from 19 nations, such as Japan, Canada, Korea, Malaysia, and India.



- **3 Star Award (Highest Level)** for Bangchak's QCC group of the Engineering and Project Operation Division's international presentation at the Asia Pacific Quality Organization International Conference (APQO 2019), organized by the Indonesia Quality and Productivity Management Association (IQPMA) and Wahana Kendali Mutu (WKM) to promote quality work in the Asia-Pacific countries. More than 120 projects were presented by agencies from 19 nations, such as Indonesia, Japan, Malaysia, and India.
- **Water Footprint Certification for Company products.** Six Bangchak products earned certification for their water footprints through the Water Footprint of Products Program. Bangchak was the first oil refinery in Thailand to have been certified by the program for its efficient and cost-reducing water management process that also contributes to increased capacity for competition, emphasizing sustainable development. The certification was done by the Sustainable Water and Environment Institute, FTI.
- **Suriyasasitorn Award, 2019.** Bangchak Corporation won this award from over 200 contest entries for its notebook calendar in the category of current social and environmental encouragement. The calendar was made from recycled wood scrap, whereas the recycled Green Offset notebook paper was eyesight-friendly. No plastic was used, and the entire notebook calendar was biodegradable. This award was organized by the Public Relation Society of Thailand.



- **ISO 50001:2018 Certification (Energy Management System) ISO 45001:2018 Certification, TIS 18001:2011 (Occupational Safety and Health System) and ISO 14001:2015 (Environmental Management System)**

For Bangchak Refinery and Bangchak Oil Distribution Center, which focus on capacity building for international standards and reduce risks in all aspects (occupational safety, health, and energy) so that all employees can work within a good and safe environment while conserving energy and reducing greenhouse gas emissions. **Bangchak was the first company in Thailand to have received the ISO 50001:2018 certification and the new ISO 450001 : 2018 certification** for both the refinery and oil distribution centers in Bangchak and Bang Pa-in.

- **Certificate authenticating the carbon label** for product carbon footprint with verification by Kasetsart University. Bangchak has also received approval for authenticated carbon labels for four products as part of the campaign to promote the use of product carbon footprint labels. The process will grant the consumer access to the carbon emission data of each product for consumer decision-making, which will also promote competitiveness of the Thai industry in the global market. The certificate was presented by the Thailand Greenhouse Gas Organization (TGO).
- **Outstanding Toilet Standard** for Bangchak service station, Onnuj 55, Sukhumvit 62 branch, and the Kanchanaphisek branch from the Annual Super-toilet Competition, designed to develop



sufficient numbers of clean public toilets and reduce risk of being breeding grounds for infectious diseases. The award was presented by the Bangkok Metropolitan Administration (BMA).

- **Commemorative Shield** presented for distinguished 100% participation under the Partnership School Project, as an agency that promotes education and continuous activities for Bang Namphung School, organized by the Basic Education Commission.
- **Commemorative Shield** for supporting the development of the new FTI office, which will serve as the hub for driving Thai industries, with smart offices and smart service under the “Infinite Power of Unity” concept.
- **Declaration of Intent to be a Good Governance Organization for Road Safety** in partnership with government, private, and civil society sectors for campaigning to reduce road accidents. Bangchak has jointly campaigned with the Don't Drive Drunk Foundation and Daily News newspaper to reduce risk in petroleum transport, ensuring safety on roads and cutting down fatal accidents by enforcing four measures in petrol transport: Don't Drive Drunk, driving within legal speed limits, no jumping of red lights, and carrying load within capacity.
- **Results of Assessment Survey of Good Governance Report for Listed Companies:** “Excellent” score for the 13th consecutive year. The survey was conducted by IOD.
- **Results of Quality Assessment for AGM: 100 points** and listed as “Excellent” for the 11th consecutive year in participation of the



AGM Quality Assurance evaluation. The evaluation was conducted by IOD.

2018

- The Refinery Business has achieved an average monthly output of 123 KBD.
- Bangchak Refinery successfully completed its 45-day major turnaround under its annual refinery maintenance plan from April 30 to June 13.
- Bangchak Retail Company Limited signed a contract granting master franchise rights of Inthanin Coffee Shop in Kingdom of Cambodia and Lao People's Democratic Republic to RCG Retail Co., Ltd. (Cambodia).
- Launching a New Membership Card "Bangchak Green Miles" and Developing Bangchak Mobile Application
- Launching the First Digital Overhead Service Station in Thailand
- Commercial Operation of Gotemba Solar Power Plant (Gotemba) in Shizuoka Prefecture, Japan
- Acquiring Common Shares of Lomligor Co., Ltd.
- Launching Commercial Operations of Two Solar Power Projects with the War Veterans Organization of Thailand
- Commercialization of Nikaho and Nagi Assets
- Establishment of BCPR Co., Ltd., for Petroleum Development and Production in Norway
- Selling Shares in Nido Production (Galoc) Pty. Ltd. with Tamarind Galoc Pte. Ltd.



- Launching the Green Community Energy Management System (GEMS)
- Establishment of 4 New Subsidiaries in Thailand to Invest in Start-up Businesses

2017

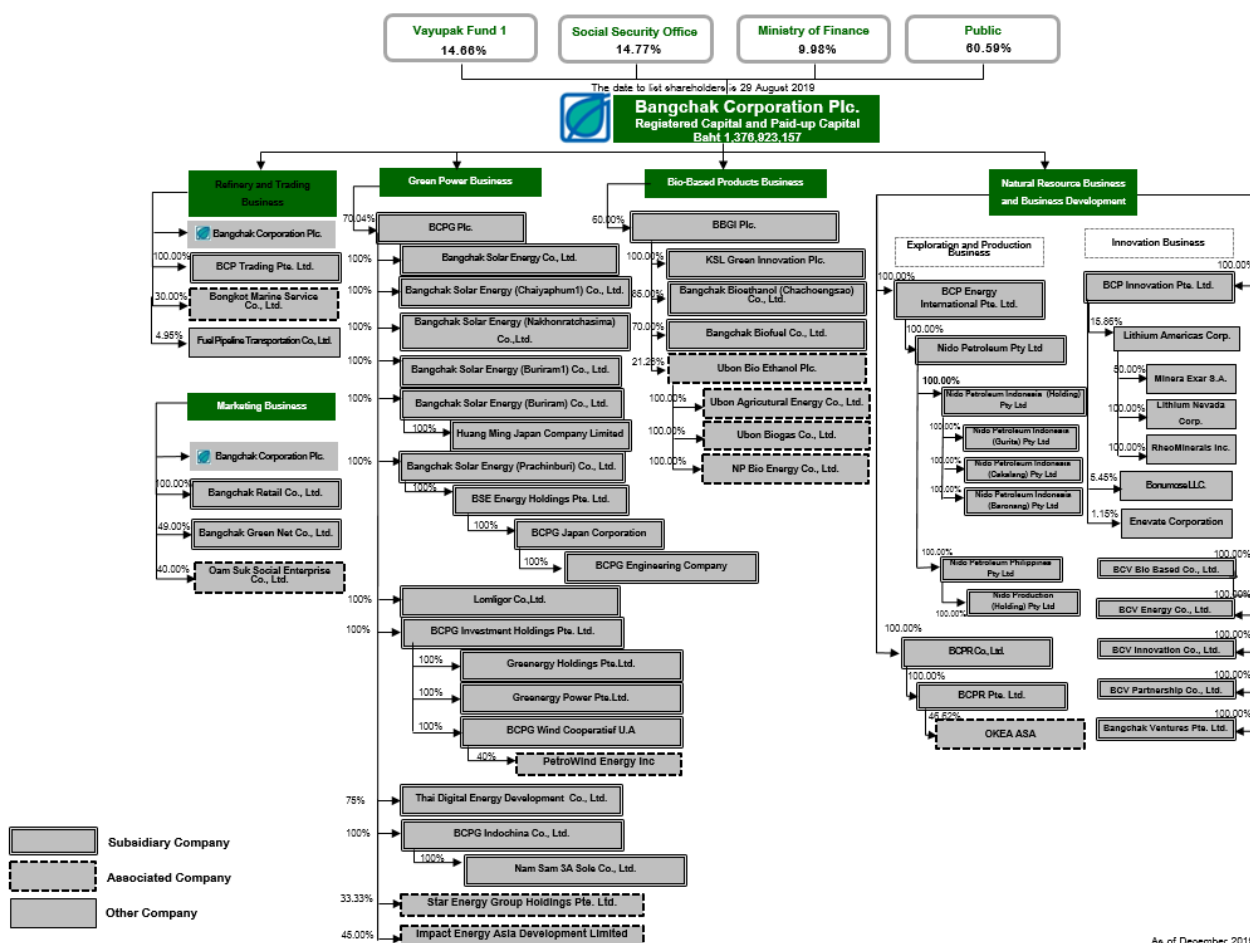
- Bangchak Petroleum renamed “Bangchak Corporation” and Head Office relocated.
- Happiness Sharing Foundation founded.
- In March, Refinery Business has achieved peak monthly output of 121.6 KBD: an all-time high.
- Electricity generation and steam production commenced from GTG-3 in August.
- In June, began storing crude oil on the Floating Storage Unit (FSU)
- In May “Hi Premium Diesel S” unveiled
- Marketing Business Continues with No. 2 Market Share with Higher Net Promoter Scores.
- In November, launched premium-grade lubricant “FURiO”
- Solar Power Plant Nagi in Okayama, Japan, started commercial operation in March.
- Three solar farms under solar cooperatives program came into contracted commercial operation in March.
- BCPG purchased total interest in CapAsia ASEAN Wind Holdings Cooperatief U.A., with 40% shares of PetroWind Energy Inc.
- BCPG invested in geothermal power plant in Indonesia through acquiring 33% of issued and paid-up shares of Star Energy Group Holdings.
- BCPG and War Veterans Organization of Thailand signed MOU on concession agreement for solar projects in September.
- BCPG joined with Sansiri to develop smart green communities in November.
- BCPG joined with Power Ledger, Australia in December.
- BBP Holdings Limited established in March.



- o Amalgamation between BBP Holdings and KSLGI to form BBGI, Thailand's largest biofuel manufacturer and distributor in October.
- o More new shares for more investment in LAC Acquired
- o MOU signed with AIT on technical cooperation on R&D to enhance environment supporting startup companies.
- o Launch of Bangchak Initiative Innovation Center as technology business incubator in September.

1.3 Shareholding Structure

Equity Chart of Bangchak Corporation Plc and Other Companies



Refinery and Oil Trading Business Group

The complex refinery of Bangchak operates with a nameplate capacity of 120,000 barrels per day (120 KBD). The majority of the outputs are gasoline and diesel. The quality of its gasohol and diesel products meets



the public sector's Euro 4 standard. Bangchak focuses on energy stability in its processes by using electricity and steam derived from its cogeneration power plant while replacing fuel oil with cleaner-burning natural gas. It raises the efficiency of its refining processes with the implementation of its 3E, YES-R and Rocket Projects.

BCP Trading Pte. Ltd. (BCPT)

Incorporated in Singapore with a registered capital of US\$1 million wholly owned, BCPT engages in commodity trading including crude oil, petroleum products, petrochemicals, other chemical products, and other downstream businesses.

Bongkot Marine Service Co., Ltd. (BONGKOT)

This joint-venture enterprise has a registered capital of Baht 240 million, in which Bangchak holds 30%. It engages in supplying and administration of floating storage units.

Fuel Pipeline Transportation Ltd. (FPT)

With a registered capital of Baht 3.66 billion, in which Bangchak holds 4.95%, FPT operates underground pipeline fuel transport. The multiproduct pipeline is laid parallel to the railway route from Bangchak Refinery to Don Muang International Airport Oil Depot via Chong Nonsi Oil Depot and ends at Bangchak's oil depot in Bang Pa-in, Ayutthaya, and at FPT. A pipeline connection with the system of JP-One Asset Co., Ltd., made at the Makkasan area in Bangkok, supplies aviation fuels to Suvarnabhumi International Airport. FPT's oil transmission pipeline system expansion



project from Amphoe Bang Pa-in to the Phichit Oil Depot was completed in 2019, and the remaining segment to Lampang is under construction.

Marketing Business group

The Marketing Business Group sells fuels and lubricants to consumers through Bangchak's network of 1,201 service stations nationwide, made up of 589 standard and 612 community service stations, as of December 2019. To provide convenience to customers, the stations offer supplementary (non-oil) businesses under the operation of Bangchak Retail Co., Ltd., which also distributes products to industrial users together with the transport, airlines, vessels, construction, and agriculture sectors.

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 and Lemon Green outlets.

Bangchak Retail Co., Ltd. (BCR)

This wholly-owned subsidiary of Bangchak has Baht 800 million in registered capital. BCR engages in the food and drinks business to accommodate continuous growth in the retail business. BCR has been given the Master Franchise of the SPAR supermarket brand of the Netherlands and now has 46 retail outlets under the SPAR brand and 600 Inthanin coffee shops.

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

With an initial registered capital of Baht 10 million, in which Bangchak holds 40%, the company engages in the purchase of agricultural produce and organic crops for processing, marketing, distribution, and R&D.

Green Energy Business

Bangchak invests in the renewable-power business by holding 70.04% 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)

Incorporated with a registered capital of Baht 10 billion, BCPG engages and invests in the green power business (domestic and overseas). At the end of 2019, BCPG's capacities are 404 MW.

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 Plc. (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. It was transformed from BBGI CO., Ltd., to BBGI Plc. In April 2018, when the registered capital was increased to Baht 3.615 billion by issuing 216.6 million recapitalization shares at Baht 5 per share for public offering. Bangchak holds 60% shares in this largest biofuel producer and distributor in Thailand, which has a total capacity of 2,000,000 liters a day, comprising 1 million liters a day of ethanol and 1 million liters a day of biodiesel. The three subsidiaries of BBGI are Bangchak Biofuel, Bangchak Bioethanol – Chachoengsao, and KSL Green Innovation; the lone associated company is Ubon Bio Ethanol.

Bangchak Biofuel Co., Ltd. (BBF)

Established with Baht 281.5 million in registered capital, in which BBGI holds 70%, BBF 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.

Bangchak Bioethanol (Chachoengsao) Co., Ltd. (BBE)

BBE 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.

**KSL Green Innovation Plc. (KGI)**

KGI is wholly owned by BBGI with a registered capital of Baht 610 million. It engages in the production and distribution of ethanol based on molasses derived from the sugar manufacturing process. KGI's two ethanol manufacturers now operate with a total capacity of 450,000 liters per day: 300,000 liters per day from a plant in Amphoe Bo Phloi, Kanchanaburi, and the other 150,000 liters per day from a plant in Amphoe Nam Phong, Khon Kaen. Moreover, KGI's biogas power plant generates power from the biogas derived from wastewater treatment from the ethanol process.

Ubon Bio Ethanol Co., Ltd. (UBE)

UBE was incorporated with a registered capital of Baht 3.91 billion, in which BBGI holds 21.28%. 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 Resources and Business Development Business

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. Together with BCP Energy International Pte. Ltd. In Singapore, to engage in the petroleum E&P



business and founded BCP Innovation Pte. Ltd., in Singapore, to engage in the lithium mining business.

BCP Energy International Pte. Ltd. (BCPE)

Wholly owned by Bangchak and established in Singapore with a registered capital of US\$112.5 million, BCPE engages in foreign energy, petrochemical, and natural resources businesses and now wholly owns Nido Petroleum Pty. Ltd. Through common share purchase.

Nido Petroleum Pty. Ltd. (Nido)

Nido holds right in the West Linapacan field under development along with rights in fields under exploration, namely SC6B, SC14D, SC54A, SC54B, SC58, and SC63, all in the Phillipines.

BCP Innovation Pte. Ltd. (BCPI)

BCPI, wholly owned by Bangchak, was incorporated in Singapore with a registered capital of US\$53.3 million, as of June 30, 2019, to engage in the lithium mining business and related investment. Today BCPI owns 15.86% shares in Lithium Americas Corp.

Lithium Americas Corp. (LAC)

Listed on the Toronto Stock Exchange, Canada, and the New York Stock Exchange, USA, LAC engages in the lithium mining business to produce lithium carbonate an essential raw material for batteries.

LAC is developing two lithium mines in Argentina and the USA. The Argentina project is under the development of Minera Exar S.A., and lithium carbonate production is expected in 2021 with a capacity of 40,000 tons per year, whereas the USA lithium mining project is under development.

**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 US\$ 18.2 million as of June 30, 2019, and is wholly owned by BCPR Co., Ltd. The company engages in foreign energy, petrochemical, and natural resources businesses and currently invests in OKEA AS, which engages in local petroleum exploration, development and production in Norway.

OKEA AS

OKEA AS, incorporated under the laws of Norway, engages in Norway's petroleum exploration, development and production. BCPR Pte. Ltd., Bangchak's subsidiary, holds 46.52% of OKEA AS. OKEA AS holds the right in Draugen, Gjøa, Ivar Aasen, Yme, and Grevling Oil Fields, as well as the exploration rights in several other fields in Norway and has been the operator of Draugen and Grevling Field.



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. In 2018, Bangchak set up four more venture-capital companies to engage or jointly invest in 10 domestic startup businesses, or both, promoted by the government along with a Singapore-formed subsidiary.

BCV Bio based Co., Ltd. (BCVB)

BCVB, wholly owned by Bangchak, was incorporated with a registered capital of Baht 20 million to engage in the venture capital business for funding domestic startup companies in bio-product innovation.

BCV Energy Co., Ltd. (BCVE)

BCVE, wholly owned by Bangchak, was incorporated with a registered capital of Baht 20 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 20 million to engage in the venture capital business for funding domestic startups relating to innovation.

BCV Partnership Co., Ltd. (BCVP)

BCVP, wholly owned by Bangchak, was incorporated with a registered capital of Baht 20 million to engage in the venture capital business for funding domestic startups relating to innovation in collaboration with the public and private sectors.



Bangchak Ventures Pte. Ltd. (BCV)

This wholly-owned Bangchak subsidiary was formed in Singapore with a registered capital of US\$100,000 as of December 31, 2019. Bangchak Ventures engages in joint-venture capital for startups involving innovations.



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 more than 1,000 service stations nationwide. It has expanded its businesses to oil trading, green power, bio-based products, and natural resources and business development. Its ultimate goal is to enhance national energy security and expand new investments so that its businesses may be sustained

Refinery Business (with a refining capacity of 120,000 barrels per day)



Refining and Oil Trading Business Group

Bangchak Refinery is a modern complex refinery with a nameplate capacity of 120 KBD. It can produce a large volume of premium gasoline and diesel. Gasohol and diesel from Bangchak Refinery are certified by the government as Euro 4 Standard-compliant. Its refinery is the first in Asia that produces eco-friendly Gasohol E20 to meet the Euro 5 Standard with less than 10 parts per million (ppm) of sulfur or five times lower than



the Euro 4 standard. Bangchak also focuses on improving process energy stability by using electricity and steam from a cogeneration power plant, using more environmentally friendly natural gas in place of fuel oil, and enhancing the efficiency of refining processes with the 3E and YES-R projects. To enhance its production capability, Bangchak launched assorted projects to raise outputs and improved operation for optimal benefits amid the volatility of oil prices and doldrums of the world economy. To this end, below are Bangchak's management actions.

- Instituted management by stressing caliber improvement and business opportunity development, cost reduction and expense-saving, ranging from crude oil supply sourcing, production processes, oil tanks, oil intake/offtake pipes, to oil vessels, for efficient refining. This year's average output stood at 112.6 KBD, with shutdowns due to equipment repair and catalyst replacement at the hydrocracking unit. Once refining returned to normal, Bangchak set an all-time high at 123.5 KBD of throughput in September.
- Planned crude oil procurement and purchase for suitable GRMs, leveraging roll-month derivatives to lower costs, thus resulting in the year's average GRM of USD 5.41 per barrel.
- Carried out projects including the Continuous Catalyst Regeneration Unit (CCR), Debottleneck Hydrocracker Unit (HCU), and reliability improvement of the cogeneration power plant to raise the refining capacity and improve related processes for greater flexibility in line with market needs,



achieve cost-saving for fuels, and achieve power security for refining processes.

- Constantly developed the oil trading business through BCP Trading Pte. Ltd., stressing growth in out-out trading (meaning securing overseas oil supply for sale to overseas customers), for which the main traded products were gasoline, crude oil, fuel oil, and naphtha. In addition, it has grown the trading market to new business partners, including new groups of countries like Australia and the USA; traded new products in the market, including MTBE; generated more income from logistics management and freight trading; and fostered good relations with suppliers amid favorable market conditions, thus raising traded volumes.



Marketing Business Group

In 2019, some 79% of refined products were sold to customers directly through Bangchak's service stations networks. There are 1,201 Bangchak service stations in Thailand: 589 standard service stations and 612 agriculture cooperative service stations (as of December 2019). Most of the new service stations launched this year are spacious with a modern



image, designed with a unique identity and complete with non-oil businesses and assorted service to constantly grow Bangchak's market share and maintain it at No.2 nationwide. Sales also went to industrial and transport users, airlines, marine vessels, construction and agricultural sectors. Bangchak service stations focus on green, renewable fuels with high performance, embracing the gasohol and diesel groups. The stations also meet customers' needs with non-oil businesses and auxiliary services to attract more service station clients, including convenient stores, coffee shops, and centers for lubricant replacement and car wash.

This year, developing the B20 and B10 diesel, Bangchak was the pilot company that blended additives in B20 biodiesel, called Hi-Diesel B20s and Hi-Diesel S B10, featuring the Green S technology that protects and cleans engines while improving engine acceleration. As a result, Bangchak topped the market in cumulative B20 sales for January to December 2019.

As for the convenient store and coffee businesses, these are operated by subsidiary Bangchak Retail Co., Ltd. (BCR), which has obtained the master franchise of the SPAR supermarket from the Netherlands. Today SPAR stores number 46. With a concept of "The Best Fresh & Easy Foods Market in Thailand", SPAR outlets offer impressive services along with freshly cooked and healthy food; SPAR plans to develop community products and SME businesses for sale domestically and abroad. The over-600 Inthanin Coffee shops, located on the premises of Bangchak service stations as well as outside, including shopping centers, office buildings, government agencies, hospitals, and leading education institutions, are



constantly eyeing assorted key commercial locations. Besides BCR's businesses, Bangchak sells consumer products at "Bai Chak", "Lemon Green", and "Big C Mini" convenient stores on the premises of more spacious service stations near some 137 communities. Finally, service stations also house auto-maintenance centers that provide lubricant replacement and car wash services, consisting of "FURiO Care", "Wash Pro", "Green Serve", "Green Wash", and "Green Tyre".

Launched in 1990 under a project called "Oil for Rice, Bangchak community service stations have moved into the 30th year of business with community entities. Bangchak's policy envisages development for sustainability by raising these stations' quality standards as well as service standards on a par with other standards so that these stations may drive a sustainable community economy. In 2019 Bangchak proceeded with assorted projects in support of community service stations, including the COOP Coaching, where teams from standard service stations educate staff in-house on management, COOP Bonding, in support of service station improvement and adding to the diversity of products for sale to high-potential cooperative groups, and a project to drive sales volumes under the vision to develop business in a participatory, sustainable way.

Recognizing social transformation and modern Thai lifestyles, Bangchak has developed the "Greenovative Experience" service stations, leveraging 4Rs (renewable, recycle, reuse, and reduce), including installation of solar rooftops for power generation and EV charger stations for electric vehicles. As for the coffee business, Inthanin operates under the "Each of your Inthanin cups for our world" concept. To date several projects have



been developed, including the choice of Bio Cups, use of organic coffee beans derived from community farms of farmer groups in northern provinces, and design of tilted cup lids to cut down on the use of straws. As for convenient stores, projects have been launched to cut down on the use of plastic bags, fruit processing and sale in SPAR outlets, the SPAR Awards Project for community product development and SMEs for business extension and sale domestically and abroad, application of energy-saving materials, and the addition of green areas at service stations. Since 2018, Bangchak has launched an ultra-modern service station with overhead digital fuel dispensers on Sukhumvit 62 Road for greater customers' convenience, while launching innovation at its Si Nakharin Road service station, featuring an installed Green Community Energy Management System (GEMS), designed to pioneer power bidding through Blockchain; in the future this could evolve into a power generation system outside the authority's grid (Smart Isolated Microgrid) for buildings and shops in the vicinity to trade maximum power at a low cost.

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, sold to domestic markets via its service stations, outlets, industrial works, original equipment manufacturer (OEM) markets, as well as exported.

Finally, Bangchak also launched premium lubricants under the FURiO brand that saves on fuels, prevents engine wear, and protects engines under all operating circumstances.



Bio Based Products Business Unit

Bangchak engages in 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.

In late 2017 Bangchak produced merger acquisition between BBP Holding Co., Ltd. (a subsidiary) and KSL Green Innovation Pcl (a subsidiary of Khon Kaen Sugar Industry Pcl), resulting in BBGI Co., Ltd., which in turn registered transformation into BBGI Pcl in April 2018, in which Bangchak held 60% shares. BBGI engages in the production and sale of biofuels as Thailand's largest player. Its subsidiaries and associates command a total capacity of 2 million liters/day (1 million liters/day each for ethanol and biodiesel). Three BBGI subsidiaries and one associated company consist of:

- **Bangchak Biofuel Co., Ltd. (BBF):** Located in Amphoe Bang Pa-in, Phra Nakhon Si Ayutthaya, BBF engages in biodiesel production, mainly from crude palm oil with an installed capacity of 1 million liters/day, with raw glycerin as a byproduct. A project is being implemented on quality improvement for new-standard biodiesel,



defined by the Department of Energy Business, for the production of B7, B10, and B20 biodiesel. A construction project has begun for the pure glycerin plant with a capacity of 80 tons/day to grow the values of BBF's products; commercial operation is due in Q3/2020.

- **Bangchak Bioethanol (Chachoengsao) Co., Ltd. (BBE):** Located in Amphoe Phanom Sarakham, Chachoengsao, produces ethanol mainly from cassava, molasses, and sugar, with a capacity of 150,000 liters per day.
- **KSL Green Innovation Plc. (KGI):** Producing and selling ethanol derived from molasses as the key raw material, KGI commands a capacity of 450,000 liters/day. The Nam Phong plant, located in Amphoe Nam Phong, Khon Kaen, commands a capacity of 150,000 liters/day (around 49.50 million liters/year), which is currently being expanded by 200,000 liters/day. The other plant, located in Amphoe Bo Phloi, Kanchanaburi, holds a capacity of 300,000 liters/day (99 million liters/year). In 2019, KGI's capacity totaled 148.50 million liters/year.
- **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.



Green Power Business

Today Bangchak invests in the green power business via BCPG Pcl, a subsidiary formed to engage in the generation and distribution of power from renewables and new forms of clean energy in Thailand and abroad. As of yearend 2019, BCPG commanded 404 MW in total commercial capacity, made up of the following projects:

- Solar farms in Thailand, with 139.0 MW in commercial operation (including solar rooftops)
- Solar farms in Japan, with 14.7 MW in commercial operation
- Wind power facilities in the Philippines, with 14.4 MW of equity capacity
- Geothermal power plants in Indonesia, with 157.5 MW of equity capacity
- In 2019, BCPG completed the construction of the Lom Ligor Wind Power Project in Nakhon Si Thammarat with 8.97 MW in commercial operation since April 2019
- In September 2019, BCPG engaged in renewable energy expansion by investing in a hydropower plant project in Chiang Kwang, Lao People's Democratic Republic, with a capacity of 69 MW.



Natural Resources Business

- **Exploration and Production Business:** Bangchak formed BCPR Pte. Ltd., in Singapore to invest in OKEA ASA, which holds rights in the Draugen, Gjoa, Ivar Aasen, Yme, and Grevling oil fields together with exploration rights in several other fields in Norway. The current capacity is 20 KBDOE (thousand barrels per day of oil equivalent). OKEA's investment goal is to grow the output capacity in fields of high potential.
- **Natural Resource Business and Business Development:** Bangchak also formed BCP Innovation Pte. Ltd. in Singapore to engage in businesses related to innovation abroad. Today this company holds the No.2 equity in Lithium Americas Corp., which engages in the lithium mining business in Argentina and the USA. The Cauchari mine in Argentina is set to produce 40,000 tons/year of lithium; production is due to begin by 2021.

Research and Development (R&D) and Innovation Business

Bangchak established **Bangchak Initiative and Innovation Center (BiiC)** to establish a Green Ecosystem to drive innovation by focusing on green energy and bio-based products to extend businesses both domestic and



abroad from Research and Development (R&D), with technological and network management, and incubation of startup businesses in support of the Thailand 4.0 economy. The ultimate goal is Bangchak as a Leading Asian Greenovation Group.

Apart from this, Bangchak established academic and project development cooperation with agencies and universities, including Mahidol University, Chulalongkorn University, King Mongkut's University of Technology Thonburi, Rajamongkol University Phranakhon, Thai Scientific Research and Innovation Commission, Thailand Institute of Scientific and Technological Research, and the Asian Institute of Technology. This year saw USD 8 million invested by Bangchak in bio-based businesses and USD 9 million in clean-energy businesses. Finally, Bangchak also invested in Thailand's startup companies.



Revenue Structure

	Operated by	% shareholding	2019		2018		2017	
			Revenue (million Baht)	%	Revenue (million Baht)	%	Revenue (million Baht)	%
Revenue from Oil refining and related businesses ¹								
	Bangchak Corporation Plc.	-	118,261	61.5	132,764	68.4	126,862	72.4
	Bangchak Green Net Co., Ltd.	49.00	34,300	17.8	35,530	18.3	32,440	18.5
	Bangchak Retail Co., Ltd.	100.00	902	0.5	676	0.3	391	0.2
	BCP Trading Pte. Ltd.	100.00	31,277	16.3	14,965	7.7	5,130	2.9
	Nido Petroleum Pty. Ltd.	100.00	9	0.0	963	0.5	1,510	0.9
Total			184,749	96.1	184,898	95.2	166,333	94.9
Revenue from Power production								
	BCPG Group	70.04	3,427	1.8	3,320	1.7	3,323	1.9
Total			3,427	1.8	3,320	1.7	3,323	1.9
Revenue from Bio-Based Products								
	BBGI Group ²	60.0	2,313	1.2	3,807	2.0	785	0.4
	Bangchak Biofuel Co., Ltd. ²		-	-	-	-	1,697	1.0
Total			2,313	1.2	3,807	2.0	2,482	1.4
Total revenue from sales and services			190,489	99.1	192,025	98.9	172,138	98.2
Others ³	Bangchak and subsidiaries		1,674	0.9	2,148	1.1	3,069	1.8
Total			192,163	100.0	194,171	100.0	175,207	100.0

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

- ^{1/} Revenue from domestic fuel sales in 2019, 2018, and 2017 accounted for 91.4%, 90.5%, and 90.3% respectively.
- ^{2/} During 2017, the Company divested its investment in Bangchak Biofuel Co., Ltd. to BBP Holding Co., Ltd. which amalgamated with KSLGI Co., Ltd. in October 2017.
- ^{3/} Other revenues, excluding revenue from sales and services: Revenue from investment, gains from crude purchase contracts, futures of oil products and forward foreign exchange contracts, gains from foreign exchange, share of profit from investment in associates and joint ventures.



2.1 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 Gasoline

Gasoline is for gasoline-fueled vehicles. The quality of gasoline is classified by its octane number, which indicates resistance to engine knocking. Gasohol offers benefit in many areas, for instance, reduction of air pollution, financial savings for import avoidance of MTBE (Methyl Tertiary Butyl Ether), reduction of impacts from high oil price, and shoring up of crop prices – which draw investment and employment to rural areas. Currently, Bangchak developed new formula for gasohol which is suitable for new engine, Gasoline Direct Injection Engine (GDI), and old engine, called “**Green S Revolution**”.

1.3 Aviation fuels

Intended for commercial jets, Jet fuels must be clean from any contamination. They have extremely low freezing points with specified gravities and heat values. Jet fuels produce clean combustion with its properties remaining constant throughout the operation.



1.4 High-speed diesel

High-speed diesel is for vehicles with diesel engine, such as cars, trucks, fishing trawlers, passenger boats, and tractors. Bangchak launched “Hi Diesel S” features outstanding properties which complete fuel combustion in the engine, thus providing power and environmental protection.

In June 2019, Bangchak developed and launched “Hi Diesel B20S”, which is the first company in Thailand adding additive to B20 diesel. This product features engine protection, high combustion efficiency, a longer engine life, under the name “Bangchak Hi Diesel B20S”. In October, Bangchak launched new special grade for B10 diesel, called “Bangchak Hi Diesel S B10”.

1.5 Fuel oil

Fuel oil is part of the crude with a high boiling point. It is largely used in the industrial and transport sectors. It also powers marine vessels and power generation. Produced fuel oil is low sulfur with high quality and environment friendly.

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’s auto lubes under the brand “BCP Lubricants”, comprise the GE Series for gasoline vehicles and the D3 Series for diesel vehicles, lubricant for two-stroke engines, transmission oil, and brake fluid, and so



forth. In 2017, Bangchak developed the “FURiO” premium-grade lubricant that can save on fuels, prevent corrosion, and protects the engine in all modes of operation.

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 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 Reformate

Reformate is petrochemical feedstock. It is extracted to produce aromatics or gasoline.

3.3 Isomerate

Isomerate is feedstock for petroleum refining processes in the production of gasoline.

4) **By-product**: 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, fertilizer, bleaching, sugar, and shampoo, and for production of Sulphur compounds.

2.2 Marketing and Competition

The petroleum products industry business faces tough competition in the regional market because products trading are constraint by advantage over transportation from the refinery. Therefore, refineries are found scattered around the locations where demand exists. Whereas for the crude oil industry, the competition at the global level depends on the quality of crude oil and the field's geographical conditions.

In the refining industry, there are two main types of refinery, namely:

- **Hydroskimming is Simple Refinery** with distillation processes.

The simple process separates components of crude into light oil (gasoline), middle distillates (aviation fuel and diesel), and heavy oil (fuel oil), the proportions of which depend on the properties of crude.

- **Conversion Cracking is Complex Refinery** with a cracking unit, a process added to the distillation process. Conversion cracking turns



some heavy oil into lighter products of higher value. However, this type of refinery requires some additional investment in the cracker and bears higher operating costs.

In general, yields from a Simple Refinery vary from those from a Complex Refinery, depending on the following factors:

- (1) The desired products, such as gasoline, diesel, and fuel oil
- (2) The type of crude, such as sweet crude, sour crude, light crude, and heavy crude
- (3) Some special specifications of the desired products, such as the sulphur content.

Thailand Economic Overview

The Thai economy in 2019 was in deceleration. The Bank of Thailand estimated that the economic expansion will be lower than the potential level and lower than estimated at 2.5%, a decrease from 4.1% in 2018, following the contracted export volumes of the first half of the year. The recovery trend is slow because of diminishing world trade volumes and the appreciation of Baht compared to trading partner countries affecting exports due to our inability to compete in price. In addition, public and private spending tends to slow down, partly resulting from the postponement of state enterprise investments and joint-venture projects between the public and private sectors (Public Private Partnership: PPP).

The headline inflation is expected to be lower than the target of 0.7% because of reduced energy prices during the past year, the increase in the minimum wage in 2020 to 1.5%, which is lower than previously estimated at 6% and the Bank of Thailand's implementation on a more



relaxing monetary policy by reducing the policy interest rate twice in August and November from 1.75% to 1.50% and 1.25%.

For 2020, the Bank of Thailand projected in January 2020 that the economy will expand 2.8%, a mild improvement from the previous year. Exports will gradually improve with the world trade volume expansion after the US and China have reached an initial agreement and the electronic product cycle's likely recovery. Yet, there are still many negative factors, for example the Covid-19 outbreak in China and numerous infected patients in many countries including Thailand. This has affected the tourism sector, the export sector, employment and household income. Delays in the national budget for the year 2020, drought and a sporadic rainy season have hurt the agricultural sector with a high level of household debts, not to mention the PM 2.5 problem (dust particles smaller than 2.5 microns), which has inhibited the Thai economy below expectations. A private-sector projection in March 2020 put GDP growth for Thailand in 2020 at 1.5-2%. All these factors contribute to an inflation forecast this year of 0.5-0.8%. The rampant spread of Covid-19 has wielded severe economic impacts on the economy, possibly lowering the headline inflation from the previous estimate.

Domestic oil business

Thailand's fuel demand in 2019 (January - November) increased from 122.28 million liters per day to 124.39 million liters per day, equivalent to 1.7% increase, in line with the national GDP, which continues to expand even though slowing down. As a result of **growth in** the government's



stimulus measures, public services and spending 2018, one notes continued growing demand for gasohol and diesel from 2018, increasing by 3.9% and 1.9% respectively. The bulk of the growth rate is accounted for by gasohol products, which increased 4.5% from 2018, resulting in the proportion of gasohol usage increasing to 97% of total gasoline consumption.

Domestic demand for refined products

Product	Demand (million liters/day)		
	2019	2018	Growth variation
Regular Gasoline	0.96	1.09	-12.0%
Gasohol	31.24	29.88	+4.5%
Gasoline Group	32.20	30.98	+3.9%
Jet fuel	67.27	66.02	+1.9%
Diesel Group	19.45	19.31	+0.7%
Fuel Oil	5.48	5.98	-8.3%
Total	124.39	122.28	+1.7%

Source: Department of Energy Business

On the domestic supply side, the capacities of the six domestic refineries in 2019, consisting of Thai Oil Refinery, IRPC Refinery, PTT Global Chemical Refinery, Esso Refinery, Star Petroleum Refinery, and Bangchak Refinery yielded an average crude run of 1,023 thousand barrels per day, decreased 9.21% from 2018. This is due to annual maintenance shutdowns of Thai Oil Refinery, Esso Refinery, PTT Global Chemical Refinery, and Star Petroleum Refinery. Therefore, the overall refining capacity was reduced. It is expected that by 2020 the capacity will increase, as there is only one annual maintenance shutdown at Bangchak Refinery.



Average crude run by domestic refineries

Refinery	Crude run (thousand barrels per day, KBD)		
	2019	2018	Growth variation
Thaioil	287	305	-5.81%
IRPC	204	206	-1.10%
Esso	116	144	-19.40%
Star Petroleum (SPRC)	146	177	-17.53%
PTT Global Chemical	159	196	-19.02%
Bangchak	112	100	+12.40%
Total	1,023	1,127	-9.21%

Source: Department of Energy Business Jan-Nov.2018 and Bangchak Corporation Public Company Limited

Marketing Business

In 2019, the average crude oil price in the global market dropped from the previous year as a result of the trade war between the US and China, thus decelerating demand for oil. The price of oil in 2019 was highly volatile, rising in the first quarter due to tensions in the Middle East and severely fluctuating when the Kingdom of Saudi Arabia's oil processing plant was attacked. As a result, oil traders could not adjust the oil prices to keep up with the costs during certain periods of price spikes. In addition, the Thai government requested cooperation from oil companies to maintain their retail diesel prices to reduce impacts on consumers during the New Year. This affected the marketing margin of oil traders, which decreased from the previous year. It is expected that the marketing margin this coming year will be lower than that in 2019, as the global oil demand is likely to decrease. However, there remain uncertainties in the costs of oil in the global market, faced with internal and external factors, namely the completion of trade accord between the US and China, tension in the



Middle East, which also affect supply concerns, and the spread of Covid-19.

The total number of service stations continues to rise. About 800 new service stations were added this year, making the total number stand at 29,138 at the year-end, roughly 2.8% from the total. With respect to the E20 gasohol and E85 gasohol service stations in 2019 (as of 31 December 2019), the numbers have increased by 360 stations and 183 stations respectively, resulting in the numbers of service stations that sell gasohol E20 and gasohol E85 totaling 4,616 stations and 1,516 stations respectively because of the continuous rise in cars that use gasohol such as E20 and E85 in the market.

Competition in the oil industry in Thailand in 2019 will continue to intensify. The number of service stations, modernized with new forms of services focusing on consumers' convenience, will still increase to meet rising demand. Non-oil businesses and services have been added to provide more alternatives to consumers and improve retail business performance and competitiveness. Moreover, many Thai retail business operators have opted to expand to neighboring countries under the AEC (ASEAN Economic Community) scheme, where demand for petroleum products consumption and economic growth are phenomenal.



Number of service stations

Unit: station

Oil trader	2019 ^{1/}	2018	2017
PTT	1,988	1,879	1,775
Shell	538	517	508
Esso	638	608	543
Bangchak	1,201	1,175	1,114
Chevron	387	357	354
PTTRM	159	156	153
PTG	1,836	1,883	1,696
Others	22,393	21,763	21,157
Total	29,138	28,338	27,300

Source: Department of Energy Business

Remarks: ^{1/} number of stations as of December 31, 2019

In 2019, sales volumes by domestic service stations averaged 2,236.5 million liters a month, a 4.5% rise from last year's 2,140.6 million liters per month. Bangchak posted 7.2% more sales through its service stations, which raised its market share through service stations from 15.6% to 16.0%, while maintaining the No. 2 domestic market share through service stations.

Sales volume of fuels through service stations for 2018-2019

Operator	Average Sales volume (million liters/month)			Market share (%)		
	2019	2018	Δ	2019	2018	Δ
PTT	805.8	766.4	+5.1%	36.0	35.8	+0.2
Bangchak	357.8	333.8	+7.2%	16.0	15.6	+0.4
Esso	263.7	269.0	-2.0%	11.8	12.6	-0.8
Shell	272.1	267.5	+1.7%	12.2	12.5	-0.3
Thai Oil	223.9	198.3	+12.9%	10.0	9.3	+0.7
PTTRM	99.0	103.7	-4.5%	4.4	4.8	-0.4
Caltex	92.0	91.2	+0.8%	4.1	4.3	-0.1
PTG Energy	39.9	35.6	+11.9%	1.8	1.7	+0.1
Susco Group	36.9	36.3	+1.7%	1.6	1.7	-0.0
IRPC	43.5	38.7	+12.0%	1.9	1.8	+0.1
Others	2.0	0.2	+948.3%	0.1	0.0	+0.1
Total	2,236.5	2,140.6	+4.5%	100	100	



Source: Department of Energy Business and Bangchak Corporation PLC.

The lubricating oil sold by Article 7 traders amounted to roughly 37.4 million liters a month (according to the Department of Energy Business, December 31, 2019), an 0.3% rise. The lubricating oil market appears to continue growing mainly in line with the domestic economy and the public policy.

Product distribution and distribution channels: Bangchak products are distributed through:

1.1) 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 (%)
1.	Company-Owned, Company-Operated stations (COCO): 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.	226	18.8
2.	Company-Owned, Dealer-Operated stations (CODO): Bangchak is the investor and land owner, while the station management is carried out by experienced operators, who rent the stations.	50	4.2
3.	Joint Venture stations (JV): This is a joint investment between Bangchak and operators interested in running the service station business.	53	4.4



Station Format		Number (station)	Share (%)
4.	Dealer-Owned, Dealer-Operated stations (DODO): The operator is the station owner, land owner, and sole investor, as well as a distribution agent.	260	21.6
5.	Co-Operative stations (CO-OP): These stations are invested by the community. In most cases, the community is the land owner and investor.	612	51.0
Total		1,201	100

Remarks: Bangchak Corporation PLC, as of December 31, 2019.

1.2) 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 direct with the company, and deliveries are arranged by tanker trucks, except for some factories with their own piers.

1.3) 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.

1.4) 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.

1.5) 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.

1.6) Export sale – Deliveries are normally carried out by marine vessel to overseas oil traders.

Types of customer – 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, agriculture 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, such as PTT, 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	2019		2018		2017	
	Volume	%	Volume	%	Volume	%
1. Outlet & End-User Customers	105.4	74.9	100.2	74.2	100.5	71.3
2. Supply Sales Customers	14.9	10.6	15.0	11.1	17.3	12.3
3. Export Customers	20.5	14.6	19.9	14.7	23.2	16.5
Total	140.8	100.0	135.1	100.0	141.0	100.0

Source: Bangchak Corporation PLC.

Sales value of Bangchak's products and services

Products	2019		2018		2017	
	million baht	%	million baht	%	million baht	%
<u>Domestic Sale</u>						
1. High-speed diesel	86,760	51.3	89,409	50.7	81,822	50.5
2. Fuel oil	1,529	0.9	2,078	1.2	1,864	1.1
3. Gasoline	46,248	27.3	47,634	27.0	45,428	28.0
4. Other products and services	18,413	10.9	19,319	11.0	16,852	10.4
Total domestic sale	152,950	90.4	158,440	89.8	145,966	90.0
<u>Export sale</u>						
1. High-speed diesel	1,991	1.2	5,105	2.9	2,846	1.8
2. Fuel oil	13,126	7.8	11,376	6.4	11,120	6.9
3. Gasoline	510	0.3	521	0.3	674	0.4
4. Other products and services	526	0.3	937	0.5	1,577	1.0
Total export sale	16,153	9.6	17,939	10.2	16,217	10.0
<u>Combined sales value</u>						
1. High-speed diesel	88,751	52.5	94,514	53.6	84,668	52.2
2. Fuel oil	14,655	8.7	13,454	7.6	12,984	8.0
3. Gasoline	46,758	27.7	48,155	27.3	46,102	28.4
4. Other products and services	18,939	11.2	20,256	11.5	18,429	11.4
Total sales value	169,103	100.0	176,379	100.0	162,183	100.0
% increase/decrease	-4.13		8.75		17.66	

Source: Bangchak Corporation PLC.



2.3 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 18-24 months, Bangchak shuts down the system for maintenance, which normally lasts about 30 days, to keep up or upgrade the system's performance. The shutdown schedule depends on operational and economic circumstances.

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

	2019	2018	2017
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	57.10	57.47	56.74
2. UCO	4.42	3.48	2.62
3. Fuel oil	12.78	9.43	14.15
4. Gasoline	20.39	22.46	21.17
5. Aviation fuel, kerosene	15.07	13.54	13.1
6. LPG	2.7	3.33	2.89
7. Products for internal use and product loss during operation	0.13	-0.32	0.66
Total output volume (B)	112.59	109.39	111.33
% increase of output volume	2.9	-1.91	9.79
% of capacity utilization (B/A)	99.29	96.46	98.17

Source: Bangchak Corporation PLC.

Remarks: 1/ 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.

2/ The gasoline output excludes the amount of ethanol in the production of Gasohol.

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.

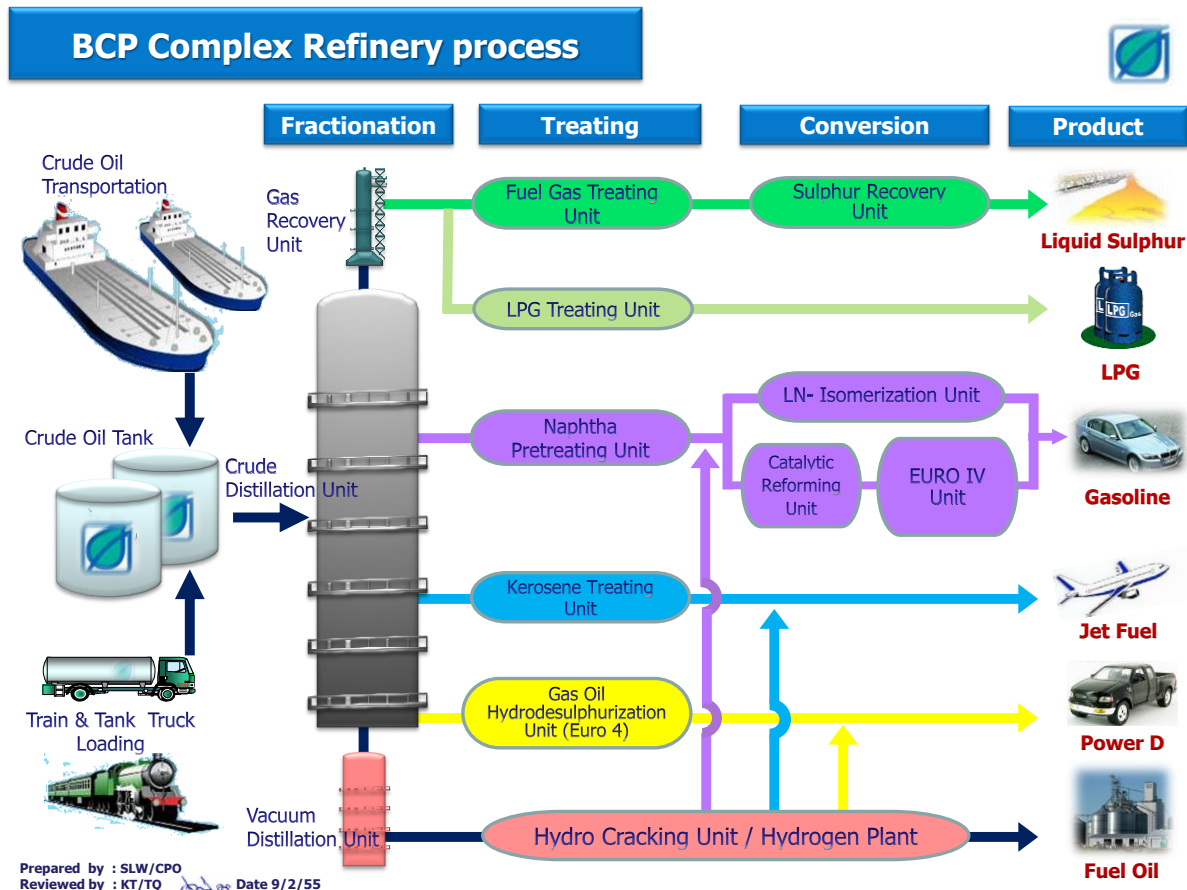
Fuel gas obtained from the process will be refined by removing the sulphur content. Treated fuel oil, diesel after sulphur content removal under the Euro 4 standard, aviation fuel, and cooking gas are kept in storage tanks for sale.



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.



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 UAE, Qatar, Saudi Arabia, Iran, and Dubai, 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	Production Capacity					
	2019		2018		2017	
	Volume	%	Volume	%	Volume	%
Sirikit	30,029	23.9	27,036	20.9	25,665	18.2
Tantawan	20,718	16.5	18,790	14.5	24,557	17.4
Erawan	25,748	20.5	28,302	21.9	30,037	21.3
Nasanun/Nasanun East	731	0.6	1,266	1.0	1,665	1.2
Jasmine	10,808	8.6	11,653	9.0	11,853	8.4
Manora	5,342	4.2	6,397	5.0	7,187	5.1
Others	32,513	25.8	35,756	27.7	40,316	28.5
Total	125,889	100	129,200	100	141,280	100

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 2019, Bangchak procured indigenous crude oil from many fields in domestics, totaling 13,749 thousand barrels, which mainly from Benchamas Field, Pattani Field and Sirikit (Phet) field and others.



This year, Bangchak imported crude 27,722 thousand barrels. There are 69.8% Crude from the Far East fields, such as Labuan and Bunga Orchid from Malaysia; Seria Light Export Blend, and Champion from Brunei; Banyu Urib from Indonesia. Also, there are 30.2% Crude from other sources, such as Montara from Australia.

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

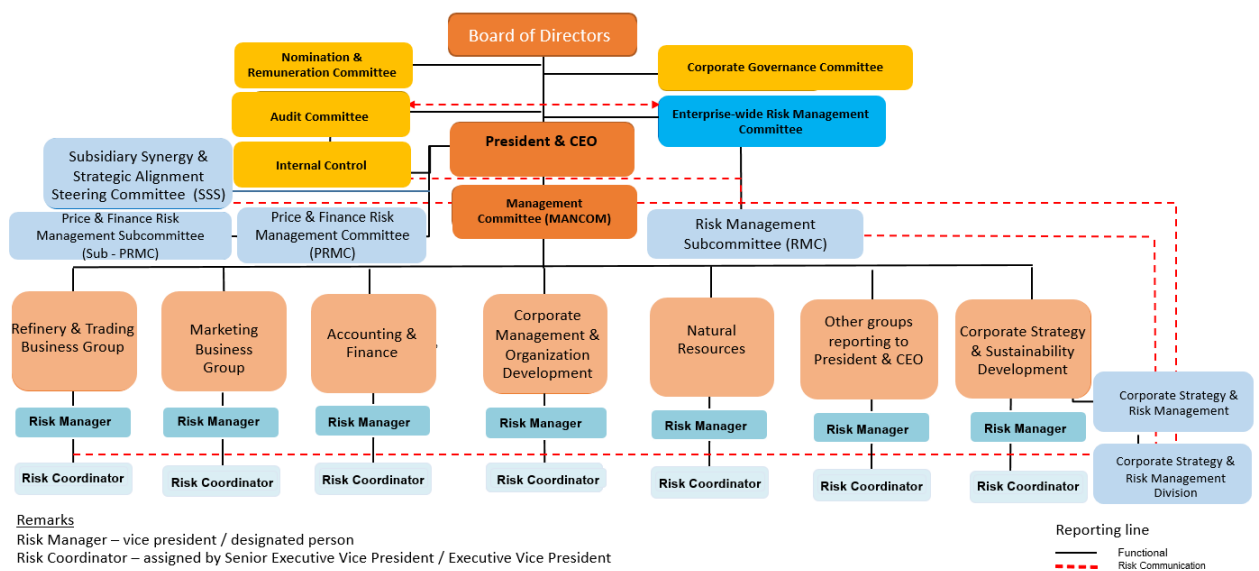
Crude Type	2019		2018		2017	
	Million Baht	%	Million Baht	%	Million Baht	%
<u>Cost of indigenous feedstock</u>						
1. Crude and semi-finished products	37,911	34.6	34,840	27.9	36,313	34.3
2. Finished products	10,174	9.3	11,931	12.0	8,402	7.9
Total	48,086	43.9	49,771	39.9	44,715	42.2
<u>Cost of imported feedstock</u>						
1. Crude and semi-finished products	53,876	49.2	65,355	52.4	53,498	50.5
2. Finished products	7,495	6.9	9,711	7.8	7,752	7.3
Total	61,371	56.1	75,066	60.1	61,250	57.8
<u>Combined costs of indigenous and imported feedstock</u>						
1. Crude and semi-finished products	91,788	83.9	100,195	80.3	89,811	84.8
2. Finished products	17,669	16.1	24,642	19.7	16,154	15.2
Total feedstock cost	109,457	100	124,837	100	105,969	100

Source: Bangchak Corporation PLC.



3. Risk Factors

Bangchak has adopted an international integrated enterprise-wide risk management system based on COSO ERM and ISO 31000 for more than 15 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.





Risk Management Outcomes

The sluggish global and domestic economy haunted the manufacturing and household sectors throughout 2019. Moreover, the extraordinary volatility of Thai Baht currency, crude oil price and prices of agricultural produce directly impacted the growth of all industries and business performance of Bangchak. Enterprise-wide risk management significantly provided Bangchak and its joint ventures with the ability to pursue all businesses with minimal negative impacts under continuous monitoring and tracking mechanisms as well as mitigating risks to acceptable levels with appropriate mitigation plans. From a broad enterprise-wide perspective, Bangchak met all its targets with such risk management system.

To cope with constant business changes and sustainability, the system has taken into account global megatrends and risks to provide Bangchak with the ability to successfully manage medium-term to long-term risks including business and industrial competitiveness, economic conditions, consumer behavioral changes, changes in the environment and climate from global warming, transformation of technologies and innovations, particularly those on renewable energy and energy storage, advancement in electric vehicles, biological technology, and movement of regulatory controls. 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.

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 2019, Bangchak assessed and managed corporate risks aligned with the corporate strategy and sustainability development involving the environment, society and governance as follows.

Economic Risks

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. With this in mind, 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 Prices and Finance Risk Management Committee and Subcommittee 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 stepping stone to high-value bio-based product development and value additions to the company.

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:

- Procure quality crude oil suitable for production processes to optimize refining margins and generate additional value for the business.
- 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.



- Vertically expand its natural resource business upstream. This includes acquisition of OKEA ASA, an upstream entity developing and producing crude oil in Norway, securing continuous crude supply for the existing business and supporting new and future businesses.
- Properly diversify supplier risks by classification and segmentation of suppliers, raw materials and feedstock, products and services to ensure optimal value. Proper assessment of supplier risks affecting economic, societal, and environmental values to Bangchak is essential to ensure business continuity throughout the supply chain.

Risks of volatility of exchange rates and interest rates

The exchange rate of the Baht currency fluctuated wildly throughout 2019 due to the uncertain exchange rate policies of many countries and aggressive trading policies of certain large economies. Bangchak's businesses in petroleum and trading in international markets therefore relate directly to exchange risks. The company's risk management on exchange rates and interest rates includes:

- 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 Prices and Finance Risk



Management Committee to ensure successful businesses as planned.

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.

- Invest through Lithium Americas Corp. in lithium mining to expand its natural resource business and energy innovation in preparation for lithium battery production and electric vehicles.
- Establish Bangchak Initiative and Innovation Center (BiiC) as an institute for innovations and startups business for Green Ecosystems to promote innovative development of green energy and bio-based businesses.
- 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.

Societal 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.

- Consistently develop safety and occupational health systems under ISO 45001 to raise safety and health standards and systematize work processes in relation to associated risks, regulatory controls and other constraints. Thanks to these successful efforts, Bangchak was certified with the ISO 45001 standard in May 2019.
- Install an enclosed ground flare to minimize community impacts due to glare and noise from flaring. The project construction, completed in 2019, is set to be commissioned in early 2020.
- Commissioned a new oil spill prevention system with the Sri Thararak 8 vessel equipped with side-collecting booms and automatic belt skimmers capable of collecting up to 30,000 liters of spill per hour. This vessel can operate independently, replacing the old system that required three vessels to operate jointly. This new system can operate with much higher efficiency and speed. Bangchak is ready to exploit this system to support spill prevention and other tasks required by the authorities and IESG (Oil Industry Environmental Safety Group Association) upon request.
- Pursue oil spill protection by redefining crude oil and refined-product vessel specifications from single-hull to double-hull and equip them with emergency accessories and spill prevention



control. Conduct oil spill prevention drills with double-boom laying during offloading every six months, together with full staffing for training and development, and all safety, instrument and machinery gear and port and harboring systems under the Oil Company International Marine Forum Institute standard.

- 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.

- Escalate ERMC's year-round roles in overseeing risks in the surrounding communities such as water disposal treatment involving joint-venture operations. This program is designed to monitor and prevent negative impacts on surrounding communities.

Environmental Risks

Risks of climate and environmental changes and measures on GHG emission control

Bangchak's focuses on reducing all impacts causing global warming by cutting down on energy consumption and carbon dioxide or greenhouse gas (GHG) emissions with the following programs.

- Through BCPG Public Company Limited, expand businesses to green power, generating power from clean renewable energy sources including solar, wind, hydro, and geothermal in domestic and international markets. Bangchak has so far been capable of reducing carbon dioxide emission from generating power by 645,399 tons per year, equivalent to plantation of up to 474,558 rai of forest.
- With a commitment to continuously managing the reduction of GHGs, Bangchak won three awards in 2019 for excellent management of GHG emission reduction, presented by Thailand Greenhouse Gas Management Organization (Public Organization); an award on Carbon Footprint of Product (CFP),



an award on Thailand Voluntary Emission Reduction Program (T-VER) in its third consecutive year – a voluntary program awarded to refineries capable of reducing GHGs with a 2% target – and an award on Carbon Footprint Reduction (CFR). These accolades honor extraordinary achievements as a role model for others, aimed to promote project development efficiency while protecting the ecology and project economics toward sustainability of the refining business.

- Install a continuous catalyst regeneration unit in place of the catalytic reforming unit to increase oil distillation efficiency and decrease energy consumption. The system is set for commissioning in 2020.
- 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.
- Focus on sale of environmentally friendly oil products from renewable sources to the industry. In 2019, Bangchak heavily promoted sale of Bangchak Hi-Diesel B20 S, mixed with clean and environmentally friendly biodiesel B100, a specialty product reducing pollutants and volatile dust from ignition. Most sales were made to the industrial group, large vessels and trucks. This special diesel product is available nationwide, and its business directly supports palm farmers through an alternative market for their produce and stable income.



- 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.
- Organize campaigns of the non-oil activities to reduce plastics, including the “Gaew Phaw Gla” (recycling for seedling) project to collect used Inthanin coffee cups from customers and recycle them as a container (Gaew) for nursing seedlings (Phaw Gla) to support plantation. The project is jointly run with the Royal Forest Department, intended to reduce black garbage bags for nursing seedlings, which is the current practice. Another campaign is the ending of plastic-bag use in all “SPAR” convenient stores at Bangchak, intended to reduce waste and impacts on the environment.
- Nurture environmental and social stewardship and care as a corporate culture by iterating energy conservation and care for the environment. Examples are campaigns on banning styrofoam for food packaging for all activities in the offices, banning plastic bags in the company’s canteens, cutting down on printing workloads and stop using paper for photocopying while



converting communication and coordination activities to more online in the digital format, reducing the use of fuels for all individual transport between Headquarters and the refinery by using EV (electric vehicle) buses. These buses also help reduce the volumes of dust, volatile pollutants from exhaust pipes, and carbon dioxide emissions on Sukhumvit Road.

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.



- This year Bangchak successfully reduced the water used in tap water quality improvement via the micro-filtration, reverse osmosis, and electro de-ionization systems by 50,650 cubic meters. It also reused condensate water and stripped water in its production processes, which saved 633,440 cubic meters. In addition, it improved mildly contaminated condense water and treated wastewater via the reverse osmosis system, resulting in 525,179 cubic meters of reused water. Thanks to these water reduction measures, Bangchak saved the equivalent of water used by 3,185 households.
- Implement water management in all processes with the water footprint of product (WFP) program to track and record Gate-to-Gate (G2G) water consumption in detail in each process. These records are analyzed to directly and indirectly optimize the consumption pattern and production efficiency. Bangchak was Thailand's first refinery recipient of the Water Footprint of Product certificate in 2019, with six products certified by the Water and Environment Institute for Sustainability of the Thai Federation of Industries.
- Promote 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.



- Bangchak has also partnered with the World Soil Association, Land Development Department, and Pidthong Lang Phra Institute (Pidthong Institute) in initiating the “Stop Soil Erosion, Save our Future” program by promoting King Rama IX’s philosophy on halting soil erosion at Tambon Kaen Makrut, Uthai Thani, classified as a watershed forest bordering a national forest reserve. The philosophy defines ways to protect soil erosion so that water can be fully preserved. The area therefore becomes green and the community will avoid drought and food shortage in the long run.

Emerging Risks

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. These technologies are designed for increasing work efficiency and competitive edge of the organization and industry. However, risks borne by digital technology transformation and cybersecurity can paralyze the entire business. Assessment and treatment of these risks are therefore critical and are managed 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 2019.

- Introduce the Robotic Process Automation (RPA) system to increase productivity and decrease turnaround time in work processes, including business partner verification, service station maintenance planning, and sales document processing.
- Install predictive maintenance technology for pre-planning maintenance shutdowns of the refining facilities. The technology is connected and interactive with databases, equipment and an analytical system to ensure flawless timing for maintenance shutdowns.
- 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.
- Establish a dedicated cybersecurity function, tasked with planning, monitoring and tracking, testing and procuring necessary equipment and systems to counter threats from cyber-attacks. During 2019, the ERMC approved the purchase of cybersecurity tools and systems for Bangchak's computer center and development of cybersecurity system architecture. The approval was initiated to prevent Bangchak's operations from cyber interruptions. The system provides real-time security system alerts through key risk indicators.



- Develop a refinery cybersecurity system program to safeguard work systems from cyber-attacks or interruptions which might affect refining processes. Bangchak was certified with the ISO 27001 standard covering the Distributed Control System, a central controlling system of the overall processes, thus ensuring no interruption to the refining processes and company businesses.
- Determined preventive measures for personal data protection in compliance with the Personal Information Protection Act B.E. 2562 (2019) by establishing a taskforce consisting of representatives from relevant departments to work closely with a renowned consulting firm to manage and control personal information, including establishing preventive and corrective measures in case of personal information breach or abuse that might harm Bangchak.

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.



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.

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.

- Development phase risk
- Construction phase risk
- Operation phase risk including risks concerning operation, finance, taxation imposed by the tax policy of the country of investment, business, and reputation
- Natural disaster risk.



The major project investment risk determined, approved and monitored by ERMC in 2019 was the acquisition of additional shares in OKEA AS (“OKEA”), an operator of petroleum development and production in Norway. During 2019, OKEA successfully listed on the Oslo Stock Exchange, leading to higher liquidity for Bangchak to expand its business in the development of petroleum resources.

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. In 2019, Bangchak won the ISO 22301:2012 BCM award covering Headquarters, Bangchak refinery and Bangchak Oil Distribution Center, Central Region Business Office and Bang Pa-in Oil Distribution Center for the sixth consecutive year 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.

During 2019, Bangchak made significant improvement in its enterprise-wide crisis management and BCM, including development of new key indicators and a review of all resources. A drill was conducted on both crisis management and business continuity with a simulated port collision by a cargo vessel. The drill involved communication between and among internal executives and responsible staff. External authorities and observers included officials from the Department of Energy Business, Pollution Control Department, Marine Department, Port Authority of



Thailand, Phra Khanong District Office, Oil Industry Environmental Safety Group Association (IESG), and the Bang Nam Phueng community. The outcome was later brought up for analyses to continuously improve work processes and procedures under BCM to ensure the ability of Bangchak to end the crisis and operate its businesses uninterrupted.



4. Review of business assets

Asset	Ownership	Book value Baht million ¹	Obligation
Refinery land	Long-term lease	297	None
Other properties	Ownership	2,363	None
Buildings	Ownership	133	None
Machinery & distillation tower equipment	Ownership	17,920	None
Power generators	Ownership	63	None
Sales and office equipment	Ownership	3,584	None
Platinum catalysts ²	Ownership	239	None
Vehicles	Ownership	116	None
Other assets ³	Ownership	21	None
Works in progress	Ownership	7,890	None
Total	-	32,626	-

Note:

- 1/ This year Bangchak set aside Baht 78 million in allowance (reversal of) for impairment of land property, machinery, and equipment, consisting of Baht 6 million in property, Baht 45 million in machinery and distillation tower equipment, and Baht 27 million in sales and office equipment.
- 2/ “Platinum catalysts”: platinum-based catalysts (found in the octane enhancement unit’s reactor), the contents of which are set by their producers.
- 3/ “Other assets”: oil palm plantations in Pathumthani and Nakhon Nayok province.



Trademarks

Trademark	Number of registered trademarks	Goods/services under trademark	Expiry ¹
<u>Copyrights</u>			
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	Nov.20,2021 Dec.25, 2021 Feb. 12, 2022 Jan.13, 2023 Jan.15, 2027
5. GE PLUS	4	Gasoline-engine lubricant	Nov. 20, 2021 Dec. 25, 2021 Jan. 13, 2023 Jan. 15, 2027
6. GE SILVER	3	Semi-synthetic gasoline-engine lubricant	Dec. 25, 2021 Nov. 4, 2024 Jan. 15, 2027
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 TURBO	1	Diesel-engine lubricant	Jan. 25, 2021
13. D3 EXTRA	1	Diesel-engine lubricant	Jan. 25, 2021
14. D3 PICK UP	1	Diesel-engine lubricant	Jan. 25, 2021
15. D3 COMMONRAIL	1	Diesel-engine lubricant	Oct. 30, 2028
16. D3 TURBO PLUS COMMONRAIL	1	Semi-synthetic diesel-engine lubricant	Oct. 30, 2028
17. D3 Max	1	Diesel-engine lubricant	May 14, 2027
18. D3 EXTRA PLUS	1	Diesel-engine lubricant	Jan. 15, 2027
19. D3 PICK UP PLUS	1	Diesel-engine lubricant	Jan. 15, 2027
20. D3 TURBO PLUS	1	Diesel-engine lubricant	Jan. 15, 2027



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry ¹
21. BANGCHAK POWER D	1	High-speed diesel	Jul. 10, 2028
22. SUPER POWER D B5 (EURO 4)	2	Diesel-engine lubricant Diesel	Nov. 3, 2020 May 2, 2022
23. SUPER POWER D (EURO 4)	2	Diesel-engine lubricant Diesel	Nov. 3, 2020 May 2, 2022
24. GE NGV	1	Semi-synthetic gasoline-engine lubricant	Dec. 25, 2021
25. GE PLATINUM	1	Synthetic gasoline-engine lubricant	Dec. 25, 2021
26. Bangchak Max Drive	1	Gasoline Fuel Conditioner	Dec. 25, 2026
27. Super HDX	1	Diesel Fuel Conditioner	Jan. 15, 2027
28. FURIO	1	Lubricant	Mar. 2, 2027
29. FURIO F2	1	Lubricant	Feb. 11, 2028
30. FURIO F2 DIESEL	1	Lubricant	Feb. 11, 2028

Service Marks

Service logo	Number of registered logos	Goods/service under logo	Expiry ¹
<u>Copyrights</u>			
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	Vehicle maintenance	Sep. 1, 2025



Service logo	Number of registered logos	Goods/service under logo	Expiry ¹
11. Green Wash	1	Vehicle cleaning & lubrication	Sep. 1, 2025
12. GREEN WASH AUTOCARE	2	Vehicle cleaning	Jul. 25, 2026
13. GREEN WASH EXPRESS	1	Vehicle cleaning	Jul. 25, 2026
14. GREEN BIKE EXPRESS	1	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	Jan. 18, 2022 Apr. 1, 2023
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, 2020
2. Bangchak leaf and BANGCHAK LUBRICANTS - Registered in Myanmar [®] - Registered in LPDR (Laos)	2	Fuel products	- Mar. 20, 2023
3. Bangchak leaf and BCP LUBRICANTS (Registered in Myanmar [®])	1	Fuel products	-
4. Bangchak leaf and BANGCHAK (Registered in Myanmar [®])	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, 2022
7. Bangchak leaf and BCP LUBRICANTS (Registered in Cambodia)	1	Fuel products	Jul. 5, 2022
8. Bangchak leaf and BCP LUBRICANTS (Registered in Lebanon)	1	Fuel products	Feb. 26, 2029
9. Bangchak leaf and BCP (Registered in Myanmar) [®]	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, 2021



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
12. Bangchak leaf and BCP LUBRICANTS (Registered in Jordan)	1	Fuel products	Nov. 24, 2023
13. Bangchak leaf and BCP LUBRICANTS (Registered in Philippines ^๕)	1	Fuel products	Sep.10, 2025
14. Bangchak leaf and BCP LUBRICANTS (Registered in Kenya)	1	Fuel products	Dec. 10, 2023
15. Bangchak leaf and BCP LUBRICANTS (Registered in OAPI countries ^๔)	1	Fuel products	Dec. 6, 2023
16. BAICHAK MART (Registered in PRC (China))	1	Miscellaneous goods for consumers' convenience	Jan. 27, 2025
17. BAICHAK MART (Registered in Vietnam)	1	Miscellaneous goods for consumers' convenience	Sep. 3, 2023
18. BAICHAK MART (Registered in LPDR (Laos))	1	Miscellaneous goods for consumers' convenience	Dec. 5, 2024
19. GREEN SERVE (Registered in LPDR (Laos))	1	Vehicle maintenance	Dec. 5, 2024
20. Bangchak leaf and BANGCHAK (Registered in PRC (China))	1	Service stations	Jan. 27, 2025
21. Bangchak leaf and BANGCHAK (Registered in LPDR (Laos))	2	Fuel products, service stations	Dec. 5, 2024
22. Bangchak leaf and BANGCHAK (Registered in Vietnam)	2	Fuel products, service stations	Sep.30, 2023 Nov. 19, 2023
23. Bangchak leaf and BCP (Registered in PRC (China))	2	Fuel products	Jan. 13, 2025 Oct. 20, 2025



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
24. Bangchak leaf and BCP (Registered in LPDR (Laos))	2	Fuel products, service stations	Dec. 5, 2024
25. Bangchak leaf and BCP (Registered in Vietnam)	1	Fuel products, service stations	Sep.30, 2023
26. Bangchak leaf and Bangchak (Registered in Cambodia)	2	Fuel products, service stations	Oct. 1, 2023
27. Bangchak leaf and BCP (Registered in Cambodia)	2	Fuel products, Service stations	Oct. 1, 2023
28. Bangchak leaf and BCP LUBRICANTS (Registered in LPDR (Laos))	1	Fuel Products	Jan. 17, 2024
29. Bangchak leaf and BANGCHAK (Registered in PRC (China))	1	Fuel products	Jan. 27, 2025
30. BANGCHAK MART (Registered in Cambodia)	1	Miscellaneous goods for consumers' convenience	Sep. 5, 2023
31. GREEN SERVE (Registered in Cambodia)	1	Vehicle maintenance	Sep. 5, 2023
32. Bangchak leaf and BCP LUBRICANTS (Registered in PRC (China))	1	Fuel products	Aug. 13, 2025
33. Bangchak leaf and BCP LUBRICANTS (Registered in Turkmenistan)	1	Fuel products	Jun. 23, 2025
34. FURIO (Registered in Myanmar [®])	1	Fuel products	-
35. FURIO (Registered in the Philippines)	1	Fuel products	Aug. 16, 2028
36. FURIO (Registered in LPDR (Laos))	1	Fuel products	Apr. 2, 2029
37. FURIO (Registered in PRC (China))	1	Fuel products	Feb. 6, 2029



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
38. FURIO (Registered in Cambodia)	1	Fuel products	Apr. 4, 2028

Trademarks and Service Marks under deliberation in Thailand

Trademark	Number of registered trademarks	Goods/services under trademark	Remarks
1. GREEN S REVOLUTION	2	Fuel products, vehicle service station	Appealed Jan. 26, 2018
2. BCP LUBRICANTS	1	Lubricant	Filed May 3, 2019

Trademarks and Service Marks under deliberation abroad

Trademark	Number of registered trademarks	Goods/services under trademark	Remarks
1. Bangchak leaf and BCP LUBRICANTS, registered in Iraq	1	Fuel products	Filed on Aug. 3, 2015
2. FURIO (Registered in Vietnam)	1	Fuel products	Filed on Apr. 2, 2018
3. Bangchak leaf and BCP LUBRICANTS (Registered in Bangladesh)	1	Fuel products	Filed on Nov. 18, 2019

Note.

- ❶ Registered trademarks and service logos are in effect 10 years from registration dates and extendable every 10 years
- ❷ 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
- ❸ In registering trademarks in Philippines, one must submit Declaration of Actual Use within 3 years from filing.
- ❹ 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



5. 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, 2019, were as follows:

- A lawsuit was filed against Bangchak as the first defendant with another company as the second defendant for breaching a distributor agreement for lubricants. The plaintiff demanded Baht 45.64 million as the amount of claim in that case. Another case was later filed against Bangchak by the same plaintiff for breach of contract and damage resulting from its suspension of lubricant distribution, where the amount of claim was set at Baht 688.28 million. On March 23, 2017, both cases were dismissed by judgement of the Civil Court, whose decision was then appealed by the plaintiff. Then on June 6, 2018, the Court of Appeals overturned the judgement of the Civil Court in both cases and ordered that Bangchak pay a total of Baht 1.2 million to the plaintiff, in addition to court expenses and lawyer's fees for the litigation in both courts for the plaintiff. Both parties have submitted their application to the Dika Court (Supreme Court) for approval to lodge dika appeals; both applications have been filed and accepted by the court. This is therefore pending the Dika Court's decision. Bangchak confirms having duly complied with the terms.



6. General information and other key information

- Company Name : Bangchak Corporation Public Company Limited
- Head Office : 2098 M Tower Building, 8th Floor
Sukhumvit Rd., Phra Khanong Tai,
Phra Khanong, Bangkok 10260
- Nature of business : Oil Refinery and Trading Business,
Marketing Business, Green Power
Business, Bio-based Products Business,
Natural Resource Business and Business
Development
- Registration No. : 0107536000269
- Telephone : 0 2335 8888
- Fax : 0 2335 8000
- Website : <http://www.bangchak.co.th>
- Company establishment: November 8, 1984
- Commercial operation : April 1, 1985
- Registered capital (as of December 31, 2019) 1,376,923,157 Baht, of which Baht 1,376,923,157 was paid up, dividing into 1,376,923,157 shares, at 1 Baht per share.
- Shareholders of BCP

- Social Security Office	203 Million shares	14.77%
- Vayupak Fund 1	202 Million shares	14.66%
- Ministry of Finance	137 Million shares	9.98%
- Minor Shareholders	835 Million shares	60.59%



Total 1,377 Million shares 100.00%

- Office and Terminals
 - Head Office*
2098 M Tower Building, 8th Floor, Sukhumvit Road, Phra Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 8888, Fax 0 2335 8000
Email: info@bangchak.co.th
 - Bangchak Refinery and Terminal
210 Soi Sukhumwit 64, Phra Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 4999 Fax 0 2335 4009
 - 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
 - Northern Region Business Office
87/9 Starwork Building, 3rd Floor, Thung Hotel Road, Tambon Wat Ket, Amphoe Muang, Chiang Mai 50000
Tel. 053 300 484, Fax 053 300 485
 - Northeastern Region Business Office
499 Moo 12, Mitraphab Road, Tambon Muang Kao, Amphoe Muang, Khon Kaen 40000
Tel. 043 261 751-52, 043 261 789, 043 261 791, Fax 043 261 790
 - 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
 - Samut Sakhon Oil Distribution Center
100/149 Moo 1, Tambon Tha Chin, Amphoe Muang, Samut Sakhon 74000 Tel. 034 820 519-20
 - 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
 - Rayong Oil Distribution Center
1, 3B Road, Tambon Map Ta Phut, Amphoe Muang, Rayong 21150, Tel. 038 609 389, Fax 038 609 413



- 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
- 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
- Phichit Oil Terminal
99/8 Moo 9 Tambon Banna, Amphoe Wachirabarami, Phichit 66140
Tel.0 2335 8728 Email: bphcenter@bangchak.co.th
- **Subsidiaries**
 - BCPG Public Company Limited (BCPG)
2098 M Tower Building, 12th Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260
Tel.0 2335 8999 Fax.0 2335 8900
Email: info@bcpgroup.com
Website: <http://www.bcpgroup.com>
 - BBGI Public Company Limited
2098 M Tower Building, 5th Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260
Tel.0 2335 8899 Fax.0 2335 8800
Website: <http://www.bbgroup.com>
 - Bangchak Retail Co., Ltd. (BCR)
2098 M Tower Building, 17th Floor, Sukhumvit Rd., Phra Khanong Tai, Phra Khanong, Bangkok 10260
Tel.0 2335 8400 Fax.0 2016 3963



- Bangchak Green Net Co., Ltd. (BGN)
223/94 Country Complex, Building A, 19th Floor, Sanpawut Rd.,
Bangna, Bangna, Bangkok 10260
Tel. 0 2367 2699 Fax. 0 2745 7945
- BCPR Co., Ltd.
2098 M Tower Building, 8th Floor, Sukhumvit Rd., Phra
Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 8654
- BCV Partnership Co., Ltd.
2098M Tower Building, 20th Floor, Sukhumvit Rd., Phra
Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 4999 Fax. 0 2335 4572
- BCV Bio Based Co., Ltd.
2098M Tower Building, 20th Floor, Sukhumvit Rd., Phra
Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 4999 Fax. 0 2335 4572
- BCV Innovation Co., Ltd.
2098M Tower Building, 20th Floor, Sukhumvit Rd., Phra
Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 4999 Fax. 0 2335 4572
- BCV Energy Co., Ltd.
2098M Tower Building, 20th Floor, Sukhumvit Rd., Phra
Khanong Tai, Phra Khanong, Bangkok 10260
Tel. 0 2335 4999 Fax. 0 2335 4572
- BCP Energy International Pte. Ltd. (BCPE)
8 Marina Boulevard # 05-02, Marina Bay Financial Centre,
Singapore 018981
- BCP Innovation Pte. Ltd. (BCPI)
8 Marina Boulevard # 05-02, Marina Bay Financial Centre,
Singapore 018981



- BCP Trading Pte. Ltd. (BCPT)
160 Robinson Road #25-03, Spore Business Federation CTR,
Singapore 068914
- Nido Petroleum Limited
Level 46, Tower One – International Towers Sydney, 100
Barangaroo Avenue, Barangaroo NSW 2000, Australia
- BCPR Pte. Ltd.
8 Marina Boulevard # 05-02, Marina Bay Financial Centre,
Singapore 018981
- Bangchak Venture Pte. Ltd.
8 Marina Boulevard # 05-02, Marina Bay Financial Centre,
Singapore 018981

Others:

- **Bangchak Initiative Innovation Center (Biic)**
2098 M Tower Building, 5th Floor, Sukhumvit Rd., Phra Khanong
Tai, Phra Khanong, Bangkok 10260
Email: biic@bangchak.co.th
- **Happiness Sharing Foundation**
2098 M Tower Building, 18th 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, 18th Floor, Sukhumvit Rd., Phra Khanong
Tai, Phra Khanong, Bangkok 10260
Tel.0 2335 4600, Fax.0 2016 3969



- **Information on 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 th - 51 st Floors, Empire Tower 195 South Sathorn Road, Yannawa, Sathorn, Bangkok 10120 Thailand Tel. 0 2677 2000 Fax. 0 2677 2222
Debenture Registrar and Payment Agent (for BCP224A, 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
Debenture Registrar and Payment Agent (for BCP214A, and 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
Debenture Registrar, Payment Agent and Debenture Holders' Representative (for BCP208A, BCP238A, BCP258A, and BCP28DA)	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



Debenture Registrar, Payment Agent, and Debenture Holders' Representative (for BCP19PA)

Krung Thai Bank Public Company Limited
35 Sukhumvit Road, Klong Toey Nua, Wattana, Bangkok 10110
Tel. 0 2298 0830 Ext. 129
Website: www.ktb.co.th

Legal Counsel

Baker & Mckenzie Ltd.
25th Floor, Abdulrahim Place, 990 Rama IV Road, Silom, Bangrak, Bangkok 10500 Thailand
Tel. 0 2636 2000 Fax. 0 2636 2111

LS Horizon Limited
14th Floor, GPF Witthayu Tower, A 93/1 Wireless Road, Lumpini, Phatumwan, Bangkok 10330 Thailand
Tel. 0 2627 3443 Fax. 0 2627 3250

Chandler MHM Law Officers Limited
20 Bubhajit Building, 7th-9th Floor, North Sathorn Road, Silom, Bangrak, Bangkok 10500 Thailand
Tel. 0 2266 6485 Fax. 0 2266 6483



7. Securities and Shareholder Information

• 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 August 29, 2019)	Number of Shares	Shareholding (%)
1. Social Security Office	203,417,697	14.77
2. Vayupak Fund 1	201,873,600	14.66
3. Ministry of Finance.	137,442,767	9.98
4. Thai NVDR Co., Ltd.	91,454,250	6.64
5. SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	32,835,228	2.38
6. AIA COMPANY LIMITED-EQDI-D FUND 1	30,000,069	2.18
7. Bangkok Life Assurance PLC	23,056,200	1.67
8. Krungsri Dividend Stock LTF	22,045,400	1.60
9. STATE STREET EUROPE LIMITED	19,245,211	1.40
10. Mrs. Somsong Lapananrat	15,689,600	1.14
Top 10 Total	777,060,022	56.43
Grand Total	1,376,923,157	100.00

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

Top Major Shareholders (as of August 29, 2019)	Number of Shares	Shareholding (%)
1. STATE STREET BANK AND TRUST COMPANY	14,065,100	1.02
2. SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	11,696,200	0.85
3. STATE STREET EUROPE LIMITED	9,894,044	0.72
4. BNY MELLON NOMINEES LIMITED	8,883,126	0.65
Total	44,538,470	3.24

Source: <http://www.set.or.th/set/companyholder.do?symbol=BCP-R>

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



• Issuance of other securities

Debentures

Bangchak earned “A” credit rating for the organization and debt instruments with a “stable” outlook from TRIS Rating Co., Ltd.

In 2019, Bangchak issued and offered perpetual subordinated bonds, which repays the principal only once when the company is dissolved or when the issuer exercises the right to redeem them. The issuer can defer interest payment to the holders while accruing payable interests indefinitely without any limit on the number of times, at the issuer's sole discretion. The bond states the holder's name, is unguaranteed, nonconvertible, and bears the holder's agent; the issuer can redeem Baht 10 billion's worth of such bonds before maturity. As of December 31, 2019, Bangchak posted Bah 31 billion in outstanding bonds as detailed below.

Debenture	Value (Baht million)	Interest rate (%/year)	Maturity (years)	Redemption Date
BCP208A	3,000	2.13	2	August 10, 2020
BCP214A	2,500	4.81	7	April 11, 2021
BCP224A	1,000	5.35	10	April 30, 2022
BCP238A	400	2.96	5	August 10, 2023
BCP244A	3,500	5.18	10	April 11, 2024
BCP258A	600	3.42	7	August 10, 2025
BCP273A	2,000	4.72	12	March 3, 2027
BCP28DA	7,000	4.04	10	December 20, 2028
BCP303A	1,000	5.05	15	March 3, 2030
BCP19PA	10,000	Floating ^{1/}	Principal amount to be repaid once upon company dissolution or when the issuer exercises its right to redeem the bonds.	

Remarks: ^{1/} Floating interest rates as detailed below:

- (1) For the first year to the fifth year, fixed at 5.00% per year
- (2) For the sixth year to the 25th year, the rate is the sum of (a) five-year government bond yield rate, (b) initial credit spread, and (c) 0.25% per year



- (3) For the 26th year to the 50th year, the rate is the sum of (a) five-year government bond yield rate, (b) initial credit spread, and (c) 1.00% per year
- (4) From the 51st year onward, the rate is the sum of (a) five-year government bond yield rate, (b) initial credit spread, and (c) 2.00% per year.

The interest rate is to be adjusted every five years, referenced to the five-year government bond yield rate at the end of the two working days before the start of the new period of interest rate adjustment. The initial credit spread means the difference between the 5.00% per year interest rate and the five-year government bond yield as of September 17, 2019, which equaled 3.61% per year.

Dividend policy

Bangchak Corporation Public Company Limited

The Company has the policy to pay 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	2014	2015	2016	2017 <small>(Restate)</small>	2018 <small>(Restate)</small>	2019 <small>(first half)</small>
Earnings per share <small>(Baht/share)</small>	0.52	3.01	3.47	4.07	1.79	0.54
Annual dividend <small>(Baht/share)</small>	1.00	2.00	1.80	2.15	1.35	0.50
Dividend payout ratio <small>(%)</small>	192	66	52	53	75	93

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

- BCPG Plc.

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 Plc.

The Company has the policy to pay out dividend to the shareholders at the rate of not less than 40 percent of net profit after deduction of allocation of legal reserve. However, this is subject to the Company's cash flow and investment plans according to the necessary, appropriation and other concerning as the Board of Directors' consideration.

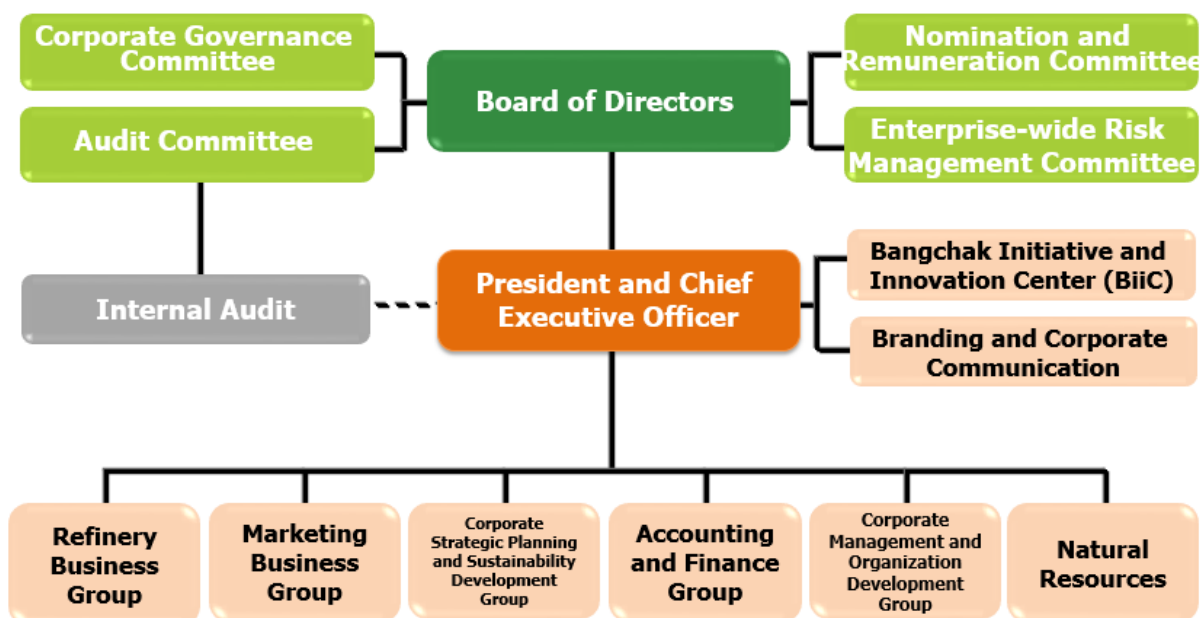
- Bangchak Green Net Co., Ltd.

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.



8. Management 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.



As of December 2019

Note: The Audit Committee considers, appoints, transfers, dismisses, and undertakes annual evaluation of the Chief Audit Executive and review the independence of Internal Audit.

1. **Board of Directors** There were 15 directors (As of 31 December 2019) as follows:

	Name	Position	Appointment date
1.	Mr. Pichai Chunhavajira	- Chairman (Independent director)	24 April 2012 (Independent director since 1 June 2017)
2.	Mr. Surin Chiravisit	- Vice Chairman - Member of the Enterprise-wide Risk Management Committee - Member of the Corporate Governance Committee	8 April 2010



	Name	Position	Appointment date
3.	Mr. Suthep Wongvorazathe	- Independent director - Chairman of the Audit Committee - Chairman of the Nomination and Remuneration Committee	30 October 2012
4.	Gen. Vitch Devahasdin	- Independent director - Chairman of the Corporate Governance Committee	5 April 2016
5.	Adm. Sucheep Whoungmaitree	- Independent director - Member of the Nomination and Remuneration Committee	26 May 2015
6.	Pol.Lt.Gen. Chaiwat Chotima	- Independent director - Member of the Audit Committee - Member and Secretary of the Nomination and Remuneration Committee	9 April 2014
7.	Lt.Gen. Thammanoon Withee	- Independent director - Member of the Nomination and Remuneration Committee	28 February 2018
8.	Mrs. Prisana Praharnkhasuk	- Independent director - Member of the Enterprise-wide Risk Management Committee	5 April 2016
9.	Mr. Teerapong Wongsiwawilas	- Independent director - Member of the Corporate Governance Committee	26 January 2017
10.	Dr. Porameteer Vimolsiri	- Independent director - Member of the Audit Committee	7 June 2018
11.	Mr. Suthi Sukosol	- Director (Representative of Social Security Office) - Member of the Corporate Governance Committee	26 July 2019 Replacing Mr. Jarin Chakkaphark
12.	Mr. Prasong Poontaneat	- Director (Representative of Ministry of Finance) - Chairman of the Enterprise-wide Risk Management Committee	24 April 2012
13.	Dr. Anuchit Anuchitanukul	- Director (Representative of Ministry of Finance) - Member of the Enterprise-wide Risk Management Committee	25 April 2018
14.	Dr. Prasert Sinsukprasert	- Director - Member of the Enterprise-wide Risk Management Committee	5 April 2016
15.	Mr. Chaiwat Kovavisarach	- President and Chief Executive Officer - Member and Secretary of the Corporate Governance Committee	30 October 2012



Name		Position	Appointment date
		<ul style="list-style-type: none"> - Member and Secretary of Enterprise-wide Risk Management Committee - Secretary of the Board of directors 	
Directors whose terms were completed and resigned directors in 2019			
1.	Mr.Jarin Chakkaphark	<ul style="list-style-type: none"> - Director (Representative of Social Security Office) - Member of the Corporate Governance Committee 	12 October 2017 (Resigned on 8 May 2019)

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. Surin Chiravisit or Mr. Suthep Wongvorazathe or Pol.Lt.Gen. Chaiwat Chotima or Adm. Sucheep Whoungmaitree or Mrs. Prisana Praharnkhasuk or Lt.Gen. Thammanoon Withee, being two persons, with affixation of the Company's seal.

Board structure

- Board diversity prevails, equipped with a series of skills matching Bangchak's business strategies, which are identified through Board Skill Matrix preparation.
- The Board consists of 5-15 directors without gender discrimination.
Today there are 15 of them, with one female member.
- Independent directors account for more than one-third of the Board. Today there are 9 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		Oil business	Retail business	Energy business	International business	Accounting and finance	Management	Compliance	Organizational development and innovation	Society, environment, and safety	Risk and crisis management
1.	Mr. Pichai Chunhavajira	X	X	X	X	X	X		X	X	X
2.	Mr. Surin Chiravisit	X	X	X			X	X	X	X	X
3.	Mr. Suthep Wongvorazathe	X	X	X	X	X	X				X
4.	Gen. Vitch Devahasdin						X	X	X	X	X
5.	Adm. Sucheep Whoungmaitree						X	X	X	X	X
6.	Pol.Lt.Gen. Chaiwat Chotima	X	X	X			X			X	X
7.	Lt.Gen. Thammanoon Withee						X	X	X	X	X
8.	Mrs. Prisana Praharnkhasuk	X		X		X	X		X		X
9.	Mr. Teerapong Wongsiwawilas						X	X	X		X
10.	Dr.Porametee Vimolsiri			X	X	X	X		X	X	X
11.	Mr. Suthi Sukosol						X		X	X	X
12.	Mr. Prasong Poontaneat	X	X	X		X	X	X	X		X
13.	Dr. Anuchit Anuchitanukul		X		X	X	X		X		X
14.	Dr. Prasert Sinsukprasert	X	X	X			X				X
15.	Mr. Chaiwat Kovavisarach	X	X	X	X	X	X		X	X	X
Total		8	8	9	5	7	15	6	12	9	15

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 Section 3.1 of the corporate governance policy, with stricter shareholding requirements than those of SEC and SET, that is, 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.

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-quarter vote of the Directors present at the meeting is required. The elected Director holds the position until the completion of term of the Director they have replaced.

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's 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.



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.

Terms of Directorship

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.**

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 utilising 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 programmes 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 prioritise 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 through out 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. 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.
12. 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.

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)

In 2019, the **Board held 12 meetings with exclusive meetings of the independent directors in April and September and meeting of the non-management directors in May and October, and one annual seminar on corporate strategies with the management to review and revise the corporate vision and set goals every five years** 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.

New Directors' Orientation

Bangchak stages lectures and company visits and prepares a directors' manual for new directors to be informed of its business nature and approaches, relevant laws and regulations, corporate governance policy, and other essential information that will prove useful to their efficient performance. This year the following directors attended new directors' orientations:

- Mr. Suthi Sukosol on 14 August 2019

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:

- A lectured entitled "Turning Big Data into Decisions" by Mr. Andreas Weigend, a Big Data expert, on March 6, 2019, delivered to Mr. Prasert Sinsukprasert
- A lecture entitled "Energy Sector Environment" by a speaker from McKinsey & Company, delivered to the Board of Directors at the annual corporate strategic seminar on July 12-13, 2019



- A study visit by the Board of Directors to OKEA ASA in Norway from August 31 to September 8, 2019
- A lecture entitled “Business Canvas” by Mr. Alex Osterwalders, a subject matter expert, delivered to the Board of Directors from December 11 to 12, 2019.

As of today, two directors have attended IOD’s Director Accreditation Program (DAP) and eleven have attended its Director Certification Program (DCP). Training details appear under “Boards of Directors”.

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 subcommittee charters appear in the corporate governance policy, publicized on Bangchak’s website.

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.

Name	Position
1. Mr. Suthep Wongvorazathe	Chairman and Independent Director with expertise in accounting and finance
2. Dr.Porametee Vimolsiri	Member and Independent Director with expertise in accounting and finance
3. Pol.Lt.Gen. Chaiwat Chotima	Member and Independent Director
4. Executive Vice President, Internal Audit	Secretary

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 lead 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 Company



The 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.

The external auditor's employment contract may be revoked if it does not perform, neglects its duties, or is engaged in malfeasance.

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.

Name	Position
1. Mr. Suthep Wongvorazathe	Chairman and Independent Director
2. Adm. Sucheep Whoungmaitree	Member and Independent Director
3. Lt.Gen. Thammanoon Withee	Member and Independent Director
4. Pol.Lt.Gen. Chaiwat Chotima	Member and Secretary, 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.

Name	Position
1. Mr. Prasong Poontaneat	Chairman and Non-executive Director
2. Mr. Surin Chiravisit	Member and Non-executive Director
3. Mrs. Prisana Praharnkhasuk	Member and Independent Director
4. Dr. Prasert Sinsukprasert	Member and Non-executive Director
5. Dr. Anuchit Anuchitanukul	Member and Non-executive Director
6. Mr. Chaiwat Kovavisarach	Member and Secretary, Executive Director

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. Corporate Governance Committee (CGC)

The Corporate Governance Committee is made up of at least three directors, and at least one of whom must be knowledgeable in corporate



governance practices by international standards. An independent director must serve as Chairman of this committee.

Name	Position
1. Gen. Vitch Devahasdin	Chairman and Independent Director
2. Mr. Surin Chiravisit	Member and Non-executive Director
3. Mr. Teerapong Wongsiwawilas	Member and Independent Director
4. Mr. Suthi Sukosol	Member and Non-executive Director
5. Mr. Chaiwat Kovavisarach	Member and Secretary, Executive Director

Roles and Responsibilities

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

Summary of Board and Sub-committees meeting attendance

Names		Meeting attendance / total (times)								Remarks
		Board of Directors			Sub-Committees					
		Meeting	Seminar	Total	AC	NRC	ERMC	CGC		
1	Mr. Pichai Chunhavajira ^{1/}	12/12	1/1	13/13	-	-	-	-		
2	Mr. Surin Chiravisit ^{2/}	12/12	1/1	13/13	-	1/1	5/5	3/3		
3	Mr. Suthep Wongvorazathe ^{3/}	12/12	1/1	13/13	12/12	4/4	-	-		
4	Gen. Vitch Devahasdin	11/12	0/1	11/13	-	-	-	3/3		
5	Adm. Sucheep Whoungmaitree	12/12	1/1	13/13	-	4/4	-	-		
6	Pol.Lt.Gen. Chaiwat Chotima	10/12	1/1	11/13	12/12	4/4	-	-		
7	Lt.Gen. Thammanoon Withee	12/12	0/1	12/13	-	1/4	-	-		
8	Mrs. Prisana Praharnkhasuk ^{4/}	12/12	1/1	13/13	-	-	4/4	-		



9	Mr. Teerapong Wongsiwawilas	12/12	1/1	13/13	-	-	-	3/3	
10	Dr. Poramettee Vimolsiri ^{5/}	12/12	1/1	13/13	11/12	-	-	-	
11	Mr. Suthi Sukosol ^{6/}	5/5	0/0	5/5	-	-	-	2/2	Appointed on 26 July 2019
12	Mr. Prasong Poontaneat	12/12	0/1	12/13	-	-	5/5	-	
13	Dr. Anuchit Anuchitanukul	11/12	1/1	12/13	-	-	4/5	-	
14	Dr. Prasert Sinsukprasert	12/12	1/1	13/13	-	-	5/5	-	
15	Mr. Chaiwat Kovavisarach	11/12	1/1	12/13	-	-	5/5	3/3	
Directors whose terms were completed and resigned directors in 2019									
1	Mr. Jarin Chakkaphark	3/4	-	3/4	-	-	-	-	Resigned on 8 May 2019

- Note:**
- 1/ Chairman did not join any Sub-Committee as Member
 - 2/ Appointed as Member of CGC and dismissed from Chairman of NRC on 25 April 2019
 - 3/ Appointed as Member of NRC on 25 April 2019
 - 4/ Dismissed from Member of AC on 1 January 2019 and appointed as Member of ERMC on 25 April 2019
 - 5/ Appointed as Member of AC and dismissed from Member of ERMC on 1 January 2019
 - 6/ Appointed as Member of CGC on 26 July 2019

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 94.3%, 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 96.0%, regarded as excellent.

2) Entire Board relies on topics, namely Structure and Skills, Strategic Direction and Planning, Policy, Monitoring and Supervision,



Accountability, CEO and Succession, Leadership and Teamwork, and Agendas, Papers, Meetings and Minutes. The overall summary of assessment findings showed an average score of 96.7%, regarded as excellent.

3) Sub-committees relies on responsibilities and meetings; the evaluations of all Committees were as follows:

- Audit Committee, the group evaluation had the average score of 98.3%, rated excellent.
- Nomination and Remuneration Committee, the group evaluation had the average score of 97.5%, rated excellent.
- Corporate Governance Committee, the group evaluation had the average score of 93.3%, rated excellent.
- Enterprise-wide Risk Management Committee, the group evaluation had the average score of 94.7%, rated excellent.

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 2019 AGM of 11 April 2019 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. 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
- Driver for the Vice 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)

In 2019, the individual remuneration of Directors was as follows:

Name		Remuneration in Baht						Total
		BOARD	AC	NRC	ERMC	CGC	Bonus	
1	Mr. Pichai Chunhavajira	937,500	-	-	-	-	1,504,169.08	2,441,669.08
2	Mr. Surin Chiravisit	877,500	-	18,750	75,000	45,000	1,353,752.16	2,370,002.16
3	Mr. Suthep Wongvorazathe	780,000	375,000	71,250	-	-	1,203,335.25	2,429,585.25
4	Gen. Vitch Devahasdin	690,000	-	-	-	56,250	1,203,335.25	1,949,585.25
5	Adm. Sucheep Whoungmaitree	780,000	-	60,000	-	-	1,203,335.25	2,043,335.25
6	Pol.Lt.Gen. Chaiwat Chotima	690,000	300,000	60,000	-	-	1,203,335.25	2,253,335.25
7	Lt.Gen. Thammanoon Withee	720,000	-	15,000	-	-	1,012,120.34	1,747,120.34
8	Mrs. Prisana Praharnkhasuk	780,000	-	-	60,000	-	1,203,335.25	2,043,335.25
9	Mr. Teerapong Wongsiwawilas	750,000	-	-	-	45,000	1,203,335.25	1,998,335.25
10	Dr. Poramatee Vimolsiri	780,000	285,000	-	-	-	685,736.25	1,750,736.25
11	Mr. Suthi Sukosol ^{1/}	305,806.45	-	-	-	30,000	-	335,806.45
12	Mr. Prasong Poontaneat	750,000	-	-	93,750	-	1,203,335.25	2,047,085.25
13	Dr. Anuchit Anuchitanukul	750,000	-	-	60,000	-	824,202.23	1,634,202.23
14	Dr. Prasert Sinsukprasert	780,000	-	-	75,000	-	1,203,335.25	2,058,335.25
15	Mr. Chaiwat Kovavisarach	750,000	-	-	75,000	45,000	1,203,335.25	2,073,335.25
Total		11,120,806.45	960,000	225,000	438,750	221,250	16,209,997.31	29,175,803.76
Directors whose terms were completed and resigned directors in 2019								
1	Mr. Jarin Chakkaphark ^{2/}	216,774.19	-	-	-	-	1,203,335.25	1,420,109.44
Total		216,774.19	-	-	-	-	1,203,335.25	1,420,109.44

Note: 1/ Appointed as Director on 26 July 2019

2/ Resigned on 8 May 2019 and transferred bonus to the Social Security Fund in compliance with the regulations of the Office of the Social Security Fund



Bonuses for directors whose terms were completed and who resigned in 2018 (performance in 2018 paid in 2019)

Names		Bonus (Baht)	Remarks
1.	Gen. Apirat Kongsompong	184,621.30	Resigned on 26 February 2018
2.	Mr. Visit Vongruamlarp	379,133.02	Completed term on 25 April 2018
3.	Mr. Krisada Chinavicharana	494,521.34	Resigned on 31 May 2018
TOTAL		1,058,275.66	

Comparison of Remuneration of Directors in 2018 and 2019

Remuneration	2018		2019	
	Directors	Baht	Directors	Baht
Monthly remuneration and meeting allowance	15	14,755,566.00	15	13,182,580.64
Bonus	15	43,336,795.99	15	18,471,608.22
TOTAL		58,092,361.99		31,654,188.86

Note: Bonus for 2018 performance under the resolution of the 2018 AGM, held on 25 April 2018 (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.)

Directors' Remuneration due to Directorship of subsidiaries, associates, and joint ventures in 2019

Company	Name	Total remuneration (Baht)						Net total	Others
		Monthly remuneration	Meeting allowance	Bonus	Sub-Committee remuneration	ESOP (Capital Gain)			
BCPG	Mr. Pichai Chunhavajira	450,000	487,500	1,769,855	-	510,000.00	3,217,355.00	-	
	Mr. Chaiwat Kovavisarach	289,580	300,000	1,214,132	225,000	459,005.44	2,487,718.09	-	
BBGI	Mr. Pichai Chunhavajira	450,000	175,000	168,698.32	-	-	793,698.32	-	
	Mr. Surin Chiravisit	360,000	140,000	134,958.62	75,000	-	709,958.62	-	
	Mr. Chaiwat Kovavisarach	360,000	120,000	134,958.62	50,000	-	664,958.62	-	
NIDO	Mr. Chaiwat Kovavisarach	58,324.47 AUD (per annum)	-	-	-	-	1,252,809.62	-	
OKEA	Mr. Chaiwat Kovavisarach	457,151 NOK	110,000 NOK	556,797 NOK	-	-	3,900,099.56	-	



Company	Name	Total remuneration (Baht)						Net total	Others
		Monthly remuneration	Meeting allowance	Bonus	Sub-Committee remuneration	ESOP (Capital Gain)			
	Mrs. Prisana Praharnkhasuk	287,386 NOK	77,000 NOK	371,198 NOK	140,000 NOK	-	3,038,241.78	-	
LAC	Mr. Chaiwat Kovavisarach	42,000 USD	-	-	2,500 USD	-	1,347,575.70	23,461 Deferred Share Units	

- Notes:**
- BCPG: BCPG Public Company Limited
 - BBGI: BBGI Public Company Limited
 - NIDO: Nido Petroleum Pty. Ltd.
 - OKEA: OKEA ASA
 - LAC: Lithium Americas Corp.
 - Exchange rate AUD\$ 1 equivalent to approximately Baht 21.48
 - Exchange rate NOK\$ 1 equivalent to approximately Baht 3.47
 - Exchange rate USD\$ 1 equivalent to approximately Baht 30.28
 - Deferred Share Units: Periodically convertible hypothetical share units into common shares

2. Executive Management

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 17 persons, No. 1 through No. 11 of whom are regarded as executives under SEC's definition (As of December 2019):

Name	Position
1. Mr. Chaiwat Kovavisarach	President and Chief Executive Officer
2. Mr. Yodphot Wongrukmit	Senior Executive Advisor, Corporate Management and Organization Development Group



- | | |
|---------------------------------|--|
| 3. Mr. Kiatchai Maitriwong | Senior Executive Advisor, Corporate Strategic Planning and Sustainability Development Group |
| 4. Mr. Chalermchai Udomranu | Senior Executive Advisor, Refinery Business Group |
| 5. Mr. Pongchai Chaichirawiwat | Senior Executive Vice President, appointed to BBGI Public Company Limited |
| 6. Mr. Somchai Tejavanija | Chief Marketing Officer & Senior Executive Vice President, Marketing Business Group |
| 7. Mr. Bundit Sapianchai | Senior Executive Vice President, appointed to BCPG Public Company Limited |
| 8. Mr. Surachai Kositsareewong | Senior Executive Vice President, Accounting and Finance |
| 9. Mr. Chokchai Atsawarangsali* | Executive Vice President acting Senior Executive Vice President, Corporate Management and Sustainability Development |
| 10. Mr. Viboon Wongsakul* | Executive Vice President acting Senior Executive Vice President, Corporate Strategic Planning and Sustainability Development Group, appointed to Bangchak Retail Company Limited |
| 11. Mr. Pativat Tivasasit* | Executive Vice President, Refinery Manufacturing Business acting Senior Executive Vice President, Refinery Business Unit |
| 12. Mr. Pichit Wongrujiravanich | Executive Vice President, Internal Audit |
| 13. Mr. Dhanajit Makarananda | Executive Vice President, appointed to BBGI Public Company Limited |



14. Ms. Revadee Pornpatkul Executive Vice President, appointed to BCPG Public Company Limited
15. Ms. Pakawadee Junrayapes Executive Vice President, Sustainability Development and Corporate Compliance
16. Dr. Michael William Fischer Executive Vice President, Natural Resources
17. Mr. Suwat Meemook Executive Vice President, Bangchak Initiative and Innovation Center
18. Ms. Sattaya Mahattanaphanij Executive Vice President, appointed to BCPG Public Company Limited
19. Ms. Phatpuree Chinkkulkitnivat Executive Vice President, appointed to BCPG Public Company Limited
20. Mr. Bundit Hansapaiboon Executive Vice President, Planning and Trading Business
21. Mr. Kittiphong Limsuwannarot Executive Vice President, appointed to BBGI Public Company Limited
22. Mr. Warakorn Kosolpisitkul Acting Executive Vice President, Marketing Business and Oil Terminal

*Note: Appointed as Acting Senior Executive Vice President, effective from September 1, 2019.

Succession Planning and Management Development

Under the Board's policy on the President and Chief Executive Officer's nomination, as long as 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 "Personnel Development and Administration Panel" (PDA) 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 and chief executive officer. 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 President and chief executive officer, 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 2019 to 31 December 2022.

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 and chief executive officer must 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. NRC is to decide on the President and chief executive officer's compensation, which is then forwarded to the Board for approval. The President and chief executive officer earns benefits as the top management executive in addition to the compensation as a director.

Remuneration of Executives

- 1) Executives shall receive short-term remuneration, i.e. salary and bonus, and long-term remuneration, including the Employee Stock Option Program (ESOP) and the Employee Joint Investment Program (EJIP), 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.

Remuneration for Executives as defined by the SEC (President & Chief Executive Officer and Senior Executive Vice Presidents)

Remuneration	2018		2019	
	Persons	Baht	Persons	Baht
Salary	8	57,797,017	8	83,899,655
Bonus & Retirement pay	8	35,037,965	8	42,964,594
Provident fund	8	5,443,224	8	7,364,004
Total	8	98,278,206	8	134,228,253

3. 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:



BANGCHAK CORPORATION PUBLIC COMPANY LIMITED

X = Chairman // = Managing Director / President / Chief Executive Officer / = Director As of December 31, 2019

<u>Subsidiary</u>			<u>Associated Companies</u>	<u>Other Vehicles</u>
1. BCPG PLC (BCPG)	17. BCP Midsea Co., Ltd. (BCPM)	20. BCPG Japan Corporation (BCPG Japan)	1. Bangchak Marine Services Co., Ltd. (Bangchak Marine)	1. Fuel Pipeline Transportation Co., Ltd. (FPT)
2. BBSI Co., Ltd. (BBSI)	18. BCP Energy Co., Ltd. (BCPE)	21. BCPG Engineering Company (BCPG Engineering)	2. Gas Sales and Services Co., Ltd. (ANOSGA)	2. Lubeoil America Corp. (LAC)
3. Bangchak Petro Co., Ltd. (BCP)	19. BCP Innovation Co., Ltd. (BCPI)	22. BCPG HRC Co., Ltd. (BCPG HRC)	3. BCP Oil Refinery Co., Ltd. (BRR)	
4. Bangchak Green Pet Co., Ltd. (BGPC)	20. BCP Petrochem Co., Ltd. (BCPP)	23. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	4. BCP Oil Refinery Co., Ltd. (BRR)	
5. Bangchak Solar Energy Co., Ltd. (BSSE)	21. BCPM Co., Ltd. (BCPM)	24. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	5. BCP Agricultural Energy Co., Ltd. (BPAE)	
6. Bangchak Solar Energy (Pattani) Co., Ltd. (BSSE-PAT)	22. BCPM Pk Co., Ltd. (BCPM PK)	25. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	6. BCP Bio Energy Co., Ltd. (BPE)	
7. Bangchak Solar Energy (Changwat) Co., Ltd. (BSSE-CHW)	23. BCPM Oil Sales Pk Co., Ltd. (BCPM OSP)	26. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	7. BCP Bio Energy Co., Ltd. (BPE)	
8. Bangchak Solar Energy (Buriram) Co., Ltd. (BSSE-BUR)	24. BCP Trading Pk Co., Ltd. (BCPT)	27. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	8. CB&I Asia (CB&I)	
9. Bangchak Solar Energy (Burkhan) Co., Ltd. (BSSE-BURK)	25. BCP Innovation Pk Co., Ltd. (BCPI PK)	28. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	9. BCPG Energy Asia Development Limited (BPAE)	
10. Bangchak Solar Energy (Nakhon Phanom) Co., Ltd. (BSSE-NPH)	26. BCP Energy International Pk Co., Ltd. (BCPE I)	29. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	10. BCPG HRC Co., Ltd. (BCPG HRC)	
11. Thai Digital Energy Development Co., Ltd. (TDE)	27. Bangchak Vehicle Pk Co., Ltd. (BCVP)	30. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	11. BCP Petrochem Pk Co., Ltd. (BCPP)	
12. BCPG Innovation Co., Ltd. (BCIC)	28. BCPG Innovation Pk Co., Ltd. (BCPI PK)	31. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	12. BCP Energy Group Holding Pk Co., Ltd. (BEGH)	
13. Linn Light Co., Ltd. (LLC)	29. BCP Energy Holding Pk Co., Ltd. (BCEH)	32. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	13. BCP Energy Sustainable Holding (S&S) - Group B.V. (BSEH)	
14. Bangchak Nickel Co., Ltd. (BNP)	30. Green Energy Holding Pk Co., Ltd. (GEH)	33. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	14. BCP Energy Sustainable (S&S) - Group B.V. (BSEH)	
15. Bangchak Biomass (Changwat) Co., Ltd. (BMC)	31. Green Energy Power Pk Co., Ltd. (GEP)	34. BCPG Petrochem Pk Co., Ltd. (BCPG PC)	15. BCP Energy Sustainable Pk Co., Ltd. (BSEH PK)	
16. BCP Green Innovation Pk Co., Ltd. (BCGIP)	32. Huang Ming Japan Company Limited (Huang Ming)			

4. Company Secretary

Under the Securities and Exchange law (Articles 89/15 and 89/16), Board Meeting No. 6/2009 appointed Ms. Pakawadee Janrayapes, Executive Vice President, Sustainability Development and Corporate Compliance, as Company Secretary, effective from July 1, 2009. Details of the company secretary profile appear in “Executive Management” section.

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.

5. Personnel

On December 31, 2019, the Company had a total headcount of 1,242.

Employee	Persons
Corporate Management and Sustainability Development	109
Accounting and Finance	82



Corporate Strategic Planning and Sustainability Development	31
Marketing Business Group	348
Refinery Business Group	576
The President and Chief Executive Officer	82
BCPG Plc	4
BBGI Plc	10

Significant changes in number employee for the past three years

- None (Total employee in year 2017 were 1,240 persons, which increased slightly to 1,242 persons in year 2019)

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; and discipline remuneration. 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 2019 the Company paid remuneration to the personnel in the form of salary, shift, night shift, overtime, upcountry, refinery stand-by pay, discipline pay, special bonus and other welfare, with a total of 1,892.89 million Baht. **The remuneration for President&CEO and Senior executive vice presidents upward is 7.35% of total remuneration of employee.**

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



“Personnel Development and Administration Panel” 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.

In 2019, a variety of training courses were staged, averaging 45.30 hours/ person/ year. These included the staff’s environmental capability development in courses, including a technical seminar on combustion efficiency measurement system and a practitioner course on industrial pollutant management, etc. (Training details are included in the Integrated Sustainability Report under Employee Stewardship, Environmental Expense Account, and Water Pollution).



9. Corporate Governance



1. Corporate Governance and Anti-Corruption

- **Policy:** Since 2003 the Board of Directors has defined a written corporate governance (CG) policy as a guideline for directors, management, and employees, which is to be revised annually. This year the Company revised its policy (Revision 16) concerning the notification of a wish to trade the Company's securities by at least one day ahead of such trading, the hiring of an external consultant to aid the assessment of Board of Directors' performance at least every three years, and the rotation of external auditors in line with the announcement of the Capital Market Supervisory Board No. Thaw Jaw 75/2561.
- **Communication:**
 - A talk on corporate governance as part of the orientation for new directors. (August 14, 2019)
 - A talk on corporate governance as part of the orientation for new employees. (March 25, 2019 and September 17, 2019)
 - Organized the 15th annual CG Day to promote understanding of and cultivate awareness of the CG Policy by inviting employees of Bangchak Group to join the "CG's GOT TALENT" show, embracing the communication of Bangchak CG's six fundamental principles called ARTEVE



(accountability, responsibility, transparency, equitable treatment, vision to create long-term value, and ethics). Joining the judging panel were Dr. Mana Nimitmongkol, Anti-Corruption Organization of Thailand Secretary-General, and Admiral Sucheep Whoungmaitree, Bangchak director. (October 18, 2019)

- Organized the annual Suppliers' Seminar under the "Code of Suppliers' Conduct for Sustainable Business Development" theme to inform and advise suppliers of the importance and benefit to jointly establish Bangchak's ecology of transparent business conduct, free of fraud and bribery of all forms. Participants also joined in declaring their resolve and joined certified CAC membership (April 30, 2019), thus making Bangchak one of the five winners of the CAC Change Agent Award—in honor of companies whose businesses are marked by transparent, clean practices throughout the supply chain. (October 18, 2019)



- **Measures and Guidelines**

- All employees are required to pass certain criteria to ensure proper understanding. The test may be done on the e-HR system or the online knowledge management system ("We Share") (November 8-22, 2019)
- 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 clear 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 so as to elevate good corporate governance and set a standard for conducting business with all related parties fairly.

- **Internal Control, Risk Management, and Internal Audit:** In order 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.

- **Audit**

Internal Audit formulates the annual audit plans and reports audit findings to the Audit Committee and the Board for acknowledgment.

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 2019 it won the second membership recertification since its first membership recertification in 2016.

2. Committees

The Board appointed a number of committees, namely the Audit Committee, Nominating and Remuneration Committee, Corporate Governance Committee, and Enterprise-wide Risk Management Committee, to ensure proper checks and balances between the Board of



Directors and the management to aid Bangchak's corporate governance. Details of these committees appear under "Management Structure".

3. Nomination and appointment of directors and the top executive

Today, Bangchak has 15 directors, 9 of whom are independent ones. Eleven 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. Details of the qualifications of independent directors and the nomination and appointment of directors and the President appear under "Management Structure".

4. 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

- Secondment of executives by the Board to serve as directors and executives in those companies proportionate to its own shareholding. Details appear under "Management Structure".
- Definition of an oversight approach for joint-venture companies for representative directors to uphold so that the businesses of subsidiaries, associates, and joint-venture companies may be uniform and in line with Bangchak's policy approach and relevant legislation. Voting or actions on important matters must secure prior approval from the President&CEO, Board, or shareholders, depending on the case.
- Institution of a corporate governance policy and a suitable, watertight internal control system in each of the subsidiaries.
- Supervision of disclosure of these companies' financial status and performance outcomes, as well as engagement in key transactions, must be properly done in line with Bangchak's criteria.



5. 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. 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, according to Article 258 of the Securities and Exchange Act of 1992 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.
2. 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.

6. Audit fee

For the fiscal year 2019, the Company and its subsidiaries paid for audit fees amounting to 10.83 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 2019**

1. Fees for annual audit and quarterly review of the Company and consolidated financial statements amounted to 2.04 Million Baht to KPMG.

Audit fees of the Company	
1. Annual audit fee for the Company's financial statement	0.42 Million Baht
2. Fees for annual audit and quarterly review of the Company and consolidated financial statements	1.62 Million Baht
Total audit fees of the Company	2.04 Million Baht

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 on the Stock Exchange of Thailand - Number of subsidiaries - Amount	17 Companies 4.92 Million Baht
2. Fees for annual audit of the overseas subsidiaries' financial statements - Number of subsidiaries - Amount (equivalent)	38 Companies 3.87 Million Baht
Total audit fees of subsidiaries	8.79 Million Baht

- **Non-audit fee**

The Company and its subsidiaries paid for other fees amounting to 3.90 Million Baht and the subsidiaries paid for auditing compliance with the conditions of the BOI Promotion Certificate amounting to 1.58 Million Baht to the audit firm and persons or businesses related to the auditors and the audit firm.



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 August 30, 2019.
- Facilitated and supported shareholders to attend the shareholders' meeting of either by themselves or through proxies.
- Facilitated shareholders on the meeting date:
 - The AGM was held at the Company's headquarters for travel convenience. Parking spaces are adequately reserved, and shuttle buses are arranged for the shareholders at the BTS Bangchak Station in case they are traveling on their own.
 - Adopted the Barcode system for registration and vote-tallying for efficiency and speed.
 - Applied the shareholders' meeting software to registration and vote-tallying for efficiency and transparency.
 - Supplied duty stamps for proxy assignment free of charge.
 - Prepared stickers for those that had already registered for getting in and out of the meeting room without rechecking.



- 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 2019 AGM, **Bangchak invited Mr. Visith Uevirojnangkoorn, 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.

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 31 days ahead of the meeting and delivered them to the shareholders 28 days ahead of the meeting.
- Allowed the shareholders to propose additional AGM agenda items and nominate directors from August 30 to December 31, 2019.



- 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 six 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 "Sustainability Report"):

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 a competitive and fair compensation, depending on the overall performance of the company, in the short term and the long term. In



this regard, an annual salary survey is carried out with other companies in the same industry. 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.

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 treats its creditors fairly, responsibly, and transparently and seeks to fulfill all its contractual and financial obligations, especially



guarantee conditions, capital management, and payment, collaterals, potential obligations and debts, as well as appropriate capital structure management to ensure creditors of its financial status and ability of repayment. If it cannot fulfill one or more of its obligations, it must notify creditors in advance so that a resolution can be mutually agreed.

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.

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. In addition, the shareholders could contact the Company via company website and our Investor Relation Division.

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 a written guideline on health, safety and the environment for the Directors, Executives, and employees to uphold. This year Bangchak held an SHEE Excellence Day 2019 to inform participants of Circular Economy issues. The concept is part of the BCG Economy (Green, Bio, and Circular Economy).
- 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

The Company 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-mails: ico@bangchak.co.th



Letters: Internal Audit
Bangchak Corporation Public Company Limited
2098 M Tower Building, 8th Floor, Sukhumvit Rd.,
Phra Khanong Tai, Phra Khanong, Bangkok 10260
Tel: 0 2335 4566

This year Bangchak monitored complaint or grievance reports filed through Internal Control, finding no such complaint or grievance submitted through ICO@bangchak.co.th about corrupt, immoral, or unethical practices.

Contact channels

The Board of Directors Tel: 0 2335 4638
Fax: 0 2016 3982
E-mail: bcpsecretary@bangchak.co.th

Company Secretary Tel: 0 2335 4050
Fax: 0 2016 3982
E-mail: pakawadee@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 information disclosure forms, 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. Details appear under "Management Structure", and below are Bangchak's actions taken this year:

- Review the vision, objectives, key goals, and business strategies and applying innovations and technologies to key resource allocation to supplement sustainable value to the business so that Bangchak may achieve its objectives, by pursuing useful information, and by fully sharing views.
- 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 April and September, and a meeting of the non-management directors in May and October.
- Educated the Board of Directors and enriched their experience, which aids their performance and business investment review, this year Bangchak organized a study visit for the Board of Directors on natural resources at the operation of OKEA ASA, where Bangchak held shares.
- Developed performance assessment forms for the Board: individual (self-assessment and cross-assessment), group, and committee.
- 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.



- Monitored management performance and ensured strategic implementation. Required that progress updates and company performance should be reported each month to Board meetings.
- Instituted an effective internal control system, internal audit, and risk management measures together with regular tracking at Board meetings.
- Established the Compliance unit 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.

The Board of Directors is determined to manage businesses in compliance with good governance so that Bangchak's businesses may become transparent, efficient, and responsible to all stakeholders. **The Board recognizes its duties under the new CG Code's guidelines, to apply each Principle and Sub-Principle by means that are suitable for the company's business. Such application review takes place at least annually.** The Company has fully complied with the Corporate Governance Code for listed companies 2017, except the following matters which are the aspects not yet applied, which will in time be adapted as seen fit.

CG Code Principle	Justification or Alternative Measure
The board should comprise at least 5 directors and should not be more than 12 directors. (Guideline 3.1.2)	Bangchak values corporate governance in parallel with the recruitment of competent people to manage businesses. It recognizes the necessity and benefit of recruiting additional such directors. Today the Board consists of 15 directors.

8. 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:

- **CG Commitment and Conflict of Interests Disclosure Form**

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 Internal Control through their supervisors through the e-HR.

- **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.

- **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.

- **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 Internal Control at least one day in advance, for reporting to the Audit Committee every



quarter. Written notices can be sent through ICO@bangchak.co.th or other electronic channels, including the LINE application.

9. 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.

Activity	Number (times)
Foreign Roadshow	4
Local Roadshow	5
Analyst Meetings	4
Opportunity Day (organized by the SET)	4
Company Visit	6
Conference Call	4
Answering Inquiries by E-mail/telephone	528 (twice a day in average)



E-newsletter	4
Factsheet	4
Site Visit	3
Shareholder and Minor Investors Get-together	2
Press Conference (2020 Business Plan)	1

- Indirect: Bangchak provided assorted data, performance outcomes, financial statements, and other information given to SET. Other data were presented through meeting documents, video and audio recordings, and E-Newsletters, as well as other reports submitted to SET on the Company's website www.bangchak.co.th, where interested parties can read and download this information. The Investor's Relations page contains information in Thai and English which is updated frequently.

Investors and related parties can make queries or ask for the Company's information at Ms. Supamol Eamaon, tel. 0 2335 8663 or e-mail address: ir@bangchak.co.th



10. Social Responsibility

Bangchak is constantly committed to sustainable business innovation in tandem with environmental and social sustainability under its 3Ss corporate strategies (Security, Stability & Sustainability) and its 4 Greens Strategies (Green Business, Green Production, Greenovative Experience & Green Society). To achieve this ambition, Bangchak integrates these strategies with nine Sustainability Development Goals (SDGs) chosen for alignment with national development policies, business capability, Bangchak's interest, and stakeholders' needs and expectations. The outcomes drive and develop its businesses, namely refinery & trading, marketing, green power plant, bio-based products, and natural resource businesses, for security and sustainable accommodation of growth while looking after the environment and society in line with its Evolving Greenovation vision and SDGs.

Amid today's highly volatile world economy, politics, environment, and society, Bangchak strives to develop and invest in undertakings or projects that are compatible with its economic model leading to sustainable development, which represents a new-age economic development model characterized by three economies:

- **Bio Economy:** This system focuses on cost-effective exploitation of biological resources with the application of advancements in science, technology, and innovation. In fact, Bangchak has taken steps here with its bio-based product business that processes



- agricultural produce into bio-based products of higher economic values.
- **Circular Economy:** This system focuses on cost-effective consumption of resources, raw materials, and products through reuse or recycling along with zero-waste product and process design via innovation and transformation based on the 3Rs principle.
 - **Green Economy:** This system focuses on running green businesses through the development and improvement of production processes along with ongoing environmental management—this has in fact been Bangchak's underlying business development model from day one. In short, Bangchak strives to improve people's lives in parallel with environmental and social stewardship.

As for the development of organization sustainability and internal processes, Bangchak is determined to become a sustainability leader and a high-performance organization, leveraging frameworks, tools, and international standards to guide management, namely DJSI, TQA, UNGC's 10-point agreement on human rights, labor, the environment, and anti-fraud together with other sustainability-related guidelines and standards so as to duly build on its work processes and sustainability for excellence so as to securely sustain upcoming change while efficiently meeting stakeholders' needs and expectations.

As for the environment, Bangchak remains committed to becoming a green refinery that is modern, safe, and environment-friendly. This year it earned the Water Footprint standard certification for six products from the



Federation of Thai Industries out of its Water Management preparation through the Water Footprint of Product Program. As a result, Bangchak became the first Thai oil refinery to be so certified, implying efficient water resource management, a lower production cost, and heightened competitiveness, which values conservation of natural resources and the environment while pursuing sustainable development goal success.

Finally, for social development, Bangchak has initiated new projects with proficient third-party networks to grow its social activities and align them with sustainable national development needs. To this end, Bangchak strives to strengthen society by working on the majority of people—society's grassroots—by focusing first on education and promotion of farmers' and the new generation's development of goods and services, leveraging innovation and technology to hone national competitiveness while nourishing growth concepts for business sustainability and happiness. To this end, diverse social development projects are in place: Education for the Future, Co-development School, Green Impact (to develop an online marketing platform for groups of farmers, the youth, communities, and startups), and the "Stop Soil Erosion with Royal Scientific Knowledge" project.

For more information, please visit www.bangchak.co.th, which contains the Integrated Sustainability Report prepared under GRI Sustainability Reporting Standards (GRI Standards).



11. Internal Control and Risk Management

Bangchak Corporation Public Company Limited 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 so as to guide employees' performance. Internal Control Division promotes and steers compliance with the internal control system under COSO. 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 e-HR system for their convenience and up-to-date data every year.

Bangchak organized the 2019 CG Day (15th year) under the “CG’s GOT TALENT” theme to enhance employees’ understanding and awareness of the CG policy by inviting Bangchak Group employees to join a contest under this theme to communicate the ARTEVE (Accountability, Responsibility, Transparency, Equitable Treatment, Vision to Create Long Term Value, and Ethics) fundamental principles of Bangchak’s CG. Also, this year’s annual suppliers’ seminar (held for the sixth consecutive year) educated and supported suppliers to join CAC to stress ongoing commitment to combating corruption.

Bangchak underwent assessment and was acclaimed by third-party agencies this year. In Asia it earned the ASEAN Corporate Governance Award for Top 50 ASEAN PLCs for the second year in a row; this represented an exercise relying on the ASEAN CG Scorecard (ACGS) as a central criterion for assessing and ranking listed companies. Also, The Asset magazine presented a Platinum Award – Excellence in Environmental, Social and Governance at The Asset Corporate Awards 2018. On the domestic front, for the second year in a row, Bangchak garnered the Best Sustainability Award 2018, an upgrade from the award for reports on corporate governance and social responsibility; it also accepted from SET an Excellent Sustainability Award, echoing its



comprehensive integration of business sustainability in line with the corporate governance code.

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. On the whole, 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. 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 natural catastrophes, sabotage, political change, and other incidents, it appointed a Business Continuity Management Taskforce to develop a system, oversee preparedness, 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 22301:2012 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 since 2013 (for six consecutive years). 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. The acquired ISO 22301:2012 certificate has been monitored each year by the standard certifier.

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. Checks and balances and authority inspection are the mandates of dedicated units



and committees, including Internal Audit, the Investment Committee, and ERMC.

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 rolled out a “How to manage and control inside information” manual so that all functions may effectively comply and refrain from causing damage to Bangchak.

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. Finally, Bangchak appointed a taskforce to manage personal information, which organized a seminar to educate the workforce to prime them for compliance with the Protection of Personal Information Act B.E. 2562 (2019), effective from May 2020 onward.



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 has appointed an ISMS Management Team to oversee and manage information security. The team revises Bangchak's policy and requirements for IT system security under ISO 27001 and regularly informs employees about risks, prevention of cyberthreats, and IT security requirements. As a result, it achieved an Information Security Management System, ISO/IEC 27001:2013, and earned a letter of compliance under ISO/IEC 27032:2012 (Guidelines for Cybersecurity) as the first entity in Thailand under the certification of Bureau Veritas Certification (Thailand) Co., Ltd.

Bangchak commands a monitoring system for the regular oversight of subsidiaries under its business strategies, policy scope, and guidelines.

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. To this end, new technologies helped map out business processes to grow business caliber, including IoT (Internet of Things). Sensors were installed



inside the refinery so that their data may be analyzed under the Predictive Maintenance Project to allow maintenance planning and cut down on unplanned shutdowns. In marketing, data analytics analyzes customers' data, leading to personalized marketing and enhanced customer experience ability to further meet their needs. Finally, Bangchak has applied Robotic Process Automation in supporting work processes characterized by numerous data and repetitive actions.

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 efficient 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 and assessment

Bangchak's performance monitoring system regularly compares actual performance with goals. Should parameters be found that affect performance outcomes, proper adjustment is made to strategic plans to agree with performance outcomes so that outcomes may meet goals. Internal Control Division, Corporate Sustainability Development, is the owner of the control self-assessment (CSA) process of adequacy and suitability assessment under the corporate internal control system, done by relevant executives. This year Bangchak developed online e-CSA for such executives for greater assessment efficiency. Reporting to the Audit Committee, assesses internal control outcomes before informing responsible parties of shortcomings so as to constantly develop the effectiveness of the internal control system.

**Head of Internal Audit**

At its meeting No. 6/2005 held on Jul. 11, 2005, the Board of Directors deemed it appropriate to appointed Mr. Pichit Wongrujiravanich as Vice President of Internal Audit. Since Mr. Pichit has over 22 years' experience in auditing with SGV-NA Thalang Office Co., Ltd. and Yontrakit Group., currently, he works as Executive Vice President of Internal Audit.

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 4.

Head of the Compliance Department

At its meeting No. 6/2009 held on Jun. 26, 2009, the Board of Directors appointed Ms. Pakawadee Junrayapes as Company Secretary, effective from July 1, 2009. In 2017, due to the Company's management restructuring, the Company appointed Ms. Pakawadee Junrayapes as Executive Vice President, effective from January 1, 2018. Please see information of the head of Legal and Corporate Compliance in Attachment 4.



12. Connected Transactions

1. Connected transactions with subsidiaries, jointly-controlled businesses, associated companies and related companies during 2018 and 2019 consisted of the following:

1.1 Sale of products and services to subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	2018 THB (million)	2019 THB (million)	Relationship for the year ended 31 December 2019	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	34,501.22	33,298.87	- Bangchak holds 49% of the shares	- Bangchak delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	0.04	0.03	- BBGI (Bangchak's subsidiary) holds 70% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	7,752.79	10,650.21	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	9.21	11.55	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	9.04	5.05	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
KSL Green Innovation Plc.	-	0.79	- BBGI (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
<u>Associated companies</u>				
Ubon Bio Ethanol Plc.	9.60	15.07	- BBGI (Bangchak's subsidiary) holds 21.28% of the shares	- Bangchak delegates its representatives as directors
Ubon Agricultural Energy Co., Ltd.	1.98	0.52	- Ubon Bio Ethanol Plc. (associated company) holds 100% of the shares	- 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	2018 THB (million)	2019 THB (million)	Relationship for the year ended 31 December 2019	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd	0.18	0.18	- BCP holds 49% of the shares	- Bangchak delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	4,019.00	4,942.08	- BBGI (Bangchak's subsidiary) holds 70% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	22,903.10	24,073.52	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	1,062.37	1,001.09	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
KSL Green Innovation Plc.	906.42	1,756.77	- BBGI (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
<u>Associated company</u>				
Ubon Bio Ethanol Plc.	1,368.04	1,327.40	- BBGI (Bangchak's subsidiary) holds 21.28% of the shares	- Bangchak delegates its representatives as directors
<u>Joint venture</u>				
Bongkot Marine Services Co., Ltd.	490.00	459.52	- Bangchak holds 30% of the shares	- Bangchak delegates its representatives as directors
<u>Related business</u>				
Fuel Pipeline Transportation Co., Ltd	443.28	453.56	- Bangchak holds 4.95% of the shares	- Bangchak delegates its representatives as directors



1.3 Revenue from investment and other revenues from subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd	39.95	30.35	- Bangchak holds 49% of the shares	- Bangchak delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	1.99	0.69	- BBGI (Bangchak's subsidiary) holds 70% of the shares	- Bangchak delegates its representatives as directors
Nido Petroleum Pty. Ltd.	126.40	6.94	- BCP Energy International Pte. Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
BBGI Plc.	48.47	47.83	- Bangchak holds 60% of the shares	- Bangchak delegates its representatives as directors
BCPG Plc.	936.38	971.37	- Bangchak holds 70.04% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	0.63	0.60	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	22.89	20.19	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCPR Co., Ltd.	-	0.24	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	-	2.78	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCP Innovation Pte. Ltd.	2.62	37.86	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
KSL Green Innovation Plc.	0.50	0.50	- BBGI (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
BCPR Pte. Ltd.	2.88	14.98	- BCPR Co., Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors



Related company	2018 THB (million)	2019 THB (million)	Relationship for the year ended 31 December 2019	
			Shareholding	Management
<u>Associated company</u>				
OKEA ASA	-	4.14	- BCPR Pte. Ltd. (Bangchak's subsidiary) holds 46.52% of the shares	- Bangchak delegates its representatives as directors
<u>Joint venture</u>				
Bongkot Marine Service Co., Ltd.	24.00	15.00	- BCP holds 30% of the shares	- Bangchak delegates its representatives as directors
<u>Related business</u>				
Fuel Pipeline Transportation Co., Ltd	4.90	4.73	- Bangchak holds 4.95% of the shares	- Bangchak delegates its representatives as directors

1.4 Other expenses paid to subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	2018 THB (million)	2019 THB (million)	Relationship for the year ended 31 December 2019	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	23.67	32.09	- Bangchak holds 49% of the shares	- Bangchak delegates its representatives as directors
BCPG Plc.	0.25	0.01	- Bangchak holds 70.04% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd.	4.62	6.44	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	0.11	-	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	8.05	2.12	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors



Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
Related business				
Fuel Pipeline Transportation Co., Ltd	-	0.25	- Bangchak holds 4.95% of the shares	- 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	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
Subsidiaries				
Bangchak Green Net Co., Ltd	1,080.28	1,085.28	- Bangchak holds 49% of the shares	- Bangchak delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	-	0.02	- BBGI (Bangchak's subsidiary) holds 70% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd	3.20	1.64	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	1,133.77	932.10	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd	0.71	-	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
Associated companies				
Ubon Bio Ethanol Plc.	1.57	1.56	- BBGI (Bangchak's subsidiary) holds 21.28% of the shares	- Bangchak delegates its representatives as directors



Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
Related business				
Fuel Pipeline Transportation Co., Ltd	0.33	0.33	- Bangchak holds 4.95% of the shares	- Bangchak delegates its representatives as directors

1.5.2 Debtors and loans to related businesses

1.5.2.1 Loans

Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
Subsidiaries				
Nido Petroleum Pty. Ltd.	1,291.39	1,199.07	- BCP Energy International Pte. Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd	410.00	610.00	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCP Innovation Pte. Ltd.	197.75	878.69	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCPR Pte. Ltd.	3,228.48	3,103.70	- BCPR Co., Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
Related business				
Fuel Pipeline Transportation Co., Ltd	10.51	7.10	- Bangchak holds 4.95% of the shares	- Bangchak delegates its representatives as directors



1.5.2.2 Other debtors

Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Biofuel Co., Ltd.	0.74	0.06	- BBGI (Bangchak's subsidiary) holds 70% of the shares	- Bangchak delegates its representatives as directors
Bangchak Solar Energy Co.,Ltd.	0.39	-	- BCPG (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
Nido Petroleum Pty. Ltd.	10.42	10.42	- BCP Energy International Pte. Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd	4.62	3.13	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCPG Plc.	3.06	9.04	- Bangchak holds 70.04% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd	0.01	0.05	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
BBGI Plc.	5.01	4.38	- Bangchak holds 60% of the shares	- Bangchak delegates its representatives as directors
BCP Innovation Pte. Ltd.	2.60	35.82	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCV Bio Based Co., Ltd.	-	0.15	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCV Energy Co., Ltd.	0.01	-	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCV Innovation Co., Ltd.	0.01	-	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
BCV Partnership Co., Ltd.	0.01	-	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors



<u>Associated company</u>				
OKEA ASA	-	0.14	- BCPR Pte. Ltd. (Bangchak's subsidiary) holds 46.52% of the shares	- Bangchak delegates its representatives as directors

1.6 Creditors of related businesses

1.6.1 Trader creditors

Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd	0.02	-	- Bangchak holds 49% of the shares	- Bangchak delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	152.06	441.08	- BBGI (Bangchak's subsidiary) holds 70% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	503.24	240.23	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd	102.51	96.13	- BBGI (Bangchak's subsidiary) holds 85% of the shares	- Bangchak delegates its representatives as directors
KSL Green Innovation Plc.	71.07	92.30	- BBGI (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
<u>Associated company</u>				
Ubon Bio Ethanol Plc.	109.93	148.89	- BBGI (Bangchak's subsidiary) holds 21.28% of the shares	- Bangchak delegates its representatives as directors



1.6.2 Other creditors

Related company	2018 THB (million)	2019 THB (million)	Relationship for the year ended 31 December 2019	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd	3.33	4.67	- Bangchak holds 49% of the shares	- Bangchak delegates its representatives as directors
BCPG Plc.	0.04	0.04	- Bangchak holds 70.04% of the shares	- Bangchak delegates its representatives as directors
BCP Trading Pte. Ltd.	3.67	-	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Bangchak Retail Co., Ltd	1.83	2.54	- Bangchak holds 100% of the shares	- Bangchak delegates its representatives as directors
Nido Petroleum Pty. Ltd.	-	10.98	- BCP Energy International Pte. Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
<u>Joint venture</u>				
Bongkot Marine Services Co., Ltd.	12.59	1.99	- Bangchak holds 30% of the shares	- Bangchak delegates its representatives as directors
<u>Related business</u>				
Fuel Pipeline Transportation Co., Ltd.	43.66	48.42	- Bangchak holds 4.95% of the shares	- Bangchak delegates its representatives as directors



1.7 Other non-current assets

Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
<u>Subsidiary</u>				
Nido Petroleum Pty. Ltd.	321.65	305.40	- BCP Energy International Pte. Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors
BCPR Pte. Ltd.	2.86	17.86	- BCPR Co., Ltd. (Bangchak's subsidiary) holds 100% of the shares	- Bangchak delegates its representatives as directors

1.8 Other current liabilities: These items are Bangchak's revenue received in advance for land lease and demanded guarantee payment for building lease.

Related company	2018	2019	Relationship for the year ended 31 December 2019	
	THB (million)	THB (million)	Shareholding	Management
<u>Subsidiaries</u>				
BCPG Plc.	6.00	5.78	- Bangchak holds 70.04% of the shares	- 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	2018 THB (million)	2019 THB (million)	Relationship for the year ended 31 December 2019	
			Shareholding	Management
<u>Related business</u>				
Fuel Pipeline Transportation Co., Ltd	2.02	1.54	- Bangchak holds 4.95% of the shares	- Bangchak delegates its representatives as directors

1. Connected transactions with Bangchak Green Net Co., Ltd.

Bangchak Green Net managed Bangchak service stations and consumer product sales at Lemon Green and Bai Chak outlets. These connected transactions followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

2. Connected transactions with Bangchak Biofuel Co., Ltd.

Bangchak Biofuel Co., Ltd., an indirect subsidiary through BBGI Company Limited (BBGI), which holds 70% of its shares, was set up to produce and sell biodiesel. These connected transactions followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

3. Connected transactions with BCP Innovation Pte. Ltd.

A subsidiary company in Singapore, BCP Innovation Pte. Ltd. was set up to engage in innovation-related businesses. The service fees followed normal business terms and were based on market prices.

4. Connected transactions with BCP Trading Pte. Ltd.

A subsidiary company in Singapore, BCP Trading Pte. Ltd. was set up 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. These connected transactions followed normal business terms and were based on market prices.

5. Connected transactions with Nido Petroleum Pty. Ltd.

Nido Petroleum Pty. Ltd. (an indirect subsidiary in Australia) was formed to run the upstream petroleum business. These connected transactions followed normal business terms and were based on market prices.

6. Connected transactions with BCPG Plc.

A subsidiary company, BCPG Plc. was established to engage in power generation from solar cells. Service fees among the two followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

7. Connected transactions with Bangchak Retail Co., Ltd.

A subsidiary company, Bangchak Retail is engaged in franchise businesses and intellectual property acquisition. Service fees among the two followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

8. Connected transactions with BBGI Plc.

A subsidiary company, BBGI Plc. was established to engage in bio-based product manufacturing. Service fees among the two followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

9. Connected transactions with Bangchak Bioethanol (Chachoengsao) Co., Ltd.

An indirect subsidiary company through BBGI, which holds 85% of its



shares, Bangchak Bioethanol (Chachoengsao) is engaged in cassava-based ethanol production. The ethanol was used in gasohol production. Purchases and service fees followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

10. Connected transactions with KSL Green Innovation Plc.

An indirect subsidiary company through BBGI, engages in ethanol production primarily from molasses (a byproduct of the sugar process). Purchases followed normal business terms and were based on market prices.

11. Connected transactions with BCPR Co., Ltd.

A subsidiary company, BCPR Co., Ltd., was formed to be holding company which invests in BCPR Pte. Ltd., a subsidiary company in Singapore. Service fees among the two followed normal business terms, based on market prices, and conformed to details stated in the operating agreement.

12. Connected transactions with BCPR Pte. Ltd.

A indirect subsidiary company in Singapore, BCPR Pte. Ltd. was formed to undertake petroleum exploration and production. These connected transactions followed normal business terms and were based on market prices.

13. Connected transactions with BCV Bio Based Co., Ltd.

A subsidiary company, BCV Bio Based Co., Ltd. was established to engage in a startup business in Thailand. These connected transactions followed normal business terms and were based on market prices.

14. Connected transactions with BCV Energy Co., Ltd.

A subsidiary company, BCV Energy Co., Ltd. was established to engage in a startup business in Thailand. These connected



transactions followed normal business terms and were based on market prices.

15. Connected transactions with BCV Innovation Co., Ltd.

A subsidiary company, BCV Innovation Co., Ltd. was established to engage in a startup business in Thailand. These connected transactions followed normal business terms and were based on market prices.

16. Connected transactions with BCV Partnership Co., Ltd.

A subsidiary company, BCV Partnership Co., Ltd. was established to engage in a startup business in Thailand. These connected transactions followed normal business terms and were based on market prices.

17. Connected transactions with OKEA ASA

An indirect associated company in Norway, OKEA ASA was formed to undertake petroleum exploration and production. These connected transactions followed normal business terms and were based on market prices.

18. Connected transactions with Ubon Bio Ethanol Plc.

An indirect associated company through BBGI, with 21.28% equity, 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 service fees followed normal business terms, based on market prices, and conform to details stated in the operating agreement.

19. Connected transactions with Ubon Agricultural Energy Co., Ltd.

Transactions with Ubon Agricultural Energy Co., Ltd., a related company through Bangchak's associated company, Ubon Bio Ethanol Plc., which holds its shares, followed normal business terms and were based on market prices.

**20. Connected transactions with Bongkot Marine Services Co., Ltd.**

The Company entered into a contract for the use of Bongkot oil depot service with Bongkot Marine Services Co., Ltd., a joint venture which provides floating storage unit services. The transaction followed normal business terms, based on market prices, and conform to details stated in the operating agreement.

21. Connected transactions with Fuel Pipeline Transportation Co., Ltd.

Bangchak entered into 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, followed normal business terms and were 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, Bangchak will continue its product and oil pipeline transport service transactions with connected companies since these represent normal business practices in the same industry. The pricing of products and services follows market practices or the details stipulated in commercial contracts, or both. The connected transaction shall be dealt on a fair and arm's length basis. However, in such cooperation, Bangchak takes into consideration its best interests.



The Audit Committee and the Internal Audit supervise and review Bangchak's businesses to ensure its conformance to Securities and Exchange Act and SET's rules and regulations, notifications, orders and requirements. 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.



13. Essential financial information

Financial Statements

(1) Report of Certified Public Accountant

Financial Statement	Auditor	Company
2019	Mr. Waiyawat Kosamarnchaiyakij Certified Public Accountants, Registration Number 6333	KPMG Phoomchai Audit Ltd
2018	Mr. Waiyawat Kosamarnchaiyakij Certified Public Accountants, Registration Number 6333	KPMG Phoomchai Audit Ltd
2017	Mr. Natthaphong Tantichatanon Certified Public Accountants, Registration Number 8829	KPMG Phoomchai Audit Ltd

KPMG 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 of 31 December 2019, the consolidated and separate statements of income and 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 the Auditor’s 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 of 31 December 2019 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).



The Auditor conducted an audit in accordance with Thai Standards on Auditing (TSAs). The Auditor's responsibilities, under those standards, are further described in the Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements section of the report.

The Auditor is independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that is relevant to the audit of the consolidated and separate financial statements. The Auditor has fulfilled other ethical responsibilities in accordance with these requirements. The Auditor believes that the audit evidence that obtained is sufficient and appropriate to provide a basis for the Auditor's opinions.

Key audit matters are those matters that, in the Auditor's professional judgment, were of most significance in an audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of an audit of the consolidated and separate financial statements as a whole, and in forming the Auditor's opinion thereon, and the Auditor does not provide a separate opinion on these matters.



Fair value assessment of net assets acquired from an acquisition of investment in associate in Norway	
Refer to Notes 4 (a) and 5 (a) to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>During 2019, the Group has completed the fair value assessment of net assets acquired from an acquisition of investment in associate in Norway which operates petroleum exploration and production during 2018.</p> <p>Due to the materiality of the transactions and the significant judgment and complexities involved in determining the fair value, the Auditor considered as the key audit matter.</p>	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> - Inquired management and understood on the procedures on identification of fair value on net assets acquired, which was prepared by the management. - Read the share sale and purchase agreement, evaluated the appropriateness of the identification of the net assets acquired at the date of acquisition. - Evaluated the independence and competency of independent appraiser. - Involved KPMG specialist to evaluate valuation methodology and financial parameters applied to the discount rate of intangible assets - Evaluated significant assumptions underpinning the valuations reference to internal and external information and mathematical accuracy. - Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.

Acquisition of investment in subsidiary	
Refer to Notes 4 (a), 5 (b) and 12 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>In September 2019, the Group has completed the acquisition of hydropower plant project in the Lao People's Democratic Republic. The management has estimated the fair value of net assets acquired including consideration transferred with the differences which was recognized as goodwill.</p>	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> - Inquired management and understood on the procedures on identification of fair value on net assets acquired which was prepared by the management.



<p>Due to the materiality of the transactions and the significant judgement and complexities involved in determining the fair value, I considered as the key audit matter.</p>	<ul style="list-style-type: none"> - Read the share sale and purchase agreement and significant related agreements, evaluated the appropriateness of the identification of net assets acquired at the date of acquisition. - Evaluated the independence and competency of independent appraiser. - Involved KPMG specialist to evaluate valuation methodology and financial parameters applied to the discount rate. - Evaluated significant assumptions underpinning the valuations reference to internal and external information and mathematical accuracy. - Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.
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<p>Impairment testing of investment in associates, investment in subsidiaries, oil exploration & production assets and goodwill</p>	
<p>Refer to Notes 4 (m), 12, 13, 16 and 18 to the financial statements.</p>	
<p>The key audit matter</p>	<p>How the matter was addressed in the audit</p>
<p>The Group have 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 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</p>	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> - 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. - Assessed the key assumptions estimated by the management with reference to internally and externally derived sources after taking into account the historical forecasting accuracy.



<p>and complexities involved in estimating a recoverable amount of investment in associates, investment in subsidiaries, oil exploration & production assets and goodwill from discounted cash flow method, the Auditor considered as the key audit matter.</p>	<ul style="list-style-type: none"> - Evaluated the appropriateness of valuation methodology and financial parameters applied to the discount rate. - Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.
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Valuation of inventories	
Refer to Notes 4 (g) and 11 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>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>	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> - Evaluated the appropriateness of inventories valuation by management. - Verified the appropriateness of the net realizable value calculation. - Checked the selling prices of finished goods with the reference market price and contract price. - Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.

The Auditor draw attention to note 5 (b) to the financial statements. The Group acquired a business in the Lao People's Democratic Republic in September 2019 for which the fair value of identifiable net assets and the allocation of purchase price have been provisionally determined and are subject to potential amendment. The Auditor's opinion is not modified in respect of this matter.



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 the Auditor's report thereon. The annual report is expected to be made available to the Auditor after the date of this auditor's report.

In the Auditor's opinion on the consolidated and separate financial statements does not cover the other information and the Auditor will not express any form of assurance conclusion thereon.

In connection with an audit of the consolidated and separate financial statements, the Auditor's 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 the Auditor's knowledge obtained in the audit, or otherwise appears to be materially misstated.

When the Auditor read the annual report, if the Auditor conclude that there is a material misstatement therein, the Auditor is required to communicate the matter to those charged with governance and request that the correction be made.

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.

The Auditor's 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 the Auditor's 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, the Auditor exercises professional judgment and maintain professional skepticism throughout the audit. The Auditor 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 the Auditor's 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 the Auditor concludes that a material uncertainty exists, the Auditor would be required to draw attention in an audit report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify the Auditor's opinion. The Auditor's conclusions are based on the audit evidence



obtained up to the date of an 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. The Auditor is responsible for the direction, supervision and performance of the group audit. The Auditor remains solely responsible for the Auditor's opinion.

The Auditor communicated 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 the Auditor identified during an audit.

The Auditor also provided those charged with governance with a statement that the Auditor has 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 the Auditor's independence, and where applicable, related safeguards.



From the matters communicated with those charged with governance, the Auditor determines 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. The Auditor describes these matters in the Auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, The Auditor determines that a matter should not be communicated in an audit report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

(2) Consolidated financial statements as of December 31st, 2019

Statement of financial position

(Unit: Baht Million)

	2019		2018		2017	
	Amount	%	Amount	%	Amount	%
Current assets						
Cash and cash equivalents	7,276	5.7	11,551	9.8	10,106	8.9
Current investments	288	0.2	262	0.2	220	0.2
Trade accounts receivable	9,038	7.1	6,969	5.9	7,511	6.6
Other receivables	2,035	1.6	1,643	1.4	1,340	1.2
Inventories	15,835	12.4	15,135	12.9	15,720	13.8
Current tax assets	461	0.4	257	0.2	52	0.0
Oil fuel fund subsidies receivable	2,688	2.1	1,781	1.5	1,341	1.2
Total current assets	37,621	29.4	37,596	32.0	36,291	31.9
Non-current assets						
Investments in associate and joint ventures	18,037	14.1	18,048	15.4	14,158	12.4
Long-term loans to related parties	1,036	0.8	199	0.2	-	-
Other long-term investments	2,069	1.6	1,815	1.5	4,347	3.8
Investment properties	127	0.1	127	0.1	343	0.3
Property, plant and equipment	52,584	41.1	48,877	41.6	48,049	42.2
Goodwills	1,921	1.5	1,602	1.4	1,602	1.4
Leasehold rights	3,125	2.4	2,901	2.5	2,311	2.0
Intangible assets	8,494	6.6	3,658	3.1	3,731	3.3
Deferred tax assets	1,121	0.9	827	0.7	1,000	0.9
Other non-current assets	1,654	1.3	1,718	1.5	2,035	1.8
Total non-current assets	90,167	70.6	79,773	68.0	77,578	68.1
Total assets	127,788	100.0	117,369	100.0	113,869	100.0
Liabilities						
Current liabilities						
Short-term loan from financial institutions	5,051	4.0	5,004	4.3	4,046	3.6
Trade accounts payable	10,556	8.3	6,680	5.7	10,016	8.8
Other payables	2,891	2.3	3,157	2.7	3,018	2.7
Current portion of long-term loans from financial institutions	2,198	1.7	2,216	1.9	2,218	1.9
Current portion of debenture	3,000	2.3	4,000	3.4	-	-
Excise tax and oil fuel fund payable	1,242	1.0	3,387	2.9	3,037	2.7
Income tax payable	145	0.1	121	0.1	690	0.6
Short-term provisions	733	0.6	-	-	-	-
Other current liabilities	1,268	1.0	939	0.8	844	0.7
Total current liabilities	27,083	21.2	25,504	21.7	23,869	21.0
Non-current liabilities						
Long-term loans from financial institutions	19,807	15.5	18,264	15.6	20,649	18.1
Debentures	17,985	14.1	20,980	17.9	13,990	12.3
Deferred tax liabilities	609	0.5	467	0.4	590	0.5
Liabilities on long-term lease	33	0.0	38	0.0	34	0.0
Employee benefit obligations	2,588	2.0	2,054	1.7	1,949	1.7
Provision for the decommissioning cost	323	0.3	355	0.3	811	0.7
Other non-current liabilities	546	0.4	170	0.1	86	0.1
Total non-current liabilities	41,890	32.8	42,327	36.1	38,109	33.5
Total liabilities	68,973	54.0	67,831	57.8	61,979	54.4
Equity						
Issued and paid-up share capital	1,377	1.1	1,377	1.2	1,377	1.2
Additional paid-in capital	13,900	10.9	13,888	11.8	13,858	12.2
Treasury shares	(432)	(0.3)	-	-	-	-
Subordinated perpetual debentures	9,941	7.8	-	-	-	-
Retained earnings	27,732	21.7	27,607	23.5	27,814	24.4
Warrants	2	0.0	8	0.0	19	0.0
Other components of equity	(916)	(0.7)	(165)	(0.1)	2,411	2.1
Non-controlling interests	7,211	5.6	6,823	5.8	6,410	5.6
Non-controlling interests	58,815	46.0	49,538	42.2	51,890	45.6
Total liabilities and equity	127,788	100.0	117,369	100.0	113,869	100.0



Statement of income

(Unit: Baht Million)

Statement of Income	2019		2018		2017	
	Amount	%	Amount	%	Amount	%
Revenue from sale of goods and rendering of services	190,489	100.0	192,025	100.0	172,138	100.0
Cost of sale of goods and rendering of services	(180,257)	(94.6)	(180,594)	(94.0)	(158,596)	(92.1)
Gross Profit	10,232	5.4	11,431	6.0	13,543	7.9
Investment income	158	0.1	55	0.0	156	0.1
Other income	337	0.2	1,260	0.7	1,085	0.6
Selling expenses	(4,533)	(2.4)	(4,360)	(2.3)	(4,026)	(2.3)
Administrative expenses	(3,081)	(1.6)	(3,015)	(1.6)	(3,138)	(1.8)
Exploration and evaluation expense	(1)	(0.0)	(45)	(0.0)	(48)	(0.0)
Gain (loss) from crude and product oil price hedging contract	147	0.1	(442)	(0.2)	366	0.2
Gain (loss) from foreign currencies forward contract	13	0.0	162	0.1	(225)	(0.1)
Gain on foreign exchange	614	0.3	415	0.2	889	0.5
Reversal of allowance for loss (loss) from impairment of assets	(34)	(0.0)	(441)	(0.2)	(1,518)	(0.9)
Share of profit of associate and joint ventures	404	0.2	254	0.1	573	0.3
Profit before finance costs and income tax expense	4,257	2.2	5,273	2.7	7,656	4.4
Finance costs	(1,701)	(0.9)	(1,545)	(0.8)	(1,452)	(0.8)
Profit before income tax expense	2,556	1.3	3,728	1.9	6,204	3.6
Income tax expense	(68)	(0.0)	(493)	(0.3)	(41)	(0.02)
Profit for the year	2,488	1.3	3,235	1.7	6,163	3.6
Profit (loss) attributable to:						
Owners of the Company	1,732	0.9	2,463	1.3	5,778	3.4
Non-controlling interests	757	0.4	772	0.4	627	0.4
Profit for the year	2,488	1.3	3,235	1.7	6,405	3.7
Earnings per share						
Basic earnings per share	1.18		1.79		4.07	



Statement of cash flows

(Unit: Baht Million)

	2019	2018	2017
Cash flows from operating activities			
Profit for the year	2,488	3,235	6,163
<i>Adjustments for</i>			
Depreciation	4,478	4,457	4,780
Amortisation	554	445	355
(Reversal of) allowance for bad and doubtful debts expense	3.45	0.01	(0.36)
Unrealised loss on foreign exchange	428	38	308
Reversal of allowance for loss on decline in value of inventories	(707)	696	8
(Reversal of) allowance for loss from impairment of assets	34	441	1,518
(Gain) loss on disposal of property, plant and equipment	7	(761)	(37)
Gain on disposal of other investment	(0.3)	-	35
Gain on sale of investment in subsidiaries	-	(78)	-
Interest income and dividend income	(158)	(55)	(156)
Provision for employee benefit	355	189	192
Deferred revenue	(7)	(7)	(7)
Provision for customer loyalty programmes	57	49	48
Share of profit of associate and joint ventures, net of income tax expense	(404)	(254)	(573)
Finance costs	1,701	1,545	1,452
Income tax expense	68	493	41
Share-based payment transactions	1	7	40
Loss on disposal of intangible assets	1	-	-
Reversal of provisions	-	-	(137)
	8,899	10,440	14,031
Changes in operating assets and liabilities			
Trade accounts receivable	(2,198)	514	(1,434)
Other receivables	(1,267)	(921)	(555)
Inventories	(35)	(400)	(753)
Other non-current assets	(105)	(394)	(387)
Trade accounts payable	4,077	(2,965)	1,357
Other payables	(488)	178	(11)
Other current liabilities	(1,862)	400	1,961
Employee benefit obligations	(60)	(48)	(84)
Other non-current liabilities	314	274	25
Cash generated from operating activities	7,276	7,080	14,150
Income tax paid	(527)	(1,130)	(299)
Net cash from operating activities	6,749	5,950	13,851
Cash flows from investing activities			
Interest received	124	47	138
(Increase) decrease in current investments	(26)	(42)	1,500
(Increase) decrease in long-term investments	(374)	(100)	(1,140)
Net cash outflow for investment in joint ventures	-	-	(29)
Net cash outflow on acquisition of subsidiary	(5,133)	(3,822)	(13,347)
Dividend received	0	67	65
Proceeds from the increase of the subsidiary's share capital	50	-	-
Proceeds from capital reduction in associated companies	67	-	-
Proceeds from sale of investments	82	731	-
Cash inflow from disposal of other investment	-	3	78
Purchase of property, plant and equipment	(7,835)	(7,705)	(5,522)
Sale of property, plant and equipment	20	3,031	498
Loans to related parties	(873)	(199)	-
Increase in leasehold right	(459)	(805)	(564)
Proceeds from leasehold right	-	-	5
Purchase of intangible assets	(196)	(304)	(641)
Net cash from (used in) investing activities	(14,554)	(9,100)	(18,960)
Cash flows from financing activities			
Financial cost paid	(2,073)	(1,618)	(1,305)
Increase in long term loans from financial institutions	15	982	(3,937)
Payment of change in ownership interest in subsidiary without a change in control	-	-	(35)
Proceeds from long - term loans	6,817	1,629	8,868
Repayment of long - term loans	(4,879)	(4,231)	(2,069)
Proceeds from issuance of debentures	-	11,000	-
Dividend paid	(1,760)	(3,091)	(3,311)
Proceeds from exercise of share options	25	54	27
Redemption of debenture	(4,000)	-	(2,000)
Proceeds from subordinated perpetual debentures	10,000	-	-
Redemption of treasury shares	(432)	-	-
Net cash from (used in) financing activities	3,712	4,725	(3,761)
Net increase (decrease) in cash and cash equivalents	(4,093)	1,575	(8,870)
Cash and cash equivalents as at 1 January	11,551	10,106	19,287
Effect of exchange rate changes on balances held in foreign currencies	(182)	(131)	(310)
Cash and cash equivalents as at 31 December	7,276	11,551	10,106



(3) Financial Ratios

Management Discussion and Analysis on Financial Ratios of 2019 and 2018

Statement of income / Return Ratios		2019	2018	2017
Revenue from sale of goods and rendering of services	Million Baht	190,489	192,025	172,138
Net profit	Million Baht	2,488	3,235	6,163
Net earnings per share ^{1/}	Baht/share	1.18	1.79	4.07
Net profit / sales and service revenue	%	1.31	1.68	3.58
Rate of return on shareholders'equity ^{2/}	%	3.67	5.57	13.57
Rate of return on assets ^{3/}	%	3.47	4.56	7.32

Statement of financial position / Financial Ratios		2019	2018	2017
Total assets	Million Baht	127,788	117,369	113,869
Total liabilities	Million Baht	68,973	67,831	61,979
Shareholders'equity	Million Baht	58,815	49,538	51,890
Current Ratio	times	1.39	1.47	1.52
DSCR (Principle Interest)	times	2.10	1.77	2.47
Debt with interest payable to equity	times	0.69	0.94	0.79
Book value per share ^{4/}	Baht/share	30.33	32.76	33.15

Note: ^{1/} Only profit (loss) attributable to owners of the company

^{2/} The numerator of ROE is defined as the Profit attributable to owners of the Company and have to be annualized.

^{3/} The numerator of ROA is defined as EBIT and have to be annualized.

^{4/} Only the equity of the owners of the company

Financial Ratios Calculation

Profit Margin (%)	=	Profit attributable to owners of the company / Revenue from sale of goods and rendering of services
Return on Equity (%)	=	Profit attributable to owners of the company (Yearly) / Total Equity attributable to owners of the company (Average)
Return on Assets (%)	=	EBIT (Yearly) / Total Asset (Average)
Current Ratio (times)	=	Current Asset / Current Liabilities
DSCR	=	EBITDA (Yearly) / (Paid for long-term debt + Financial cost)
Interest Bearing Debt to Equity (times)	=	(Current portion of short-term and long-term loans from financial institutions + Debentures) / Total equity attributable to



14. Management Discussion and Analysis

1. Summary of the Company and its subsidiaries' operating results for the year ended 31st December 2019

Unit: THB Million	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Total Revenue	50,146	46,481	8%	48,781	3%	190,489	192,025	-1%
Accounting EBITDA	2,420	2,141	13%	(317)	862%	8,709	10,201	-15%
<i>Refinery and Trading Business Group ^{1/}</i>	1,073	631	70%	(1,421)	175%	2,871	3,928	-27%
<i>Marketing Business Group ^{2/}</i>	359	680	-47%	465	-23%	2,279	2,177	5%
<i>Power Plant Business Group ^{3/}</i>	795	710	12%	570	40%	2,964	3,569	-17%
<i>Bio-Based Product Business Group ^{4/}</i>	374	296	26%	68	449%	1,000	692	44%
<i>Natural Resource Business Group ^{5/}</i>	(57)	(101)	44%	94	-161%	(36)	117	-131%
<i>Others ^{6/}</i>	(124)	(75)	-66%	(92)	-35%	(369)	(282)	-31%
Net profit attributable to owners of the parent	620	370	68%	(1,546)	140%	1,732	2,463	-30%
Basic earnings per share (Baht)	0.38	0.27		(1.12)		1.18	1.79	

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

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

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

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

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

6/ Others items and elimination

As for performance in Q4/2019, Bangchak Corporation Plc. ("the company") and its subsidiaries earned revenue from selling of goods and rendering of service of THB 50,146 million (8% QoQ, 3% YoY), recorded EBITDA of THB 2,420 million (13% QoQ, 862% YoY), and recorded net profit of THB 620 million **of which the net profit attributable to owners of the parent THB 620 million** (68% QoQ, 140% YoY). Earnings per share was THB 0.38.

As for 2019 performance of the company and its subsidiaries, it is still affected by the fluctuations in oil price of the global market, where the oil business is in on a downward trajectory following slowing global economy due to the trade war between the US and China. The Dubai crude price in 2019 averaged at 63.51 \$/BBL, a decline of 6.14 \$/BBL or 10% compared to previous year. This has led to



performance from 2018 to 2019 of the refinery industry, including the company's, to decline In 2019, the company and its subsidiaries to earn THB 190,489 million (-1% YoY) in revenue from selling of goods and rendering of service, recorded EBITDA THB 8,709 million (-15% YoY), and recorded net profit of THB 2,488 million **of which the net profit attributable to owners of the parent THB 1,732 million** (-30% YoY). Earnings per share was THB 1.18, with performance from each business group as follow:

Refinery and Oil Trading Business Group, the refinery had an average crude run of 112.6 KBD or 94% utilization rate; the average crude run was higher than 2018 which underwent Turn Around Maintenance, and was able to average crude run at a historic high rate of 123.5 KBD during this past September. Meanwhile, Operating GRM declined by 1.69 \$/BBL from the previous year, which was affected by the crack spread of finished product and referenced crude oil price of every products; stemming from a state of excess supplies of finished products in the market, and declining demand from the receding state of the global economy. Furthermore, crude oil price in the global market has been fluctuating throughout the year, especially between the periods of May to September 2019, where crude oil price declined from the tensions generated by the escalating trade war between the US and China. In tandem with the appreciating THB compared to the USD. As a result, the refinery business recorded an Inventory Loss of THB 1,253 million (including a reversion of lower of cost or market (LCM) THB 689 million) in 2019, which adversely affected the performance of the refinery business. As for the oil trading business operated by BCPT Trading Pte., Ltd. saw improvements in performance from last year. The amount of trade and transaction of crude oil and finished product increased from the move to expand transactions with its trade partners and introducing new products, under the company's strategic plan to expand the business.

Marketing Business Group recorded total sales volume increased 5% YoY, mainly from the retail market increasing by 7% YoY, stemming from the company's strategy to focus on expanding its customer base, and to actively push the sales of the B20 and B10 diesel with special grade within Bangchak service stations to increase



availability coverage. The company developed the “Bangchak Hi-Diesel B20 S” and “Bangchak Hi-Diesel S B10” which upgraded the quality of fuel with the Green S technology that would bring out maximum engine performance. The products were well-received by customers. The company is able to continuously grow its market shares in terms of throughput per station, the company’s cumulative market share of 2019 is at 16.0% and recorded an all-time high market share of 16.5% in September. Moreover, improvements were made to quality of service, and expanded the locations of service stations simultaneously with expansion of Non-Oil businesses, the total number of service stations as of the end of 2019 is more than 1,200 locations across the country. In terms of Net Marketing Margin, it declined from the previous year resulting from crude oil price in the global market increased during Q1/2019 and Q4/2019, and B100 product cost rose near the end of the year causing inconsistency between the retail price at service stations and rising finished product costs.

Power Plant Business Group recorded increase in electricity sales 24% YoY from the entire year’s realization of revenue from the cooperative solar projects in collaboration with the War Veterans Organization of Thailand (WVO), and the commencement of commercial operation of the “Lom Ligor” wind power plant project, and the Solar Power Plant project in conjunction with the private floating solar “Bang Pa-In”. Furthermore, the company extended its investment into the hydro power plant project in Laos PDR “Nam San 3A” which BCPG Plc. has acquired 100% shares as of the previous September. Thus, currently, the total PPA is 405.61 MW. The company realized a share of profit from associated companies THB 355 million, an increase from the geothermal power plant business in Indonesia. However, performance declined compared to 2018 due to the previous year realizing profit of THB 793 million from the divestment of the Nikaho and Nagi project to the Infrastructure Fund in Japan.

Bio-Based Product Business Group, by **the Biodiesel Business** reported production and sales volume of B100 products increased from the previous year with respect to the various measures taken by the government sector to solve the excess



crude palm oil dilemma, including policies to promote the use of Biodiesel fuel (B100) within the energy sector. This has increased the demand for consumption of the product, consequently increasing the price of B100 products. Concurrently, the company prepared the production of B100 to follow the new standard of Monoglyceride content not exceeding 0.4%. Together with ability to efficiently manage raw material cost, gross profit was improved from the previous year.

Moreover, the company was able to efficiently manage raw material cost, improving gross profit from the previous year. As for **the Ethanol Business**, the quantity produced and sold increased from the previous year due to the KSL Green Innovation Plc. plant at Bo Ploy district, Kanchanaburi province increasing its production capacity from 66 million liters per year to 99 million liters per year, and the plant located at Nam Pong district, Khon Kaen province increased its production capacity from 45 million liters per year to 49.5 million liters per year. Moreover, the Bangchak Bioethanol (Chachoengsao) Co.,Ltd. also increased its production capacity. In addition to the improvement of raw material cost management - leading to increase in gross profit, even though the average selling price of Ethanol declined due to domestic ethanol stock remaining at high levels.

Natural Resources Business Group recorded declines in performance due to in 2018, the business realized gains from the share divestment of Nido Production (Galoc) Pty.Ltd which held the rights to the Galoc oil field THB 78 million. With respect to the divestment, there was not realized revenue from Nido. Most of its 2019 performance derived from administrative expenses. The company realized share of profit from its investment in OKEA THB 26 million, even though share of profit from operation in this fiscal year was a loss, due to loss from the depreciated Norwegian Krone (NOK), and the impairment on Technical Goodwill from investments in the Gjøa field. However, the company realized gains from changes in investment interest at THB 82 million from initial public offering, resulting in an increase in share of profit from associated companies.



Statement of Income

Consolidated Statement of Income (Unit: Million Baht)	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Revenue from sale of goods and rendering of services	50,146	46,481	8%	48,781	3%	190,489	192,025	-1%
Cost of sale of goods and rendering of services	(47,130)	(44,034)	7%	(48,357)	-3%	(180,257)	(180,594)	0.2%
Gross Profit	3,017	2,447	23%	424	612%	10,232	11,431	-10%
Interest income and dividend income	59	31	90%	16	262%	158	55	186%
Other income	81	97	-16%	129	-37%	337	1,260	-73%
Selling and administrative expenses	(2,266)	(1,730)	31%	(2,148)	5%	(7,614)	(7,376)	3%
Exploration and evaluation expense	4	(0.1)	N/A	(15)	128%	(1)	(45)	99%
Gain (loss) from crude and product oil price hedging contract	140	6	N/A	(138)	N/A	147	(442)	N/A
Gain (loss) from foreign currency forward contracts	2	(4)	N/A	95	N/A	13	162	N/A
Gain on foreign exchange	274	115	N/A	52	N/A	614	415	N/A
Loss from impairment of assets	(34)	-	N/A	(15)	N/A	(34)	(441)	N/A
Share of profit of associate and JV	52	38	36%	21	144%	404	254	59%
Profit/(loss) before finance costs and income tax expense	1,329	1,001	33%	(1,579)	N/A	4,257	5,273	-19%
Finance costs	(425)	(412)	3%	(405)	5%	(1,701)	(1,545)	10%
Profit/(loss) before income tax expense	903	589	53%	(1,984)	N/A	2,556	3,728	-31%
Income tax (expense) credit	(36)	(38)	-4%	509	-107%	(68)	(493)	-86%
Profit for the period	867	551	57%	(1,475)	N/A	2,488	3,235	-23%
Owners of the parent	620	370		(1,546)		1,732	2,463	
Non-controlling interests	247	181		71		757	772	
Earnings per share (Baht per Share)	0.38	0.27		(1.12)		1.18	1.79	

The company and its subsidiaries reported a consolidated net profit of THB 2,488 million, a decline of 23% YoY. Net profit attributable to owners of the parent was THB 1,732 million, a decline of 30% YoY and earnings per share was THB 1.18, mainly due to the following reasons:

1. Revenue from sales of goods and rendering of services totaled at THB 190,489 million, a decrease slightly, mainly from petroleum related businesses. For the Company, it was affected by average selling price per unit that significantly declined with respect to global oil price. While the company's total product sales



- volume rose 4% YoY, additionally, trade transaction for crude oil and finished product under BCPT Trading Pte., Ltd. rose 71% YoY.
2. Gross profit was recorded at THB 10,232 million, a decline of 10% YoY, mainly from Total GRM which was USD 4.55 per barrel, compared to USD 5.61 per barrel in 2018 due to the crack spread of every category of finished product and referenced crude oil price declining. Also in 2019 the refinery business incurred Inventory Loss of THB 1,253 million (including a reversion lower of cost or market (LCM) THB 689 million), which declined from the previous year which recorded Inventory Loss of THB 1,489 million (including lower of cost or market (LCM) THB 689 million). Furthermore, Net Marketing Margin in 2019 declined from THB 0.78 per liter to THB 0.75 per liter, result from fluctuations of oil price throughout the year and B100 product cost that rose sharply near year's end. Whereas, the company was unable to adjust its retail price at service station to adequately correspond with rising costs.
 3. Other incomes were recorded at THB 337 million, a decline of 73% YoY. In 2018, BCPG Plc. recorded a profit from selling of solar power plant assets to infrastructure fund in Japan at THB 793 million, and recorded insurance compensation for the damages from typhoons in Japan of THB 104 million.
 4. Selling and administrative expense was THB 7,614 million, an increase of 3% YoY. Mostly from the personnel expenses in the company group, and the provision for employee benefits from the Labor Protection Act, which was amended on the 5th April 2019, requiring employees who had provided services for an uninterrupted period of twenty years or more to be entitled to severance valued at 400 days' worth of their final wage rate from 300 days.
 5. Gains from foreign exchange was THB 614 million due to the appreciation of Thai Baht, leading to most gains being generated from accounts payable, and loans from foreign currencies.
 6. Loss from asset impairment THB 34 million, most of the loss was incurred from impairment of Material Supplies, and fixed asset attributed to the company. In



- 2018 loss was incurred from impairment of petroleum exploration and production assets of the Galoc
7. Share of profit from associated companies was THB 404 million, comprising of (1) Star Energy Holdings Pte. Ltd. THB 328 million (2) PetroWind Energy Inc. THB 27 million (3) Ubol Bio Ethanol Plc. THB -9 million (4) Bongkot Marine Services Co., Ltd. THB 32 million (5) OKEA ASA THB 26 million.
 8. Finance cost was THB 1,701 million, an increase of 10% YoY, mostly attributed to finance cost of the company from issuing a debenture in the amount of THB 4,000 million coupon rate of 2.13 - 3.42% with 2-7 years maturity, and issued another debenture in the amount of THB 7,000 million coupon rate of 4.04% with 10 year maturity in August and December 2018, respectively. However, during April 2019 a previous debenture worth THB 4,000 million reached maturity.

Summary of the Company and its subsidiaries' performance by Business unit

1.) Refinery and Oil Trading Business Group

Crude Oil Price Situation

(Unit : USD/BBL)

Crude oil price	Q4/2019		Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY	
	Max	Min	AVG	AVG	+/-	AVG				+/-
Dubai (DB)	67.90	57.40	62.03	61.26	0.78	68.30	-6.26	63.51	69.65	-6.14
Dated Brent (DTD)	69.37	57.81	63.08	62.00	1.08	68.81	-5.73	64.21	71.31	-7.10
DTD/DB	4.32	-1.83	1.05	0.74	0.30	0.52	0.53	0.70	1.66	-0.96

Crude Oil Price Situation

Dubai crude price in Q4/2019 on average, increased by 0.78 \$/BBL compared to Q3/2019. This is supported by the efforts of the OPEC members to lower the production quantity of crude oil, as to stabilize crude oil price. As well as Saudi Arabia's desiring to keep oil price at high levels, the rise in oil price levels is beneficial to the budget and Initial Public Offering of the Saudi Arabian state enterprise's Saudi Aramco company. Furthermore, during the 5th to the 6th December 2019, the OPEC members



and their allies held a meeting in Vienna where they agreed to deepen the crude oil production quantity cut by another 0.5 million barrels per day from the previous agreed upon 1.2 million barrels per day reduction, therefore the total amount of crude oil production to be reduced is 1.7 million barrels per day from the beginning of 2020. Moreover, the OPEC members and their allies will reconvene to further establish their production policy in early March 2020. In addition, crude oil price is supported by the brisk pace of the trade negotiation between the US and China, the said news has renewed hope of the end of the trade war that has transpired for the past several months; expecting an increase in demand for oil.

Average Dubai crude price in 2019 compared to 2018 declined by 6.14 \$/BBL, the oil price was pressured throughout the year by a slowing global economy due to the trade war between the US and China, which inadvertently lowered global oil demand. This also coincides with the International Monetary Fund (IMF) estimating the world economy was on a direction towards the slowest growth since the 2008 financial crisis, and also revised their 2019 global economic growth estimate to just 2.9 percent. Also, the International Energy Agency (IEA) adjusted their estimate of global oil demand growth to just 1.0 million barrels per day, a reduction of 0.4 million barrels per day from the forecast made in early 2019.

Dated Brent and Dubai spread (DTD/DB) in Q4/2019 on average increased by 0.30 \$/BBL when compared to Q3/2019, due to the support received from the mounting demand of light crude in Asia, to prep for the production of the bunker oil with Sulphur content not exceeding 0.5% in 2020.

When comparing Dated Brent and Dubai spread (DTD/DB) average between 2019 and 2018, a decline of 0.96 \$/BBL, this is due to pressures from light crude supplies that has reverted to its excess position in the market compared to the previous year where supplies were tight. As such, crude production from the US which is the light crude increased to the level of 12.85 million barrels per day in late 2019.

**Crack Spreads Situation**

(Unit: USD/BBL)

Crack Spreads	Q4/2019			Q3/2019	QoQ	Q4/2018	YoY	2019		
	Max	Min	AVG	AVG	+/-	AVG	+/-	2019	2018	YoY +/-
UNL95/DB	20.62	7.08	12.97	11.63	1.34	4.92	8.06	9.07	10.57	-1.51
IK/DB	17.96	11.51	13.94	15.74	-1.80	15.74	-1.80	13.73	15.38	-1.65
GO/DB	17.71	11.64	14.32	15.34	-1.02	14.98	-0.67	13.72	14.68	-0.96
FO/DB	-5.82	-29.19	-18.59	1.11	-19.70	1.33	-19.92	-4.91	-2.64	-2.28

Crack Spreads Analysis

- Gasoline and Dubai crack spread (UNL95/DB) in Q4/2019 averaged at 12.97 \$/BBL, an increase of 1.34 \$/BBL when compared to the previous quarter, due to support from the still solid Gasoline demand from India, in which the region's domestic refineries are still closed for turnaround maintenance as to prepare for the production of clean fuel in 2020.

Gasoline and Dubai crack spread (UNL95/DB) in 2019 averaged at 9.07 \$/BBL, a decline of 1.51 \$/BBL compared to 2018, due to pressures from the tense situation engendered by the trade war between the US and China causing the Gasoline demand to retract and further pressure stems from the quantity of Shale Oil, which has a Gasoline yield of 52.2%, rising by 1.2 million barrels per day leading to supplies of Gasoline to remain in a state of market excess compare to 2018.

- Jet (Kerosene) and Dubai crack spread (IK/DB) in Q4/2019 averaged at 13.94 \$/BBL, a decline of 1.80 \$/BBL compared to the previous quarter. Due to pressure from slowing economic condition and the trade war between the US and China caused demand to lower within the air transport and tourism industries.

Jet (Kerosene) and Dubai crack spread (IK/DB) in 2019 averaged at 13.73 \$/BBL, a decline of 1.65 \$/BBL compared to 2018. This is due to pressure from supply build up after refineries increased production capacity during their preparation for the imminent adoption of the bunker oil with Sulphur content not exceed 0.5% in 2020.



- Gasoil and Dubai crack spread (GO/DB) in Q4/2019 averaged at 14.32 \$/BBL, a decline of 1.02 \$/BBL compared to the previous quarter. Due to pressure from increasing supplies from Chinese exports, in which the various refineries rushing to export in accordance to the 2019 quota they had received within the year. As well as Indian export numbers growing significantly from economic growth slowdown affecting the demand for Diesel within India to decline tremendously, combined with a longer than usual Monsoon season.

Gasoil and Dubai crack spread (GO/DB) in 2019 averaged at 13.72 \$/BBL, a decline of 0.96 \$/BBL compared to 2018. This is due to pressure from increasing supplies after refineries increased production capacity during their preparation for the imminent adoption of the bunker oil with Sulphur content not exceed 0.5% in 2020. Whereas demand for Diesel within the region has not increased in a capacity that is of significance to mirror estimates made by the market earlier, as traders switch their reserve stocks more towards the proportion of Low Sulphur Fuel Oil which has a lower price as oppose to Diesel fuel, and stocking supplies to readily cater to the market.

- Fuel Oil and Dubai crack spread (FO/DB) in Q4/2019 averaged at -18.59 \$/BBL, a decline of 19.70 \$/BBL compared to the previous quarter, this is due to the pressure from the demand of High Sulphur Fuel Oil that has successively plummeted prior to the enforcement of the usage of the bunker oil with Sulphur content not exceeding 0.5% by International Maritime Organization (IMO) which will start on the 1st January 2020.

Fuel Oil and Dubai crack spread (FO/DB) in 2019 averaged at -4.91 \$/BBL a decrease of 2.28 \$/BBL when compared to 2018, due to pressures from the demand for High Sulphur Fuel Oil that lowered in succession prior to the enforcement of the usage of the bunker oil with Sulphur content not exceeding 0.5% would be enacted.



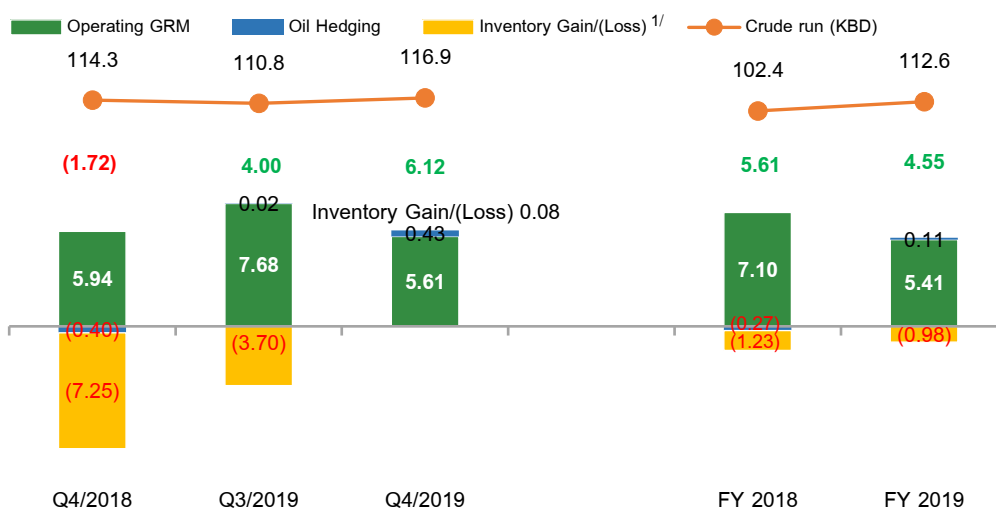
Refinery and Trading Business Group Performance

Refinery Business Performance	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Average Crude Run (KBD)	116.9	110.8	6%	114.3	2%	112.6	102.4	10%
Utilization Rate (%)	97%	92%		95%		94%	85%	
Average FX (THB/USD)	30.45	30.89		32.98		31.22	32.49	
(Unit: Million Baht)								
Operating GRM	1,837	2,416	-24%	2,060	-11%	6,944	8,626	-20%
GRM Hedging	140	6	N/A	(138)	201%	147	(328)	145%
Inventory Gain/ (Loss) ^{1/}	26	(1,163)	102%	(2,517)	101%	(1,253)	(1,489)	16%
Total GRM	2,003	1,258	59%	(595)	437%	5,838	6,809	-14%
EBITDA	1,073	631	70%	(1,421)	175%	2,871	3,928	-27%

Note: 1/ Inventory Gain/(Loss) in the table included LCM

GRM and Crude Run

Unit: \$/BBL



Note: 1/ Inventory Gain/(Loss) in the table included LCM

Total Sales Volume in each market category of the Company	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Marketing Business								
Retail	1,095	1,077	2%	1,025	7%	4,297	4,020	7%
Industrial	536	447	20%	501	7%	1,921	1,925	-0.2%
Total	1,631	1,523	7%	1,526	7%	6,218	5,945	5%
Wholesale Business								
Petroleum traders in accordance with section 7	147	151	-3%	149	-2%	584	622	-6%
Export	316	323	-2%	334	-5%	1,090	1,026	6%
Total	463	474	-2%	483	-4%	1,674	1,648	2%



Total Sales Volume	2,094	1,998	5%	2,009	4%	7,892	7,593	4%
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Note: Sales volume does not include oil swaps between major oil companies (petroleum traders in accordance with section 7) and sales of crude oil products

Performance for Q4/2019, the refinery business recorded EBITDA THB 1,073 million, an increase of THB 442 million compared to Q3/2019 with the following factors affecting performance as follow:

1. The Bangchak refinery averaged its production in Q4/2019 at 116.9 KBD or 97% utilization rate, which is higher than the previous quarter's average production that experienced a temporary halt of the Hydrocracking Unit during the mid-July to mid-August. The refinery returned to full capacity after maintenance of the Hydrocracking Unit was completed. However, during the final month of the quarter there was a reduction in production capacity down to the level that is most economically optimal due to most of the crack spread between the finished product and referenced crude oil declined drastically. As well as, the crude cost increased with significance.

2. Within this quarter, the refinery's Total Gross Refinery Margin (Total GRM) was THB 2,003 million or 6.12 \$/BBL, an increase of 59% compared to Q3/2019 which had Total GRM of THB 1,258 million or 4.00 \$/BBL, mainly due to the following reasons:

- Operating GRM lowered THB 578 million, compared to Q3/2019, mainly from most finished product price and crude oil price crack spread adjusting downward from the slowing of the Global economy and the trade war between the US and China, lowering oil demand. With average Gasoil and Dubai crack spread (GO/DB) lowering 1.02 \$/BBL while the average Kerosene and Dubai crack spread (IK/DB) lowered by 1.80 \$/BBL. And the average Fuel Oil and Dubai crack spread (FO/DB) declined 19.70 \$/BBL due to the lowered demand for High Sulphur Fuel Oil from the preparation preceding the enforcement of the adoption of the Low Sulphur Fuel Oil under measures mandated by the IMO, combined with crude cost that rose from rising spread between the price of Dated Brent and Dubai (DTD/DB) average rising by 0.30 \$/BBL. As well as increasing the shipping freight cost,



after the US announced their sanction of subsidiaries of the COSCO group, which is one of the largest transport and logistic company in China during late September 2019, effectively lowering the Operating GRM.

- During this quarter, the refinery received gains from crude and product oil price hedging contract THB 140 million due to the oil price volatility of the period, the company revised its portfolio to manage oil price fluctuation. Whereas in Q3/2019, the refinery realized gain of THB 6 million.
- The refinery business realized slight inventory gain even when crude price throughout the global market continue to increase since early October to December 2019 from the efforts of the OPEC members to lower production quantity, and the trade negotiations between the US and China progressed smoothly. However, the average crude cost used for production in Q4/2019, partially reflects the high crude oil price during Q3/2019. However, inventory loss was logged in at THB 1,163 million in previous quarter (including a reversion of lower of cost or market (LCM) THB 15 million) from the average crude oil price which adjusted downward significantly since early August until early September.

3. BCP Trading Co., Ltd. (“BCPT”) booked higher gross profit than in Q3/2019 from increases in its transactions in both terms of trade volume and transactions with new trade partners. During this quarter BCPT transacted trade of crude oil and petroleum product 7.58 million barrels, an increase of 0.78 million barrels (+12%) compared to the previous quarter. Most of the increase can be attributed to trade with partners abroad in the form of Overseas Trading (Out-Out) for Low Sulphur Fuel Oil products and fuel oils that were further refined to add more value to the product. Since the market has begun trading Low Sulphur Fuel Oil adhering to the IMO standards that would take effect on the 1st January 2020.

Performance comparison between 2019 and 2018, the refinery business group recorded EBITDA decreases of THB 1,057 million, with the following factors affecting performance:



1. The Bangchak refinery's average production rate in 2019 was at 112.6 KBD or 94% utilization rate of total refinery production which is higher than the average production capacity of 2018 that underwent a Turn Around Maintenance.

2. Total Gross Refinery Margin (Total GRM) declined THB 971 million compared to 2018, mainly due to the following reasons:

- Operating GRM decreased THB 1,682 million compared to 2018. Mainly from the crack spread of finished product and reference crude oil for every product declining. This is due to the market being in a state of excess supplies and market demand declining from the slowdown of the global economy. Gasoline and Dubai crack spread (UNL/DB) on average declined 1.51 \$/BBL, Gasoil and Dubai crack spread (GO/DB) on average declined 0.96 \$/BBL, Kerosene and Dubai crack spread (IK/DB) on average declined 1.65 \$/BBL, and demand for High Sulphur Fuel Oil declined before the measures introduced by IMO were to be enforced causing the Fuel Oil and Dubai crack spread (FO/DB) average to decline by 2.28 \$/BBL. Furthermore, the Thai Baht had appreciated 1.27 THB/USD when compared to 2018.
- During 2019, the refinery business made gains from crude and product oil price hedging contract THB 147 million, whereas in 2018 suffered a loss of THB 328 million from fluctuations of global oil price throughout the year.
- The refinery business encountered an inventory loss of THB 1,253 million (including a reversion of lower of cost or market (LCM) THB 689 million) from the fluctuations made by the oil price in the global market throughout the year 2019, especially from the period between May to September; the decline during the aforementioned period was a result of the tension caused by the trade war between the US and China escalating in intensity – leading to decline in oil demand. Moreover, the Thai Baht has appreciated. Whereas in 2018 inventory loss was recorded at THB 1,489 million (including lower of cost or market (LCM) THB 689 million) due to the sharp decline of crude oil



price in the global market between November and December 2018 since the market being in a state of supply excess.

3. BCP Trading Co., Ltd. recorded higher gross profit from 2018 due to an increase in finished product and crude oil transactions by 10.82 million barrels (+71%) compared to 2018. The main products that were transacted include crude oil, Gasoline, and Fuel Oil. Within this year BCPT was able to expand their market to new regions such as Australia, Taiwan, and the US. As well as, trading new products such as Heavy Aromatic and Ethanol for instance. As such, BCPT is still going forward with the expansion of trade transactions with new partners, along the company's strategic plans to expand the business.

2.) Marketing Business Group

Marketing Business								
Sales Volume (Million Liters)	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Retail (Service Stations)	1,095	1,077	2%	1,025	7%	4,297	4,020	7%
Industrial	536	447	20%	501	7%	1,921	1,925	-0.2%
Total	1,631	1,523	7%	1,526	7%	6,218	5,945	5%
Sales volume in each product category (Million Liters)								
LPG	46	36	30%	41	13%	152	163	-7%
Gasoline	12	8	55%	10	19%	35	32	10%
Gasohol	437	428	2%	432	1%	1,705	1,672	2%
Jet Fuel	258	239	8%	204	27%	951	836	14%
Diesel	841	776	8%	795	6%	3,224	3,056	5%
Fuel Oil and Others	36	38	-4%	43	-16%	152	185	-18%
Total Sales Volume	1,631	1,523	7%	1,526	7%	6,218	5,945	5%
Total Marketing Margin (Baht/Liter)	0.70	0.77	-9%	0.85	-18%	0.75	0.78	-4%
EBITDA (Million Baht)	359	680	-47%	465	-23%	2,279	2,177	5%

Note: marketing margin of Bangchak only

Performance of Q4/2019 compared to Q3/2019, the Marketing Business Group recorded an EBITDA of THB 359 million which declined by THB 321 million compared to Q3/2019, with the following factors affecting performance:



1. Total sales volume of the marketing business increased 7% QoQ, mainly from the volume of fuel sold through the industrial market increasing 20% QoQ, with the sales push during periods when demand of customers within the industrial market was higher; due to the harvest season for the groups of agriculture customer approaches, as well as the traveling season kicking into gear. Combined with the fact that during this quarter, other domestic refineries had undergone Turn Around Maintenance, causing domestic supplies to drop. As for the retail market, sales volume increased 2% from the previous quarter, as such the retail market has plans to grow continuously from the expansion of their customer base from implementation of the strategies formed by the company. In addition, the amount of domestic demand for oil has grown substantially. This has led to the amount of Diesel and Gasohol product sales to rise significantly, whereas the previous quarter was within the rainy season bringing about flooding in various regions causing the frequency of automobile use and consumption of oil to falter.

2. Net marketing margin declined compared to the previous quarter due to finished product cost rising following the hike of oil price in the global market, and the increase in the cost of the B100 products near the end of the year. Whereas, the company was unable to adjust retail price at service stations to adequately coincide with the rising cost of oil products. Moreover, the declined margin was also affected from unadjusted oil price upward as a gift for the Thai people during the New Year celebrations from the 27th December 2019 to the 3rd January 2020.

3. The company has been operating under the strategy to expand its customer base and to garner higher throughput per stations, by expanding the number of standard sized service stations to cover more areas with high potential. There was a total 17 new stations opening in this quarter. As a result, the company's market retail shares through service stations has continuously increased, with the cumulative market share of 2019 at 16.0%. During this quarter, the company has also expanded the number of service stations with B10 Diesel availability in accordance with policies mandated by the Ministry of Energy that stipulates that the B10 Diesel will become the standard High-Speed Diesel fuel since the 1st January 2020. Moreover, the company has developed the



specification of the B10 Diesel with the Green S technology, simultaneously adding the S Super Booster additive to improve engine combustion performance, and the S Super Purifier as a cleaning agent for fuel injectors; in order to yield highest quality B10 Diesel product. As well as contributing to the lowering of the PM 2.5 pollutant, the company has proceeded to improve the quality of all Diesel products sold through the Bangchak service stations in the vicinity of Bangkok to be at Euro 5 standards, with Sulphur content measuring lower than 10 PPM, and has 5 times lower Sulphur content compared to the Euro 4 standard. The Euro 5 standards will be sold at the same price of the Euro 4 standard from the 15th December 2019 to the 29th February 2020.

4. Bangchak Retail Co., Ltd. (“BCR”) is still continuously developing and expanding the Inthanin coffee shop business. The coffee shops have been opened both inside and outside the perimeter of Bangchak service stations, in order to broaden its customer base and be able to better reach consumers. In this quarter, a total of 53 branches of Inthanin were opened. Branches were opened in hotels, universities, convenience stores, and department stores e.g. hotels in the Khao Sarn area, the Faculty of Science and Technology Thammasat University, Tesco Lotus, and Central Plaza Salaya, instance; as well as having exhibition booths at various exposition events. As for the SPAR convenience store, the brand established more varied sales promotion campaigns e.g. SPAR Aroi-Tua-Thai which brings foods and desserts from reputable proprietors to be sold in various branches, and participating in the “Taste, Shop, Spend” program launched by the government. Overall, from the expansion of branches, the development of store management, and activities to promote sales through various channels have led to BCR’s revenue to increase by 12% QoQ. As for the selling and administrative expenses rose from the increase in sales promotion associated with the long weekends and the end of the year, employee related expenses, as well as costs that varied with higher sales volume such as logistics cost. Within this quarter EBITDA declined by 7%.

5. It is a common occurrence for this quarter to bear higher selling and administrative expenses from employee related expenses, promotional expenses,



also including the annual maintenance cost of service stations, which has caused EBITDA to decline from the previous quarter.

Marketing Business performance in 2019 recorded EBITDA of THB 2,279 million, an increment of THB 103 million when compared to 2018, with factors affecting operations as follow:

1. Total sales volume of the marketing business group grew 5% YoY, primarily from the sales volume of oil in the retail market adjusting upward 7% YoY, due to expansion of its customer base following the company's strategy and the sales push for special grade B20 and B10 Diesel fuel within the Bangchak service stations to provide consumers with high quality oil that is environmentally friendly through the reduction of pollution emission from the combustion process, while serving to assist farmers. Whereas the industrial market recorded marginally lower oil sales compared to the previous year due to the intense competition brewing within the industrial market, and stock management within the refinery during the Hydrocracking Unit maintenance period – as to not affect the sales of the retail market.

2. Net marketing margin in 2019 declined 4% compared to 2018, during Q1/2019 and Q4/2019 the price of oil in the global market rose and the cost of B100 products also rose during the end of the year which has caused the retail price at service stations to become inconsistent with rising in finished product costs. While in Q4/2018, the price of oil in the global market dropped drastically due to pressures from the global oversupply of crude oil. This allowed the company to set its retail price to adequately match the product cost, combined with the intense state of the price driven competition in the industrial market, culminating in net marketing margin of 2019 to decline compared to the previous year.

3. The company's cumulative market share in 2019 was at 16.0%, whereas the cumulative share in 2018 was at 15.6%, the number of BCP service stations as of year end 2019 amounts to 1,201 locations, with 48 new service stations commencing operation. The company also promoted the sales of B20 Diesel in support of the “Bangchak B20 for large vehicles, reducing pollution, and saves money” campaign



which began with the sales of B20 Diesel in service stations since Q1/2019 and began selling B10 Diesel in June 2019. Furthermore, the company developed the “Bangchak Hi-Diesel B20S” product and the “Bangchak Hi-Diesel S B10” product that exalted the qualities of the product with the Green S technology, which helps engines run at peak performance. Moreover, the company has increase the B10 and B20 Diesel availability in more of its service stations, which has been well-received by customers.

4. The Non-oil business, under the supervision of Bangchak Retail Co., Ltd. (“BCR”) is still developing and expanding its business continuously. As of 2019, the number of SPAR convenient stores was 46 locations, which has received numerous successive sales promotion campaign, as well as a revamp of the product mix to serve customer demands with higher precision such as ready meal products. Meanwhile, the number of Inthanin Coffee Shops was 600 locations, with 111 locations opening in 2019, in which their locations are situated in areas with high potential e.g. universities, convenience stores, supermarkets, department stores, including branches in office buildings. The expansion of branches, the development and improvement of store management, and the various sales promotion campaigns has led to BCR to increase revenue by 34% YoY and recorded a rise in EBITDA by 30% YoY.

3.) Power Plant Business

Power Plant Business Performance	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Solar Power Business – Thailand	75.63	65.75	15%	73.03	4%	286.59	270.00	6%
<i>Phase 1-3 (118 MW – Adder 8 THB)</i>	66.25	57.57	15%	64.53	3%	251.63	244.90	3%
<i>Cooperative Solar (12 MW – FIT 5.66 THB)</i>	5.07	4.61	10%	4.89	4%	19.21	18.84	2%
<i>Government Solar (8.94 MW – FIT 4.12 THB)</i>	3.60	3.26	10%	3.55	1%	14.17	6.20	129%
<i>Solar rooftop (0.80 MW)</i>	0.33	0.30	11%	0.06	N/A	1.19	0.06	N/A
<i>Private floating Solar – Bang Pa In (2.1 MW)</i>	0.39	N/A	N/A	N/A	N/A	0.39	N/A	N/A
Solar Power Business – Japan (14.7 MW)	3.52	5.00	-30%	3.92	-10%	18.00	41.83	-57%
Wind Power Business – Thailand (9.0 MW - Adder 3.5 THB)	3.19	4.29	-26%	N/A	N/A	10.02	N/A	N/A
Hydro Power Business - Laos (69.0 MW)	64.34	7.70	N/A	N/A	N/A	72.04	N/A	N/A
Total Electricity Sales (Million kWh)	146.69	82.74	77%	76.95	91%	386.65	311.83	24%
Revenue (Million Baht)	981	790	24%	815	20%	3,427	3,320	3%
Share of profit (loss) from associated companies								
Wind Power Plant	(7)	16	-141%	11	-164%	27	39	-32%
Geothermal Power Plant	54	107	-49%	(8)	N/A	328	164	99%



EBITDA (ล้านบาท)	795	710	12%	570	40%	2,964	3,569	-17%
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Performance of the Power Plant business in Q4/2019 recorded an EBITDA of THB 795 million an increase of THB 85 million when compared to Q3/2019, with the following factors affecting operations as follow:

1. Solar power plant projects in Thailand recorded total electricity sales increase by 15% QoQ, mainly due to higher average irradiation hours, which is a result of the clear weather and lower amount of rainfall from the previous quarter, as well as commercial operation of a private floating solar - Bang Pa In commenced in November 2019 (PPA 2.1 MW).

2. Solar power plant projects in Japan recorded a decrease in electricity sales by 30% QoQ, due to Japan transitioning into its winter season, leaving little exposure to light, as well as bouts of clouds and fogs spread throughout various areas, causing to a lower average irradiation hours.

3. Wind power plant project in Thailand, “Lom Ligor”, recorded lower electricity sales by 26% QoQ, due to faltering wind speed that was sweeping through the project location, causing to the power plant to produce less electricity than the previous quarter.

4. Hydro power plant project in Laos “Nam San 3 A”, recorded electricity sales of 64.34 Million kWh, an increase by 56.65 Million kWh from the previous quarter. Due to Q4/2019 being the first quarter to realize full performance after 100% shares of the project was acquired by BCPG Plc. in late September 2019.

5. Recorded shares of profit from investments in associated companies in amount of THB 48 million, which was lower than the previous quarter by THB 76 million, with details as follow:

- Share of loss from the wind power plant business in the Philippines was recorded at THB 7 million, comprised of share of profit from operation THB 1 million, and an amortization in rights in agreement to sell electricity in amount of THB 8 million. As such share of profit from operation declined from the previous quarter by THB 23 million, mainly due to Q4/2019 experiencing



unusually lower wind speed compared to Q3/2019 which was under the influence of tropical depressions that swept through more frequently than usual.

- Share of profit from the geothermal power plant in Indonesia was THB 54 million, attributed to share of profit from operation THB 146 million, and an amortization in right in agreement to sell electricity THB 91 million. Share of profit from operation declined from the previous quarter THB 54 million, mainly due to longer maintenance shutdown period of the Geothermal Power Plant, compared to the previous quarter.

Performance in 2019 of the Power Plant Business recorded EBITDA of THB 2,964 million, a decline of THB 605 million when compared to 2018, with the following factor affecting operation as follow:

1. Solar power plant projects in Thailand recorded increased total electricity sales 6% YoY, mainly due to clear weather and lower rainfall compared to the previous year. In tandem with the full revenue recognition of two cooperative solar projects in collaboration with the War Veterans Organization of Thailand (WVO) (PPA 8.94 MW), which have commenced commercial operations since July 2018. Also, commercial operation of a Private floating Solar - Bang Pa In commenced in November 2019 (PPA 2.1 MW).

2. Solar power plant projects in Japan recorded a decrease in electricity sales by 57% YoY, mainly attributed to a reduction in production after the divestment of the Nikaho and the Nagi project (total PPA 19.3 MW) to the Infrastructure Fund in Japan during September 2018 and realized gain from the selling of asset in the amount of THB 793 million.

3. Wind power plant project based in Thailand, “Lom Ligor”, recorded electricity sales of 10.02 Million kWh. The Lom Ligor project commenced commercial selling of its electricity since the 11th April 2019 to the Provincial Electricity Authority with PPA 8.965 MW.



4. The Hydro Power Plant project in Laos PDR “Nam San 3A” sold electricity in the amount of 72.04 Million kWh. The project started to realize revenue from the selling of electricity in late September 2019 after BCPG Plc. acquired 100% of its shares.

5. Recorded the share of profit from investments in associated companies THB 355 million, compared to the same period of the previous year which increased by THB 151 million, due to the following factors:

- Share of profit from the wind power plant business in the Philippines was THB 27 million, attributed to share of profit from operations THB 59 million, and an amortization in right in agreement to sell electricity THB 32 million. Share of profit from operation declined THB 14 million due to drops in wind speed blowing through the project location when compared with the previous year and an increase in interest expense followed a higher of the policy rate in the Philippines. However, the associated company has already negotiated to the similar level as before.
- Share of profit from the geothermal power plant business in Indonesia was THB 328 million, attributed to share of profit from operations THB 703 million, and an amortization in right in agreement to sell electricity THB 375 million. Share of profit from operations lowered by THB 58 million, mainly due to longer planned maintenance shutdown period in 2019. However, net share of profit increased by THB 164 million due to 2018 recorded full amortization of deferred issuance cost resulted from refinancing activity in the amount of THB 123 million and a tax provision in an amount of THB 84 million.

4.) Bio-Based Product Business Group

Performance of the Bio-based Product Business Group in Q4/2019 recorded EBITDA was THB 374 million, an increase of THB 78 million when compared to Q3/2019. As for performance in 2019 recorded EBITDA of THB 1,000 million, an increase of THB 308 million when compared to 2018.



Biodiesel Business

Biodiesel Business Performance	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
B100 Production Volume (Million Liters)	78.49	79.51	-1%	69.11	14%	299.38	264.10	13%
B100 Sales Volume (Million Liters)	87.53	86.94	1%	73.99	18%	327.69	281.08	17%
Revenue (Million Baht)	1,543	1,604	-4%	1,401	10%	5,875	6,186	-5%
Gross Profit (Million Baht)	209	66	220%	43	384%	393	349	13%
Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
B100 (Baht/Liter)	25.25	21.74	16%	21.85	16%	22.21	24.16	-8%
Crude Palm Oil (CPO) (Baht/Kg.)	22.47	16.85	33%	16.94	33%	18.10	19.59	-8%

Performance comparison between Q4/2019 and Q3/2019 are as follow:

1. B100 product production volume in Q4/2019 was at 78.49 million liters, and the B100 product sales volume was at 87.53 million liters, both production and sales volume remain in the high level similar to the numbers attained during previous quarter. A result of government policy to advocate the adoption of B20 and B10 Diesel, in support of higher consumption of the biodiesel fuel (B100) in the energy sector.

2. Average selling price of B100 product increased significantly from the previous quarter, which corresponded to the rising price of crude palm oil, resulting from measures taken by the government sector to propagate the usage of the B10 Diesel. Combined with the quarter being a low crop season for palm coming into the market, which shrank the amount of domestic crude palm oil stock. Moreover, increasing in the average B100 product price should subsequently resulted in this quarter recording higher revenue from sales. However, due to adjustment to the recognition of revenue from the sales of B100 product, this has caused revenue from sales in this quarter to be recorded at THB 1,543 million, a decline of 4% from the previous quarter.

3. Gross profit in Q4/2019 recorded at THB 209 million, an increase of 220% QoQ. Mainly from the average selling price of B100 product that adjusted upward from the previous quarter, in tandem with the ability to proficiently manage raw material cost; leading to inventory gain in the Biodiesel business during this quarter.



Performance comparison between 2019 and 2018 are as follow:

1. B100 production volume in 2019 was 299.38 million liters, an increase of 13% YoY, which coincided with the direction of the amount of B100 product sold that rose by 17% YoY. Mainly attributed to the increase in B100 product purchase order made by Bangchak with respect to the government sector's advocacy for the increase in consumption of Biodiesel fuel (B100) within the energy sector, and from the capacity improvements made to the production process which allowed for full capacity utilization.

2. Average selling price of B100 product declined from the previous year, in the same direction as the crude palm oil price that declined. However, in the latter half of 2019, price started to climb as a result from various measures taken by the government sector to alleviate the excess crude palm oil problem in the market e.g. the Electricity Generating Authority of Thailand (EGAT) has offered to buy and use crude palm oil as fuel in electricity generation. The government sector has increased measures to facilitate the use of B10 and B20 diesel, as well as, designating the B10 diesel as the standard diesel type in the market. The B100 price (according to announcements made by the Department of Energy Business) has adjusted upward to peak levels during late December 2019 at 34.86 THB/Liter, and from adjustment to the recognition of the sales of B100 products affected revenue from sales declined 5% YoY, despite the B100 product sales volume increasing.

3. Gross profit in 2019 was recoded at THB 393 million, an increase of 13% YoY, although sales revenue from B100 product declined. However the outstanding adeptness to manage raw material cost has caused the Biodiesel business to achieve an Inventory Gain.



Ethanol Business

Ethanol Business Performance	Q4/2019	Q3/2019	QoQ	Q4/2018	YoY	2019	2018	YoY
Production Volume (Million Liters)								
Bangchak Bioethanol (Chachoengsao) (BBE)	12.84	13.15	-2%	12.34	4%	46.84	44.57	5%
KSL Green Innovation (KGI)	30.81	40.02	-23%	13.96	121%	147.64	105.19	40%
Ethanol Sales Volume (Million Liters)	44.51	51.18	-13%	32.31	38%	189.43	149.17	27%
Revenue (Million Baht)	969	1,096	-12%	744	30%	4,138	3,602	15%
Gross Profit (Million Baht)	142	182	-22%	5	N/A	503	281	79%
Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
Ethanol (Baht / Liter)	22.04	21.96	0.4%	23.31	-5%	22.08	23.70	-7%

Performance comparison between Q4/2019 and Q3/2019

1. Total production volume of Ethanol product was at 43.65 million liters, a decline of 18% QoQ, with the decreasing in production volume of the KSL Green Innovation Plc. (“KGI”) by 23%, due to the plants at the Bo Ploy district, Kanchanaburi province and Nam Pong district, Khon Kaen province underwent their turnaround maintenances. Whereas, the Bangchak Bioethanol (Chachoengsao) Co., Ltd. (“BBE”) also underwent maintenance to improve production capacity, leading to production quantity to decline by 2%
2. Total ethanol sales volume was recorded at 44.51 million liters, a decline of 13% QoQ, mainly from KGI’s volume of Ethanol sales volume lowering by 17% QoQ, corresponding with KGI’s plans for its turnaround maintenance.
3. Average selling price of Ethanol product was similar to levels attained in the previous quarter. However due to the declined in amount of Ethanol product volume sold, has caused this quarter to realize lower revenue by 12% QoQ.
4. Gross profit from the Ethanol business declined 22% QoQ, as a result from the amount of Ethanol product sold declining in conjunction with KGI’s turnaround maintenance plan.



Performance comparison between 2019 and 2018.

1. Total production volume of Ethanol product was at 194.48 million liters, an increase of 30% YoY. By which KGI produced 147.64 million liters, an increase of 40% YoY due to the increase in the production capacity of the plant at the Bo Ploy district, Kanchanaburi province from 66 million liters per year to 99 million liters per year, and the plant at Nam Pong district, Khon Kaen province expanded from 45 million liters per year to 49.5 million liters per year. Furthermore, BBE production volume was 46.84 million liters, an increase of 5% YoY, due to improvements made to the capabilities of the production process.

2. Total ethanol product sales volume was at 189.43 million liters, an increase of 27% YoY, primarily from increased sales volume by KGI following the capacity expansion which allowed it to accommodate the demand for Ethanol in Thailand which rose by 6% YoY (information provided by the Department of Energy Business) which corresponds with the trajectory of the consumption of Gasohol fuel that has been expanding with each passing year, and the increase in new car models that supports E20 and E85 Gasohol fuel with high Ethanol mixture.

3. Average selling price of Ethanol product declined from the previous year which adjusted following to the decreasing in raw material cost. Moreover, the amount of Ethanol produced into the market exceeded consumption demand, leading to high Ethanol stocks, and an Ethanol price competition occurred. However, the increased in sales volume has led to 2019 to earn more revenue from sales by 15% YoY.

4. Gross profit from Ethanol business increased 79% YoY due to declining in both raw material and processing cost of KGI, comparing to previous year. Moreover, BBE had the efficiency in raw material cost management.

**5.) Natural Resources Business Group**

Natural Resources Business Group Performance	Q4/2019	Q3/2018	QoQ	Q4/2018	YoY	2019	2018	YoY
EBITDA (THB Million)	(57)	(101)	44%	94	-161%	(36)	117	-131%
Share of Profit from OKEA (THB Million)	4	(88)	104%	(3)	N/A	26	(3)	N/A
Production Volume - Net to OKEA (KBD)	17.02	18.13	-6%	N/A	N/A	18.66	N/A	N/A
Net Sold Volume - Net to OKEA (KBD)	13.84	16.70	-17%	N/A	N/A	19.48	N/A	N/A

Performance of Natural Resources Business Group in Q4/2019 recorded an EBITDA loss of THB 57 million, an improvement of THB 44 million from Q3/2019, by the following operating factors

1. Realized increased share of profit from associated company OKEA

- Within this quarter sales of petroleum products proceeded under normal circumstances, with 1 cargo of crude oil from the Draugen field and natural gases coming via pipeline from the Gjoa field. Although profits from operations was on a downward direction within this quarter, but the business group realized gain from the depreciating US Dollar against Norwegian Krone (NOK). Furthermore, tax expenses also declined, leading OKEA to see improvements in its profit this quarter.
- This quarter recorded Technical Goodwill from the Gjoa Field due to gas prices fluctuating at low levels. (according to practices in Norway, a test on impairment of Technical Goodwill on investments in the Gjøa and Draugen field has to be carried out every quarters.)

2. Recorded a gain on foreign exchange forward contract at THB 24 million.

Whereas, in the previous quarter the gain on foreign exchange forward contracts was THB 1 million.

Performance comparison between 2019 and 2018 of the Natural Resources Business Group recorded EBITDA decline of THB 153 million, by the following operating factors.

- In 2019, OKEA recorded production and sales within proximity of the plan. Whereas, rising in the exploration expenses, and realized loss from



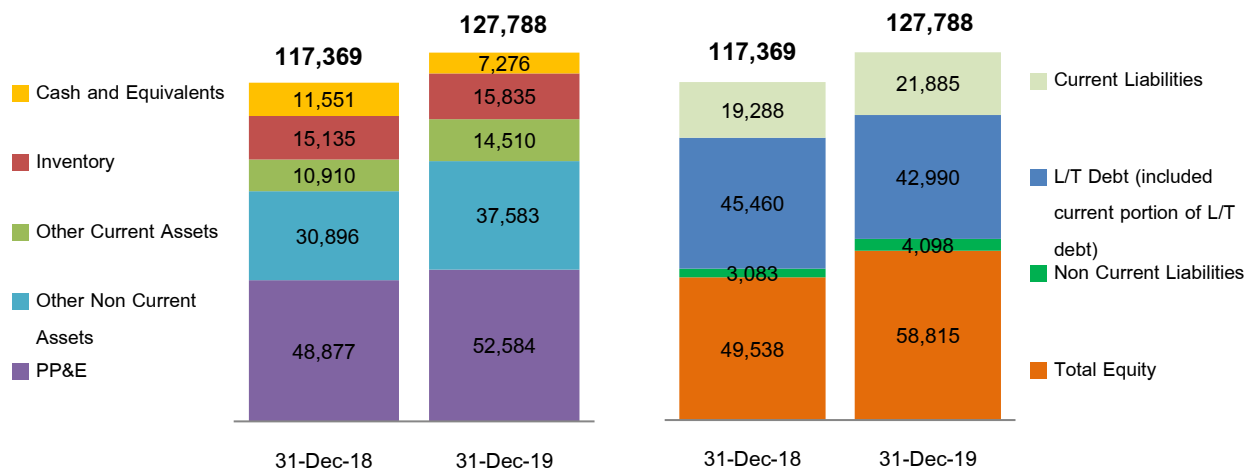
foreign exchange rate with the depreciating Norwegian Krone (NOK). Also, there was an impairment loss on Technical Goodwill at Gjøa field, resulting in share of loss from operation of OKEA. However, gain from changes in investment interest were recorded THB 82 million from OKEA's initial public offering (IPO) of its shares, which affected share of profit from associated company OKEA at THB 26 million.

- The Natural Resources Business Group recorded gain on foreign exchange forward contract from THB 75 million to THB 118 million in 2019.
- In 2019, its performance was not realized revenue from Nido due to the divestment of Nido Production (Galoc) Pty. Ltd, which held the rights to the Galoc oil field, to Tamarind Galoc Pte.Ltd, and realized profit from divestment approximately THB 78 million. Then, the administrative expenses was mainly in the performance.

Statement of Financial Position

Financial Position of the Company and its subsidiaries (Consolidated)

Unit: THB million



Assets



As of 31st December 2019, the Company and its subsidiaries recorded Total Assets in the amount of THB 127,788 million, an increase of THB 10,419 million compared to 31 December 2018, changes in assets are as follows:

1. Cash and cash equivalents decreased by THB 4,275 million. Details are stated in analysis of the Cash Flow Statement.
2. Inventories increased by THB 700 million, mainly from the increase in the company's inventory stock of crude oil and finished product while the average cost of product is reduced and the company has the reversion of lower of cost or market (LCM) THB 689 million.
3. Other current assets increased THB 3,599 million, mainly from:
 - Trade accounts receivable increased by THB 2,069 million, mainly increase in quantity and price of BCPT's finished product in December 2019.
 - Oil fuel fund subsidies receivable increased THB 907 million, due to the rise in sales volume and average compensation rate of B20
4. Other non-current assets rose by THB 6,687 million, mainly due to:
 - Long term loan to related parties increased by THB 837 million, mostly from long term loan to LAC, according to contractual obligations.
 - Other long term investments increased by THB 254 million, primarily from the Company's subsidiary BCP Innovation Pte. Ltd.'s investment in 5 additional Startup businesses for USD 11.5 million or approximately THB 357 million. Moreover, there was an additional investment in LAC of USD 0.5 million or approximately THB 17 million. While there was a decreasing adjustment in Fair value on available-for-sale investment (LAC) by THB 37 million. (Fair value on available-for-sale investment (LAC) rose THB 5 million, and the effect of exchange rate decreased by THB 42 million). LAC share price increased from CAD 4.31 as of 31st December 2018 to CAD 4.16 as of 31st December 2019.



- Goodwill and intangible assets increased THB 318 million and THB 4,836 million, respectively. This was a result of BCPG Plc.'s investment in hydro power plant, Namsan 3A Power Sole Co.,Ltd, in Laos PDR by acquiring 100% shareholding in September 2019.
5. Property, plant and equipment net increased by THB 3,707 million. (Depreciation for the period was THB 4,478 million.) There were investments made chiefly in Efficiency, Energy, and Environment Enhancement Project (3E) and investments for equipment in preparation for the refinery's annual turnaround maintenance in 2020 in amount THB 5,800 million. Investment in power plant business (BCPG) both in Japan and Thailand of THB 1,478 million, and Bio-based products business of the BBGI group's additional investment of THB 1,101 million to expand the ethanol production plant's capacity and the construction of its refined glycerin plant.

Liabilities

As of 31st December 2019, the Company and its subsidiaries has Total Liabilities of THB 68,973 million, an increase of THB 1,142 million, changes in liabilities are as follows:

1. Current Liabilities increased by THB 2,597 million, mainly contributed by:
 - Trade Accounts Payable increased by THB 3,876 million, mainly from increase in crude purchase volume and price in December 2019 when compare with the previous year.
 - Excise tax and oil fuel fund payable decreased by THB 2,145 million because Excise Department change payment period of excise tax. The department has shifted the payment due to be sooner than prior year.
 - Long-term provisions increased by THB 733 million, from BCPG Plc.'s investment in hydro power plant in Laos PDR.



2. Long term loans from financial institutions and debentures (including current portion of long term debt) decreased by THB 2,470 million, comprised of debenture repayment at maturity by THB 4,000 million, loan repayment by THB 4,879 million, and the Company and its subsidiaries loan drawdown by THB 6,817 million. There was also adjustments for the effects of exchange differences on translating financial statement resulted in a gain of THB 408 million.
3. Other non-current liabilities increased by THB 1,015 million, mainly from the provisions for employee benefits from changes in principal actuarial assumptions, as well as the Labor Protection Act, which was amended on the 5th April 2019, requiring employers to increase remuneration to a terminated employee who had provided services for an uninterrupted period of twenty years or more to be entitled to severance valued at 400 days' worth of their final wage rate, and the liabilities on long-term lease

Equities

As of 31st December 2019, the Company and its subsidiaries' total equity was THB 58,815 million, increased by THB 9,277 million. The increment was mainly from the net profit for the year of THB 2,488 million, paid dividend by THB 1,760 million, effects from change in accounting policy resulting in a reduction of retained earnings by THB 54 million, while other comprehensive income decreased by THB 982 million (a result of differences in net fair value change in available for-sale investment (LAC) which increased by THB 5 million, translating financial statement, comprehensive income of associates, and principal actuarial assumptions which decreased by THB 987 million). Moreover, in 2019, there was an issuance of subordinated perpetual debenture net of THB 9,941 million, and treasury stock of THB 432 million. Total equity attributable to owners of the parent was THB 51,604 million, and book value per share (exclude subordinated perpetual debenture) was THB 30.26.



Cash Flows Statement of the Company and its subsidiaries (Consolidated)

As of 31st December 2019, the Company and its subsidiaries recorded net cash from operating activities of THB 6,749 million, net cash used in investing activities of THB 14,554 million, net cash from financing activities of THB 3,712 million, and decrease from the effect of exchange rate changes on cash and cash equivalents in the amount of THB 182 million. As a result, net cash and cash equivalents decreased by THB 4,275 million. There was cash in the amount of THB 11,551 million as of 1st January 2019, resulting in remaining cash as of 31st December 2019 to be recorded at THB 7,276 million. Details for each activity are as follows:

Cash Flows (Unit: Million Baht)	2019	2018
Net cash from (used in) operating activities	6,749	5,950
Net cash from (used in) investing activities	(14,554)	(9,100)
Net cash from (used in) financing activities	3,712	4,725
Effect of exchange rate changes on cash and cash equivalents	(182)	(131)
Net increase (decrease) in cash and cash equivalents	(4,275)	1,445
Cash and cash equivalents as at 1 January	11,551	10,106
Cash and cash equivalents as at 31 December	7,276	11,551

Details of cash received and used are as follows:

1) Net cash from operating activities in the amount of THB 6,749 million, mainly attributed to:

- Cash received from operating activities was THB 8,899 million, which was generated from net profit of THB 2,488 million, added back non-cash expenses of THB 4,642 million, added back finance costs and income tax expense of THB 1,769 million.
- Net cash used for operating assets and liabilities of THB 1,623 million, mainly from (1) trade accounts receivable increased by THB 2,198 million (2) other receivables increased by THB 1,267 million (3) inventory increased by THB 35



- million (4) other non-current assets increased by THB 105 million.(5) trade accounts payable increased by THB 4,077 million (6) other payables and other liabilities decreased by THB 2,096 million.
- Corporate income tax paid was THB 527 million.

2) Net Cash used in investing activities of THB 14,554 million, mainly from:

- Cash received from interest in the amount of THB 124 million.
- Cash paid for investment in subsidiaries companies, associated companies and other investments of THB 5,506 million. Comprised of increasing in share of BCP Innovation Pte., Ltd. for invest in startup, BCPR increased its investment in OKEA's initial public offering (IPO) of its ordinary shares and BCPG's acquisition of Hydro power plant in Laos PDR.
- Cash paid for investment in Property, Plant and Equipment was THB 7,835 million. Mostly are asset under construction on the Efficiency, Energy, and Environment Enhancement Project (3E), investment for equipment in preparation for the refinery's annual turnaround maintenance in 2020, power plant business, and bio-based product business.
- Cash paid for loan to related parties was THB 873 million, mainly comprised of loans to LAC, under contractual obligation.
- Cash paid for the leasehold right and Intangible assets by THB 655 million.

3) Net cash from financing activities was THB 3,712 million, mainly from:

- Cash paid as finance cost in the amount of THB 2,073 million.
- Dividend payment was THB 1,760 million, comprising of the Company's at THB 1,377 million, BCPG Plc.'s dividend payment to non-controlling interests in the amount of THB 383 million.
- Cash paid for debenture repayments at maturity THB 4,000 million.



- Cash received from subordinated perpetual debenture THB 10,000 million.
- Cash paid for treasury shares THB 432 million.
- Cash received from long term loans from financial institution amounted to THB 6,817 million.
- Repayment of long-term loans from financial institutions THB 4,879 million.

Financial Ratios

Financial Ratios (Consolidated)

Profitability Ratios (%)	Q4/2019	Q3/2019	Q4/2018	2019	2018
Gross Profit Margin	6.02%	5.26%	0.87%	5.37%	5.95%
EBITDA Margin	4.83%	4.61%	-0.65%	4.57%	5.31%
Net Profit Margin	1.73%	1.19%	-3.02%	1.31%	1.68%
Return on Equity ^{1/} (ROE)	4.10%	-1.00%	5.59%		
Return on Assets (ROA)	3.47%	1.14%	4.56%		

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

	31 Dec 19	30 Sep 19	31 Dec 18
Liquidity Ratios (Times)			
Current Ratio	1.39	1.19	1.47
Quick Ratio	0.69	0.57	0.80
Financial Policy Ratios (Times)			
Interest Bearing Debt to Equity	0.82	1.08	1.02
Net Interest Bearing Debt to Equity	0.69	0.94	0.78
	Q4/2019	Q3/2019	Q4/2018
DSCR ^{2/} (Times)	2.10	1.50	1.77

2/ DSCR Calculation is not including long term debt prepayment



Financial Ratios Calculation

▪ Gross Margin	=	Gross Profit / Revenue from sale of goods and rendering of services
▪ EBITDA Margin (%)	=	EBITDA / Revenue from sale of goods and rendering of services
▪ Profit Margin (%)	=	Profit attributable to owners of the Company / Revenue from sale of goods and rendering of services
▪ Return on Equity (%)	=	Profit attributable to owners of the Company (Yearly) / Total Equity attributable to owners of the Company (Average)
▪ Return on Assets (%)	=	EBIT (Yearly) / Total Asset (Average)
▪ Current Ratio (times)	=	Current Asset / Current Liabilities
▪ Quick Ratio (times)	=	(Cash & Equivalents + Short term investments + Trade Account Recievable) / Current Liabilities
▪ Interest bearing Debt to Equity (times)	=	Interest bearing Debt / Total equity
▪ Net Interest bearing Debt to Equity	=	(Interest bearing Debt – Cash and cash equivalents – Current investments) / Total equity
▪ DSCR	=	EBITDA (Yearly) / (Paid for long-term debt + Finance cost)

Note:

1/ Average Total Equity attributable to owners of the Company

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

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

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

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

5/ Interest Bearing Debt defined as Short-term loans + Long-term loans (including Current portion of long-term loans) + Debentures + Finance lease liabilities (including current portion of finance lease liabilities)



Environment Management Accounting (EMA)

Having the environmental concerns and social responsibilities, the Company has prepared the environmental management accounting report to publish in sustainability report since 2005, aiming to enable the benefit of its usage for other organizations as well as for the Company. The environmental cost accounting helps the Company to keep track with the information which is useful for enhancing the environmental management effectiveness and resource utilization.

The Environmental Cost Accounting report covers refinery business unit, Bangchak and Bang Pa-in Oil distribution Centre.

	(Unit: Million Baht)		
Environment Management Accounting : EMA	2019	2018	Δ
Material Costs of Product Outputs			
: Crude oil, ethanol, biodiesel, chemical, energy and utilities in production	103,177.73	103,551.72	(373.98)
Material Costs of Non-Product Outputs			
: Consist of slop and sludge oil, waste water, chemical surplus	68.64	111.94	(43.29)
Waste and Emission Control Costs			
: Maintenance cost of environmental control equipment and depreciation and other fees	340.36	315.48	24.89
Prevention and Other Environmental Management Costs			
: Monitoring and measurement cost, environmental management system expenses	16.86	9.38	7.49
Total Expenses	103,603.59	103,988.52	(384.90)
Benefit from by-product and waste recycling (Negative number means revenue)	(18.36)	(15.62)	(2.75)

Total environmental cost in 2019 decreased from 2018 by approximately THB 384.90 million (-37% YoY) mainly due to Material Cost of Product Output which was lower by THB 373.98 million, with respect to the crude cost which declined by 11% from last year. Although, the Company's crude run rose from 102.39 KBD in 2018 to 112.62 KBD in 2019. Material Costs of Non-Product Outputs was lower by THB 43.29 million, in accordance with the fall in products that were below quality standard.

Waste and Emission Control Costs along with Prevention and Other Environmental Management Costs increased by THB 32.37 million (+10% YoY),



primarily from depreciation of the pollution control equipment increased by THB 33.73 million, monitoring and measurement cost increased by THB 7.26 million, and effluent treatment cost increased by THB 2.08 million. On the other hand, environmental equipment maintenance cost and waste disposal cost decreased by THB 4.00 million, and THB 6.92 million, respectively.

Benefits from by-products and waste recycling increased by THB 2.75 Million (+18% YoY), mostly due to amount of sellable liquid sulfur which increased.

Air quality from the refinery's flue

To monitor the environment, the Company has been constantly measuring air quality emitted from the refinery's various flues, to which the amount of pollutant such as dust, nitrogen oxide, and sulfur dioxide emitted is far below the required standard set by the Thai Ministry of Industry.

Management's Perspective towards 2019 Performance

2020 Economic Situation Perspective

According to the World Economic Outlook reported by the International Monetary Fund (IMF) published in January 2020, projects the global economy in 2020 to expand at the rate of 3.3%, an increase from the estimated growth 2.9% in 2019. Recovery is likely from the deals reached from the first round of negotiations of the trade war between the US and China. As well as the relief in pressure from the No-Deal BREXIT situation. However, there are persisting negative factors from geopolitics, and especially, the outbreak of the new strain of the Corona virus (COVID-19) in China at the beginning of this year; being the world's second largest economy. The virus is still spreading to various countries and regions around the world, of which would make the recovery of the global economy not proceed as expected by the IMF.

The economy of the Asia Pacific region is still continuously expanding at a decreasing rate, due to the influence of the trade war, an outbreak of a virus, as well as the prolonged demonstration in Hong Kong; leading to economic contraction. The Chinese economy expanded at a slow pace due to the outbreak and the trade



embargo that affected domestic consumption and its export sector, mainly. As for member countries of the ASEAN, they are expected to remain on par with the previous year. However, the recovery of global trade volume will have to confront various aforementioned risk factors.

Crude Oil Price and Crack spread situation

The International Energy Agency (IEA) estimated that global demand for crude oil will grow by 1.2 million barrels per day in 2020 compared to the 1.0 million barrels per day growth in 2019, coinciding with assessments from the International Monetary Fund (IMF) in regards to global economic growth exceeding the previous year. Asia would remain the central region to support the growth of global oil demand. Especially, China and India, although still affected by the trade war between the US and China, witnessing slowdowns in industrial activities, but the policies to invest in basic national infrastructure still drives demand to grow. As for oil production from non-OPEC members, there is a propensity for supplies to increase by 2.1 million barrels per day in 2020 compared to 2019; mainly from the increasing of US production, which is estimated to increase by 1.1 million barrels per day in 2020. With respect to the new crude oil pipeline and new infrastructure which has commenced full operation, resulting in US Shale Oil production to increase continuously. Moreover, the technological capabilities for production has progressed to the point where it enables the US to have low production cost, allowing them to still produce oil even with low price level. The aforementioned factors may lead the global oil market to be accosted by a state of excess supply. Assessment of Dubai crude price for 2020, the price will be moving within the 55-65 \$/BBL range. Crude oil price will be under pressure from lagging oil demand due to concerns over receding economies, stemming from the trade war between the US and China, in conjunction with the outbreak of the new strain of the Corona virus that may continue to spread in China; being the world's second largest consumer of oil. The outbreak of this virus may affect tourism and oil demand. Whereas, supply has a tendency to increase from non-OPEC members, especially supplies of crude oil from the US. However, oil price is still supported by the conflict between Iran and the US, which has caused unrest within the Middle East,



consisting of countries that are the major producers of crude oil. Meanwhile, OPEC members and their allies are still collaborating to lower production in order to stabilize oil price.

Dated Brent and Dubai spread (DTD/DB) is expected to average between 0.0-0.2 \$/BBL with support from demand for Light crude oil with low Sulphur within regions that are expected to have demand growth in order to produce fuel for the bunker oil with low Sulphur content – enforcement of fuel usage would be enacted on the 1st January 2020. However, Brent crude is still under pressure from supplies of Light crude that has returned to a state of market excess, especially supplies of crude oil from the US, with tendencies of supplies to further increase.

As for the gross refining margin (GRM) in 2020, it is estimated that the GRM of Dubai crude for Hydrocracking refineries in Singapore is expected to slightly decrease from 2019. It is expected that supplies of finished product in Asia will decelerate due to concerns about the state of the economy, since the trade war between the US and China have persisted, even with progress towards dispute resolutions in the trade. Furthermore, the outbreak of the new strain of the Corona virus may have detrimental effects on tourism and oil demand. However, the change in specification for the bunker oil with Sulphur content not exceeding 0.5% may become a supporting factor for GRM in Asia to increase.



Certification of information and data accuracy

Having carefully verified the information and data shown in this annual information display form, 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 the annual information display form 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 31st, 2019, 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 Miss Kittima Wongsæn 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.

<u>Name</u>	<u>Position</u>	<u>Signature</u>
1. Mr. Pichai Chunhavajira	Chairman	(Signed) Pichai Chunhavajira _____
2. Mr. Chaiwat Kovavisarach	President and Chief Executive Officer	(Signed) Chaiwat Kovavisarach _____

<u>Authorized person</u>	<u>Position</u>	<u>Signature</u>
Miss Kittima Wongsæn	Senior Vice President Corporate Strategy and Risk Management	(Signed) Kittima Wongsæn _____



Attachment 1 Profiles of Directors and Executives

Board of Directors

Mr. Pichai Chunhavajira

Chairman and Director with Authorized Signature (Independent Director) (Started on April 24, 2012 and independent director since June 1, 2017)

- Age 71
- 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
 - Public and Private Joint Program Class 13, National Defence College
 - Certified Auditor
 - Director Accreditation Program (DAP49/2006), Thai Institute of Directors (IOD)
 - Director Certification Program (DCP143/2011), Thai Institute of Directors (IOD)
 - Capital Market Academy, Class 5, Stock Exchange of Thailand
- Experience (5 years past experiences)
 - 2014 - 2017 : Member of Board, Bank of Thailand
 - 2001 - 2013 : Director, PTT Exploration and Production Public Company Limited
 - 2010 - 2012 : Chairman, Thaipetroleum Public Company Limited
 - 2008 - 2012 : Chairman, Thaipetroleum Ethanol Company Limited
 - 2009 - 2011 : Director, PTT Public Company Limited
 - : Director, IRPC Public Company Limited
 - 2005 - 2011 : Director, Thai Airways International Public Company Limited
 - 2000 - 2011 : Director, Thaipetroleum Power Company Limited
 - 1998 - 2011 : Director, The Bangchak Petroleum Public Company Limited
- Other directorship positions / other positions at present
 - Other listed companies
 - o Chairman, BCPG Public Company Limited
 - Non-listed companies
 - o Chairman, BBGI Co., Ltd.
 - o President, Thailand Boxing Association
 - o Vice President, National Olympic Committee of Thailand
 - o Executive Committee Member, The International Boxing Association (AIBA)
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Surin Chiravisit

Vice Chairman and Director with Authorized Signature
(Started on April 8, 2010)

- Age 72
- Education / Training
 - Master of Laws, Chulalongkorn University
 - Bachelor of Laws, Ramkhamhaeng University
 - Bachelor of Education, Srinakharinwirot University
 - Investigation of the criminal case program, Batch#44, The Royal Thailand Police
 - Senior Administrator Program, Batch#29, Ministry of Interior
 - Senior Executive Program, Batch#21, Office of The Civil Service Commission
 - The National Defence Course, Class 40, National Defence College
 - Politics and Government in Democracy for Executives Class 6, King Prajadhipok's Institute
 - Director Certification Program (DCP136/2010), Thai Institute of Directors (IOD)
 - How to Develop a Risk Management Plan (HRP1/2012), Thai Institute of Directors (IOD)
 - Successful Formulation and Execution of Strategy (SFE17/2013), Thai Institute of Directors (IOD)
 - Role of the Nomination and Governance Committee (RNG4/2013), Thai Institute of Directors (IOD)
 - Advanced Security Management Program Class 5, The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King.
 - Public-private social peace and order management training course, Class 2, Royal Thai Police
 - Senior Executive Program in Urban Development Management, Class 5, Institute of Metropolitan Development
- Experience (5 years past experiences)
 - 2019 : Director, National Reform Society
 - 2006 : Secretary General, Social Security Office
- Other directorship positions / other positions at present
 - Other listed companies
 - o Senior Consultant, Amata Corporation Public Company Limited
 - Non-listed companies
 - o Director, BBGI Public Company Limited
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Suthep Wongvorazathe

Independent Director and Director with Authorized Signature (Started on October 30, 2012)

Chairman of the Audit Committee and Chairman of the Nomination and Remuneration Committee

- Age 71
- 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)
 - 2015 - Present : Chairman, M.K. Real Estate Development Public Company Limited
 - 2014 - Present : Chairman, Seamico Securities Public Limited Company
 - : Chairman of management committee, Krungthai Zmico Securities Company Limited
 - 2012 - Present : Chairman, Khonburi Sugar Public 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, Seamico Securities Public Limited Company
 - o Chairman, M.K. Real Estate Development Public Company Limited
 - Non-listed companies
 - o Chairman of management committee, Krungthai Zmico Securities Company Limited
 - o Director, Asia Kangnam Company Limited
 - o Director, New Corp Company Limited
 - o Director, Buntudthong Pattana Company Limited
 - o Director, HSH-Siam Chaophraya Holdings Company Limited
 - o Director, The Mall Group Company Limited
 - o Director, The Mall Shopping Complex Company Limited
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Gen. Vitch Devahasdin

Independent Director (Started on April 5, 2016)

Chairman of the Corporate Governance Committee

- Age 69
- Education / Training
 - Bachelor of Business Administration Major Management Sripatum University
 - Chulachomkhalo Royal Military Academy, Class 22
 - Armed Forces Academies Preparatory School, Class 11
 - Vajiravudh College
- Experience (5 years past experiences)
 - 2017 : Assistant Treasurer, National Olympic Committee of Thailand
 - 2015 : Petroleum Committee, Department of Mineral Fuels, Ministry of Energy
 - 2014 : Member, the National Legislative Assembly
 - 2010 : Director, Industrial Estate Authority of Thailand
 - : Judge, Military Supreme Court
 - : Royal Guard on Special Assignments
 - : Chairman of the Advisory Board
- Other directorship positions / other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Director, Five Provinces Bordering Forest Preservation Foundation
 - o Assistant Treasurer, National Olympic Committee of Thailand
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Adm. Sucheep Whoungmaitree

Independent Director and Director with Authorized Signature (Started on May 26, 2015)

- Age 62
- Education / Training
 - Naval Academy Class 17
 - General Line Officer School (Chief of Navy Cadet)
 - Line Officers School
 - Naval Command & Staff College
 - Naval War College
 - The National Defence College
 - Electronics Warfare Course and Military Instructor Course, USA
 - Field artillery battalion Course and Target Search programs, USA
 - Director Certification Program (DCP221/2016), Thai Institute of Directors (IOD)
 - Executive Program in Politics and Governance in Democratic Systems (class 22), King Prajadhipok's Institute
- Experience (5 years past experiences)
 - 2016 : Member of the National Legislative Assembly
 - : Commander-in-Chief, Royal Thai Fleet
 - 2015 : Deputy Chief of Staff, Royal Thai Navy
 - 2014 : Commander, First Naval Area Command
 - 2013 : Commander, Patrol Squadron
 - 2011 : Academic Dean, Academic Branch Royal Thai Naval Academy
- Other directorship positions / other positions at present
 - Other listed companies
 - o Limited Director, Eastern Water Resources Development and Management Public Company Limited
 - Non-listed companies
 - None -
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Lt.Gen. Thammanoon Withee

Independent Director and Director with Authorized Signature (Started on February 28, 2018)

- Age 58
- Education / Training
 - Master of Public Administration Program (MPA), Burapha University
 - Bachelor of Science, Chulachomkiao Royal Military Academy, Class 33
 - Air Logistics Course, Class 153
 - Battlefield Course, Class 78
 - Army Cadet Course, Infantry Corps, Class 78
 - Army Senior Course, Infantry Corps, Class 56
 - Ground Combat Aircraft (Aircraft Front Guided)
 - Military officer, Class 31
 - Army Command and General Staff College, Class 73
 - Develop Resource Management for The National Defense, Class 7
 - Certificate, National Defence Course (NDC58), The National Defence College
- Experience (5 years past experiences)
 - 2017 : 1st Corps Commander
 - 2016 : 1st Army Area Deputy Commander Assembly
: Member of the National Legislative
 - 2015 : Commanding General, 9th Infantry Division
 - 2014 : Specialist, Royal Thai Army
 - 2013 : Deputy Commanding General, 2nd Infantry Division, The King's Guard
 - 2011 : Regimental Commanding Officer 12th Infantry Division, The King's Guard
 - 2010 : Director of Royal Thai Survey, School Army Region 1
 - 2008 : Deputy Regimental Commanding Officer 12th Infantry Division, The King's Guard
- Other directorship positions / other positions at present
 - Other listed companies
- None -
 - Non-listed companies
 - o 1st Army Area Commander
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Pol.Lt.Gen. Chaiwat Chotima

Independent Director and Director with Authorized Signature (Started on April 9, 2014)

- Age 67
- Education / Training
 - Master degree in Political Science, New Mexico University, USA
 - Bachelor of Political Science, Thammasat University
 - Advance Security Management Program (3/2011), National Defence College
 - The Joint State - Private Sector Course (19/2006), National Defence College
 - Advanced Police Administration Program , class 17, Institute of Police Administration Development
 - Conference concerning Narcotics and launder money Control in others 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)
 - Executive Program, Energy Academy, Thailand Energy Academy (TEA7)
 - Capital Market Academy, Class 15, 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, International Boxing Association (AIBA), Asian Zone
 - o Youth Commission, World Boxing Foundation
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Dr. Porametee Vimolsiri

Independent Director (Started on June 7, 2018)

- Age 59
- Education / Training
 - Doctor of Philosophy (Ph.D.) (Economics) Public Finance and Policy, Carleton University, Canada
 - Master in International Affairs (International Economics), Columbia University, USA
 - Bachelor in Economics, Chulalongkorn University
 - Certificate, National Defence Course (NDC), 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, 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)
 - 2018 - Present : Deputy Permanent Secretary, Ministry of Social Development and Human Security
 - 2015 - 2018 : Secretary General, Office of the National Economic and Social Development Board (NESDB)
 - 2009 - 2015 : Deputy Secretary General, Office of the National Economic and Social Development Board (NESDB)
- Other directorship positions / other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Permanent Secretary, Ministry of Social Development and Human Security
 - o Chairman, Bank of Thailand
 - o Board Member, Electricity Generating Authority of Thailand
 - o Chairman, Government Pawnshop Board
- Shareholding in the Company: None (Both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mrs. Prisana Praharnkhasuk

Independent Director and Director with Authorized Signature (Started on April 5, 2016)

- Age 65
- 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
 - Sasin Senior Executive Program (SEP13), Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Certificate of Completion CFO Certification Program, Federation of Accounting Professions under the Royal Patronage of His Majesty the King
 - 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)
 - Capital Market Academy, Class 14, 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)
 - 2017 - Present : 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, 10th Workmen's Compensation Fund Committee, Social Security Office
 - 2014 - 2015 : 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 Director, OKEA ASA (OSE)
 - o Director, TOA Paint (Thailand) Public Company Limited
 - Non-listed companies
 - o Director, Siamese Asset Public Company Limited
 - o Director, Industrial Estate Authority of Thailand
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Teerapong Wongsiwawilas

Independent Director (Started on January 26, 2017)

- Age 55
- Education / Training
 - Bachelor of Laws, Thammasat University
 - Certificate, National Defence Course (NDC57), The National Defence College
 - Certificate, Public Law and Management (12/2013), King Prajadhipok's Institute
 - Senior Executive Program Class 8, The office of the Civil Service commission
 - Director Certification Program (DCP246/2017), Thai Institute of Directors (IOD)
- Experience (5 years past experiences)
 - 2017 - Present : Secretary-General to the Cabinet
 - 2019 : Member, National Legislative Assembly Coordination Committee
 - 2015 : Deputy Secretaries-General to the Cabinet
 - 2014 : Advisor of the Secretariat of the Cabinet
 - 2013 : Director of Bureau of Cabinet Submission Analysis
 - 2009 : Director of Bureau of Strategic Development and Special Policy Monitoring
- Other directorship positions / other positions at present
 - Other listed companies
-None -
 - Non-listed companies
 - o Secretary-General to the Cabinet
 - o Council of State No.7 (Natural Resources and Environment Law)
 - o Qualified member, Science and Technology Development Board
 - o Member, Office of Justice Affairs
 - o Member, Public Organization and Other Government Agency
 - o Member, Committee on Inspection of Draft Law and Subordinate Legislation for Submission to the Cabinet
 - o Member, the interpretation and diagnosis of legal problems in the administration of national affairs, Office of the Public Sector Development Commission (OPDC)
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Prasong Poontaneat

Director (Started on April 24, 2012)

Chairman of the Enterprise-wide Risk Management Committee

- Age 60
- 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)
 - Certificate, National Defence Course (NDC52), The National Defence College
 - Capital Market Academy, Class 27, Stock Exchange of Thailand
- Experience (5 years past experiences)
 - 2018 - Present : Permanent Secretary, Ministry of Finance
 - 2014 - Present : Chairman, Airports of Thailand Public Company Limited
 - 2018 : Chairman, TMB Bank Public Company Limited
 - 2014 : Director General of the Revenue Department
 - 2012 : Chairman, Erawan Hotel Public Company Limited
 - 2011 : Chairman, Export-Import Bank of Thailand
 - : Director General, State Enterprise Policy Office, Ministry of Finance
 - 2010 : Director General, Customs Department, Ministry of Finance
- Other directorship positions / other positions at present
 - Other listed companies
 - o Chairman, Airports of Thailand Public Company Limited
 - o Chairman, TMB Bank Public Company Limited
 - Non-listed companies
 - o Permanent Secretary, Ministry of Finance
 - o Member of university council, Mahasarakham University
 - o Qualified Member, Anti-Money Laundering Office
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Suthi Sukosol

Director (Started on July 26, 2019)

- Age 58
- Education / Training
 - Master of Arts (M.A.) in Public Policy and Administration, University of Wisconsin- Madison, Wisconsin, USA
 - Bachelor of Political Science (First Class Honours) in Politics and Government Thammasat University
 - Top Administrator Program Class 41, Interior College, Prince Damrong Rajanupab Institute of Research and Development
 - Foreign Affairs Executive Programme Class 2, Devawongse Varopakarn Institute of Foreign Affairs
 - Certificate, National Defence Course (NDC57), The National Defence College
 - Chief Human Resource Officer : CHRO Netherlands
- Experience (5 years past experiences)
 - 2019 – Present : Permanent Secretary, Ministry of Labour
 - 2017 – 2019 : Director General, Department of Skill Development, Ministry of Labour
 - 2016 – 2017 : Inspectors-General, Office of the Permanent Secretary, Ministry of Labour
 - 2015 - 2016 : Assistant Permanent Secretary, Office of the Permanent Secretary, Ministry of Labour
 - Other listed companies
 - None-
 - Non-listed companies
 - o Permanent Secretary, Ministry of Labour
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Dr. Anuchit Anuchitanukul

Director (Started on April 25, 2018)

- Age 48
- Education / Training
 - Ph.D. (Computer Science), Stanford University, USA
 - MSCS, Stanford University, USA
 - Master of Business Administration, Chulalongkorn University
 - Bachelor of Engineering (1st Class Honors), Chulalongkorn University
 - Strategy and Innovation for Businesses in Asia (SIBA 2012), Massachusetts Institute of Technology (MIT), College Of Management Mahidol University
 - Office Of Insurance Commission (OIC) (2012), OIC Advanced Insurance Institute (OIC All)
 - Top Executive Program in Commerce and Trade (TEPCoT2011), University of the Thai Chamber of Commerce
 - TLCA Executive Development Program (EDP2009), Thai Listed Companies Association
 - Executive Program for Senior Management, Fiscal Policy Research Institution Foundation
 - Directors Certification Program (DCP93/2007), Thai Institute of Directors Association
- Experience (5 years past experiences)
 - 2018 - 2019 : Director, The Stock Exchange of Thailand
 - 2016 - Present: Director, Aksorn Education Public Company Limited
 - 2013 - Present: First Executive Vice President (Head of Process & Product Improvement and Alternative Channels Group), Kiatnakin Bank Public Company Limited
 - 2010 - 2013 : Director, Krungthai AXA Life Insurance Public Company Limited
: Senior Executive Vice President, Krungthai Bank Public Company Limited
 - 2008 - 2013 : Director, Krungthai Panich Insurance Public Company Limited
: Director, National ITMX Company Limited
- Other directorship positions / other positions at present
 - Other listed companies
 - o First Executive Vice President (Head of Process & Product Improvement and Alternative Channels Group), Kiatnakin Bank Public Company Limited
 - Non-listed companies
 - o Director, Aksorn Education Public Company Limited
 - o Qualified member, Commission policy on private participation in state affairs, State Enterprise Policy Office (SEPO.)
 - o Qualified member, Committee for the Protection of Credit Information
 - o Director, A Member of the Big Data Driven Board, Ministry of Finance
 - o Director, In the Revenue Department drive the committee into digital revenue, The Revenue Department
 - o Director, National e-Payment Committee, Office of the Prime Minister
 - o Advisor, Identity provider (IdP) Committee, Ministry of Digital Economy and Society
 - o State Enterprise Development Assessment Subcommittee for Digital transformation and Knowledge and Innovation management
- Shareholding in the Company: None (Both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Dr. Prasert Sinsukprasert

Director (Started on April 5, 2016)

- Age 53
- Education / Training
 - Doctor of Philosophy in Energy Management and Policy ,University of Pennsylvania, USA
 - Master of Energy Engineering ,George Washington University, USA
 - Bachelor of Engineering (Civil), Chulalongkorn University
- Experience (5 years past experiences)
 - 2017 - Present : Inspector General, Office of the Permanent Secretary,
Ministry of Energy
 - 2014 : Deputy Director General ,Energy Policy and Planning Office,
Ministry of Energy
 - 2013 : Director, International Energy Cooperation Office, Ministry of Energy
- Other directorship positions / other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Inspector General, Office of the Permanent Secretary, Ministry of Energy
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Chaiwat Kovavisarach

President and Chief Executive Officer

Director with Authorized Signature

(Started on October 30, 2012 and served as the President since January 1, 2015)

- Age 53
- Education / Training
 - M.Eng., Asian Institute of Technology (AIT)
 - Master of Business Administration, Thammasat University
 - B.Eng. (Honor), King Mongkut's Institute of Technology Ladkrabang (KMITL)
 - Investment Banking, Kellogg Business School, Northwestern University
 - Director Certification Program (DCP168/2013), Thai Institute of Directors (IOD)
 - Role of the Nomination and Governance Committee (RNG4/2013), Thai Institute of Directors (IOD)
 - Certificate, National Defence Course (NDC58), The National Defence College
 - Executive Program, Energy Academy, Thailand Energy Academy (TEA10)
- Experience (5 years past experiences)
 - 2015 - Present : President and Chief Executive Officer, The Bangchak Corporation Public Company Limited
 - 2007 - 2014 : Advisor, Avantgarde Capital Company Limited
- Other directorship positions / other positions at present
 - Other listed companies
 - o Vice Chairman, BCPG Public Company Limited
 - o Chairman, OKEA ASA (OSE)
 - o Director, Lithium Americas Corp. (NYSE & TSX)
 - Non-listed companies
 - o Chairman, Bangchak Retail Company Limited
 - o Director, BBGI Public Company Limited
 - o Director, Nido Petroleum Pty. Ltd.
 - o Director, BCPR Company Limited
 - o Expert Member of Investment Committee, Government Pension Fund
 - o Director, Suan Kulab Witthayalai Alumnus Association Under the Royal Patronage of H.M. the King
 - o Vice Chairman, The Federation of Thai Industries and Chairman Of The Institute of Research Development and Innovation for Industry
 - o Director of Thailand Management Association (TMA)
 - o Director, Prachabodee Social Enterprise Foundation
 - o Director of International Chamber of Commerce (ICC Thailand)
 - o Director of Thai Listed Companies Association (TLCA)
 - o Board of Trustees / Executive Committee / Audit Committee of Asian Institute of Technology (AIT)
 - o Deputy President Asian Institute of Technology (AITAA Thailand)
- Shareholding in the Company: 1,200,000 shares or 0.087150% directly held (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Chaiwat Kovavisarach

President and Chief Executive Officer

Director with Authorized Signature

(Started on October 30, 2012 and served as the President since January 1, 2015)

- Age 53
- Education / Training
 - M.Eng., Asian Institute of Technology (AIT)
 - Master of Business Administration, Thammasat University
 - B.Eng. (Honor), King Mongkut's Institute of Technology Ladkrabang (KMITL)
 - Investment Banking, Kellogg Business School, Northwestern University
 - Director Certification Program (DCP168/2013), Thai Institute of Directors (IOD)
 - Role of the Nomination and Governance Committee (RNG4/2013), Thai Institute of Directors (IOD)
 - Certificate, National Defence Course (NDC58), The National Defence College
 - Executive Program, Energy Academy, Thailand Energy Academy (TEA10)
- Experience (5 years past experiences)
 - 2015 - Present : President and Chief Executive Officer, The Bangchak Corporation Public Company Limited
 - 2007 - 2014 : Advisor, Avantgarde Capital Company Limited
- Other directorship positions / other positions at present
 - Other listed companies
 - o Vice Chairman, BCPG Public Company Limited
 - o Chairman, OKEA ASA (OSE)
 - o Director, Lithium Americas Corp. (NYSE & TSX)
 - Non-listed companies
 - o Chairman, Bangchak Retail Company Limited
 - o Director, BBGI Public Company Limited
 - o Director, Nido Petroleum Pty. Ltd.
 - o Director, BCPR Company Limited
 - o Expert Member of Investment Committee, Government Pension Fund
 - o Director, Suan Kulab Witthayalai Alumnus Association Under the Royal Patronage of H.M. the King
 - o Vice Chairman, The Federation of Thai Industries and Chairman Of The Institute of Research Development and Innovation for Industry
 - o Director of Thailand Management Association (TMA)
 - o Director, Prachabodee Social Enterprise Foundation
 - o Director of International Chamber of Commerce (ICC Thailand)
 - o Director of Thai Listed Companies Association (TLCA)
 - o Board of Trustees / Executive Committee / Audit Committee of Asian Institute of Technology (AIT)
 - o Deputy President Asian Institute of Technology (AITAA Thailand)
- Shareholding in the Company: 1,200,000 shares or 0.087150% directly held (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Yodphot Wongrukmit

Senior Executive Advisor, Corporate Management and Organization Development Group

- Age 60
- Education / Training
 - Master of Business Administration, Middle Tennessee State University, USA
 - BA (Economics) (2nd Class Honors), University of the Thai Chamber of Commerce
 - Graduate Diploma Top Executive Program in Commerce and Trade (TEPCoT) Class 10/2017
 - Graduate Diploma in Capital Market Academy (CMA21/2015)
 - Diploma in Leadership Succession Program (LSP2/2014), IRDP
 - Diploma, National Defence College, The State, Private Sector and Political Sectors Course Class 5
 - Certificate, National Defence Course (NDC54), The National Defence College
 - NIDA-Wharton Executive Leadership Program (6/2010)
 - Certificate, Public Law and Management (9/2010), King Prajadhipok's Institute
 - JCCP "Advanced Marketing" (Japan)
 - Director Certification Program (DCP111/2008), Thai Institute of Directors (IOD)
 -
 - Anti-Corruption for Executive Program (ACEP6/2013), Thai Institute of Directors (IOD)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019-Present : Senior Executive Advisor, Corporate Management and Organization Development Group
 - 2018 : Senior Executive Vice President, Corporate Management and Organization Development Group
 - 2017 : Senior Executive Vice President, Corporate Management and Sustainability Development
 - 2013 : Senior Executive Vice President, Corporate Administration and Information Technology
 - 2012 : Senior Executive Vice President, Marketing Business
 - 2011 : Acting Senior Executive Vice President, Marketing Business
 - 2008 : Executive Vice President, Marketing Business
 - 2007 : Executive Vice President, Retail Marketing
 - Other directorship positions / Other positions at present
 - Other listed companies
 - None-
 - Non-listed companies
 - o Chairman, Happiness Sharing Foundation
 - o Director, Bangchak Green Net Company Limited
 - o Director, Bangchak Retail Company Limited
 - o Director, Provincial Electricity Authority
 - o Director, PEA ENCOM International Company Limited
 - o Director, TOT Public Company Limited
 - o Director, Thailand Smart Center (TSC), The Thai Chamber of Commerce
 - o Director, Committee on Social Development, Thai Chamber of Commerce
 - o Director, The Committee for Recruitment and Promotion of Voluntary Blood Donors of the Thai Red Cross Society
 - Shareholding in the Company: 44,096 shares or 0.003203% directly held (As of December 31, 2019)
 - Familial relationship between directors and executives: None
 - Criminal records on violation of securities and futures contract laws: None



Executives

Mr.Kiatchai Maitriwong

Senior Executive Advisor, Corporate Strategic Planning and Sustainability Development Group

- Age 60
- Education/Training
 - Master of Business Administration,Thammasat University
 - Bachelor of Science in Chemical Engineering, Chulalongkorn University
 - Director Certification Program (DCP150/2011), Thai Institute of Directors
 - Advanced Diploma, Public Administration and Public Law, Class 11/2012 King Prajadhipok's Institute
 - Executive Development Program (EDP6), Fiscal Policy Research Institute Foundation
 - Executive Development Program (EDP10), Thai Listed Companies Association (TLCA)
 - Oil Price Risk Management, Morgan Stanley, USA
 - Energy Leadership Development for Senior Managers (Class 4) Ministry of Energy
 - Anti-Corruption for Executive Program (ACEP6/2013), Thai Institute of Directors
 - Management Development Program (MDP18/2013), Thailand Management Association
 - Leadership Succession Program (LSP3), IRDP
 - Strategic CFO in Capital Markets Program (Class 1/2015), Thailand Securities Institute
 - Advanced Management Programme (AMP105/2015), INSEAD, Fontainebleau, France
 - Advanced Security Management Program (Class 7/2016) The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King
 - Executive Management with Business Development and Investment (Class 4/2017) Institute of Business and Industrial Development
 - Strategic Board Masterclass (SBM5/2018), Thai Institute of Directors
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : Senior Executive Advisor, Corporate Strategic Planning and Sustainability Development Group
 - 2018 : Senior Executive Vice President, Corporate Strategic Planning and Sustainability Development Group
 - 2017 : Senior Executive Vice President
 - 2016 : Senior Executive Vice President, Bio Based Products Business Unit
 - 2015 : Senior Executive Vice President, Renewable Energy Business Unit
 - 2014 : Acting Senior Petroleum Refining Executive, Refinery Business
 - 2010 : Executive Vice President, Corporate Administration and Information Technology
 - 2009 : Senior Advisor
 - Others
 - Advisor, The Petroleum and Petrochemical College, Chulalongkorn University
 - Advisor in Chemical Engineering, The Engineering Institute of Thailand under H.M. the King's Patronage
 - Special instructor for refining and supply businesses, Petroleum Institute of Thailand
 - Ethanol and Biodiesel Price Structure Improvement Guideline Taskforce
- Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
-None-
- Shareholding in the Company: 11 shares or 0.000001% directly held (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Chalermchai Udomranu

Senior Executive Advisor, Refinery Business Group

- Age 58
- Education / Training
 - Master of Business Administration, Thammasat University
 - B. Engineering (Electrical), Chulalongkorn University
 - Anti-Corruption for Executive Program (ACEP6/2013), Thai Institute of Directors (IOD)
 - Director Certification Program (DCP170/2013), Thai Institute of Directors (IOD)
 - Sasin Executive Program, Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Advanced Diploma, Public Administration and Public Law, Class 14/2015 King Prajadhipok's Institute
 - Leadership Succession Program (LSP6), Institute of Research and Development for Public Enterprises (IRDP)
 - Advanced Security Management Program (ASMP), Class9, The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King
 - Executive Program, Energy Academy, Thailand Energy Academy (TEA14)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : Senior Executive Advisor, Refinery Business Group
 - 2016 : Senior Executive Vice President, Refinery Business Unit
 - 2015 : Executive Vice President, Refinery Manufacturing Business
 - 2012 : Executive Vice President, Refinery Business
 - 2011 : Senior Vice President, Refinery Operation, Refinery Business
 - 2009 : Vice President, Refinery Operation, Refinery Business
 - 2005 : Vice President, Refinery Project
 - 2003 : Senior Manager, Refinery Project
 - 2001 : Senior Manager, Technical Service Division
 - 2000 : Senior Manager, Maintenance Service Division
 - 1997 : Manager, Maintenance Service Division
 - Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
 - o Director, BCP Trading Pte. Ltd
 - Shareholding in the Company: 1,865 shares or 0.000135% directly held (As of December 31, 2019)
 - Familial relationship between directors and executives: None
 - Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Pongchai Chaichirawiwat

Senior Executive Vice President, appointed to BBGI Public Company Limited

- Age 59
- Education / Training
 - Master of Business Administration, Thammasat University
 - Master of Engineering, Asian Institute of Technology (AIT), Thailand
 - Bachelor of Engineering, Chulalongkorn University
 - Certificate, Program for Senior Executives, Capital Market Academy (CMA28/2019) Stock Exchange of Thailand
 - Leading in a Disruptive World Program (2018), South East Asia Center (SEAC)-Stanford University
 - The Executive Program In Energy Literacy for a Sustainable Future TEA Class 8 (TEA Class 8/2016), Thailand Energy Academy
 - Advanced Certificate Course in Public Administration and Law for Executives (PLM.13/2014) King Prajadhipok's Institute
 - NIDA-Wharton Executive Leadership Program (7/2014), NIDA-Business School, Center for Business Innovation
 - TLCA Leadership Development Program (LDP0/2013), Thai Listed Companies Association
 - Diploma, Senior Executive Program (SEP25/2012), Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Director Certification Program (DCP154/2011), Thai Institute of Directors (IOD)
 - Executive Development Program (EDP6/2010), Thai Listed Companies Association
- Experience
 - Bangchak Corporation Public Company Limited
 - 2018 - Present: Senior Executive Vice President, appointed to BBGI Public Company Limited
 - 2017 : Chief Operation Officer and Senior Executive Vice President, Refinery Business Group
 - 2016 : Chief Marketing Officer and Senior Executive Vice President, Marketing Business Group
 - 2015 : Senior Executive Vice President, Marketing Business Unit
 - 2014 : Senior Executive Vice President, Marketing Business
 - 2011 : Executive Vice President, Renewable Energy Business, and Managing Director appointed to Bangchak Biofuel Company Limited
 - 2008 : Senior Vice President
(Managing Director appointed to Bangchak Biofuel Company Limited)
- Other directorship positions / Other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Director and Chief Executive Officer, BBGI Public Company Limited
 - o Chairman, Bangchak Biofuel Company Limited
 - o Director , Ubon Bio Ethanol Public Company Limited
 - o Chairman , Ubon Agricultural Energy Company Limited
 - o Chairman , Ubon Bio Gas Company Limited
 - o Chairman, NP Bio Energy Company Limited
 - o Chairman, KSL Green Innovation Public Company Limited
 - o Director, Bangchak Bioethanol (Chachoengsao) Company Limited
- Shareholding in the Company: 64,332 shares (44,332 shares; spouse 20,000 shares) or 0.004672% (As of December 31, 2019)
- Familial relationship between directors and executives: None



- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Somchai Tejavanija

Chief Marketing Officer & Senior Executive Vice President, Marketing Business Group

- Age 57
- Education / Training
 - Master of Business Administration, Thammasat University
 - B.ENG (Engineering), Kasetsart University
 - Stanford-SEAC Leading in a Disruptive World 4 (LDW 4) 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 in Commerce and Trade (TEPCoT) 11/2018, University of the Thai Chamber of Commerce
 - Executive Management with Business Development and Investment (IBID 3), Institute of Business and Industrial Development
 - Advanced Security Management Program (ASMP6), The National Defence College Association of Thailand
 - Advanced Certificate Course in Public Administration and Law for Executives, King Prajadhipok's Institute
 - Thammasat Leadership Program (Class 4), Thammasat University
 - Executive Development Program (Class 6), Thai Listed Companies Association
 - Energy Leadership Development for Senior Managers (Class 4), 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 Director, Bangchak Green Net Company Limited
 - o Director, Bangchak Retail Company Limited
- Shareholding in the Company: 28,522 shares or 0.002071% directly held (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Bundit Sapianchai

Senior Executive Vice President, appointed to BCPG Public Company Limited

- Age 55
- Education / Training
 - Honorary Doctorate of Electrical Engineering, Rajamagala University of Technology Krungthep, Thailand
 - Master of Engineering, Asian Institute of Technology (AIT), Thailand
 - Bachelor of Engineering, King Mongkut's Institute of Technology Ladkrabang
 - Director Accredited Program (DAP28/2004), Thai Institute of Directors (IOD)
 - Director Certification Program (DCP53/2005), Thai Institute of Directors (IOD)
 - Advanced Diploma, Public Administration and Public Law, Class 10/2011 King Prajadhipok's Institute
 - Certificate, National Defence Course (NDC55), The National Defence College
 - Certificate, Program for Senior Executives, Capital Market Academy (CMA20/2013) Stock Exchange of Thailand
 - Certificate, Energy Literacy for The World (TEA11), Thailand Energy Academy
 - Diploma, Executive Management with Business Development and Investment (IBID5), Institute of Business and Industrial Development
- Experience
 - Bangchak Corporation Public Company Limited
 - 2015 - Present : Senior Executive Vice President, appointed to BCPG Public Company Limited
 - 2013 : Senior Executive Vice President, Renewable Energy Business
 - 2012 : Senior Executive Vice President, Business Development and Strategy
 - 1998 : Executive Vice President, Corporate Business Development
 - Others
 - 2004 : Executive Vice President, Finance and Strategy, NFC Fertilizer Public Company Limited
 - 1997 : Business Director, Air Liquid (Thailand) Company Limited
 - 1994 : Marketing Director, PTT Petrochemical Company Limited
 - 1988 : Commercial Manager, National Petrochemical Public Company Limited
- Other directorship positions / Other positions at present
 - Other listed companies
 - o President, BCPG Public Company Limited
 - Non-listed companies
 - o Chairman, Bangchak Solar Energy Company Limited
 - o Chairman, Bangchak Solar Energy (Prachinburi) Company Limited
 - o Chairman, Bangchak Solar Energy (Chaiyaphum 1) Company Limited
 - o Chairman, Bangchak Solar Energy (Buriram) Company Limited
 - o Chairman, Bangchak Solar Energy (Buriram 1) Company Limited
 - o Chairman, Bangchak Solar Energy (Nakhonratchasima) Company Limited
 - o Director, Thai Digital Energy Development Co., Ltd.
 - o Director, BCPG Indochina Co., Ltd.
 - o Director, Huang Ming Japan Company Limited
 - o Director, BCPG Wind Cooperatief U.A.
 - o Director, Star Energy Group Holdings Pte. Ltd.
 - o Director, PetroWind Energy Inc
 - o Director, Impact Energy Asia Development Ltd.
- Shareholding in the Company: 31,895 shares or 0.002316% directly held (As of December 31, 2019)



- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Surachai Kositsareewong

Senior Executive Vice President, Accounting and Finance Group

(The person taking the highest responsibility in finance and accounting since August 1, 2009)

- Age 57
- Education / Training
 - Master of Business Administration, Steton School of Economics and Business Administration Mercer University, USA
 - BA, Faculty of Commerce and Accounting, 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
 - Certificate, National Defence Course (NDC56), The National Defence College
 - CEDI BABSON Entrepreneurial Leadership Program, Babson College Wellesley, Massachusetts, USA
 - Certificate, Program for Senior Executives, Capital Market Academy (CMA23/2016) Stock Exchange of Thailand
 - Certificate, Program for Thai - Chinese Leadership Institute, Huachew Chalermprakiet University
 - Certificate, Program for Thammasat World Leadership Program (TWLP.3)
 - Certificate ,TFRS 3 (Business Combination) , EY Office Limited (2019)
 - Certificate ,TFRS 9 (Fundamental of TFRS 9) ,Federation of accounting professions (2019)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2015 - Present : 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
 - o Director, BCPR Pte. Ltd.
 - o Director, BCPR Company Limited
 - o Director, Bangchak Biofuel Company Limited
 - o Director, BCP Energy International Pte. Ltd.



- Director, BCP Innovation Pte.Ltd.
- Director, BCP Trading Pte.Ltd
- Director, BCV Bio Based Co., Ltd.
- Director, BCV Energy Co., Ltd.
- Director, BCV Innovation Co., Ltd.
- Director, BCV Partnership Co., Ltd.
- Director, Bangchak Ventures Pte.Ltd.
- Shareholding in the Company: None (both directly and indirectly held)
(As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Chokchai Atsawarangsalit

Executive Vice President acting Senior Executive Vice President, Corporate Management and Sustainability Development

- Age 51
- Education / Training
 - Master of Business Administration, Kasetsart University
 - BS (Engineering), Chulalongkorn University
 - Company Secretary Program (CSP14/2005), Thai Institute of Directors (IOD)
 - Effective Minute Taking (EMT2/2006), Thai Institute of Directors (IOD)
 - Corporate Governance and Social Responsibility (CSR1/2007), Thai Institute of Directors (IOD)
 - Director Certification Program (DCP108/2008), Thai Institute of Directors (IOD)
 - Current Issue Seminar (R-CIS1/2009), Thai Institute of Directors (IOD)
 - Successful Formulation & Execution of Strategy (SFE3/2009), Thai Institute of Directors (IOD)
 - TCLA Executive Development Program (EDP), Thai Listed Companies Association
 - Energy Leadership Development for Senior Managers, Class 6, Ministry of Energy
 - Executive Development Program 2011, Minister of Finance
 - Senior Executive Program (SEP-26), The Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Certificate Course in Thai - Asean Economic Community, Class 3, King Prajadhipok's Institute
 - 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, South East Asia Center (SEAC) Stanford University
 - Thammasat Leadership Program, Thammasat for Society (Class 12)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : Executive Vice President acting Senior Executive Vice President, Corporate Management and Sustainability Development
 - 2015 : Executive Vice President, Marketing Business and Oil Terminal
 - 2015 : 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 Director, Fuel Pipeline Transportation Company Limited
 - o Vice Chairman, Happiness Sharing Foundation
- Shareholding in the Company: 300 shares or 0.000021% directly held (As of December 31, 2019)



- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Viboon Wongsakul

Executive Vice President acting Senior Executive Vice President, Corporate Strategic Planning and Sustainability Development Group, appointed to Bangchak Retail Company Limited

- Age 52
- Education / Training
 - Master of Business Administrative (Marketing), University of Wisconsin-Whitewater, USA
 - Bachelor of Business Administrative – Finance & Banking, Chulalongkorn University
 - Leading in a Disruptive World, Stanford University, USA
 - Entrepreneurial Leadership Program, Boston, Babson University, USA
 - Leadership Development Program, Harvard Business School
 - Strategic Marketing in Action Program, IMD Business School, Switzerland
 - Senior Executive Program (SEP), Sasin Business School
 - Enterprise Leadership Program, Insead University
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 – Present : Executive Vice President acting Senior Executive Vice President, Corporate Strategic Planning and Sustainability Development Group, and appointed to Bangchak Retail Company Limited
 - 2018 : Executive Vice President, appointed to Bangchak Retail Co.Ltd.
 - 2015 : Executive Vice President, Retail Business and Marketing Support
 - 2015 : Executive Vice President, Marketing Business

Others

- 2013 : Vice President, Retail Business Department, PTT Public Company Limited
- 2007 : Deputy Managing Director, Marketing & Retail Business Support Department, PTT Retail Management Company Limited
- 2006 : Assistant Director Dry Food Merchandise & Buying, Big-C Supercenter Public Company Limited
- 1990 : Regional Manager – Asia Pacific Non-Oil Alliances, ExxonMobil Fuels Marketing Business
 - : C-Store Manager, Retail Marketing and Investment Retail Strategist, Network Planning, Capital/Opex and Feasibility, ESSO Thailand
 - : International Marketing, Motorola Inc., Chicago USA
- Other directorship positions / Other positions at present
 - Other listed companies
 - None-
 - Non-listed companies
 - o Managing Director, Bangchak Retail Company Limited
 - o Director, Oam Suk Social Enterprise Company Limited
 - o Director, Happiness Sharing Foundation
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Pativat Tivasasit

Executive Vice President, Refinery Manufacturing Business acting Senior Executive Vice President, Refinery Business Unit

- Age 59
- Education / Training
 - B.Sc. (Chemical Technology), Chulalongkorn University
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : 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, Bongkot Marine Service Co., Ltd.
 - Shareholding in the Company: 12,000 shares (spouse 12,000 shares) or 0.000872% (As of December 31, 2019)
 - Familial relationship between directors and executives: None
 - Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Pichit Wongrujiravanich

Executive Vice President, Internal Audit

- Age 59
- Education / Training
 - MS (Accounting), Thammasat University
 - BA (Accounting), Thammasat University
 - Higher Certificate in Auditing, Thammasat University
 - Certified Public Accountant, license no. 3766
 - Director Accreditation Program (DAP89/2011), Thai Institute of Directors (IOD)
 - Audit Committee Program (ACP39/2012), Thai Institute of Directors (IOD)
 - Anti-Corruption for Executive Program (ACEP5/2013), Thai Institute of Directors (IOD)
 - Executive Development Program (EDP12), Thai Listed Companies Association.
 - Director Certification Program (DCP198/2014), Thai Institute of Directors (IOD)
 - Leadership Succession Program (LSP7), Institute of Research and Development for Public Enterprises (IRDP)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2015 - Present : Executive Vice President, Internal Audit
 - 2011 : Senior Vice President, Internal Control Office
 - 2005 : Vice President, Internal Control Office
 - Others
 - 1992 : Assistant to Executive Director, Yontrakit Group
- Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
-None-
- Shareholding in the Company: 11,071 shares or 0.000804% (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Dhanajit Makarananda

Executive Vice President , appointed to BBGI Public Company Limited

- Age 60
- Education / Training
 - Master of Science in Chemical Engineering, The University of Southwestern Louisiana, USA
 - BS (Chemical technology), Chulalongkorn University
 - Energy Leadership Development for Senior Managers, Class 5, Ministry of Energy
 - Executive Development Program (EDP) 2013, Fiscal Policy Research Institute Foundation
 - Senior Executive Program (SEP) 2014, Sasin Graduate Institute of Business Administration
 - Advanced Diploma, Public Administration and Public Law, Class 15/2016 King Prajadhipok's Institute
- Experience
 - Bangchak Corporation Public Company Limited
 - 2017 - Present : Executive Vice President , appointed to BBGI Public Company Limited
 - 2016 : Executive Vice President, Bioenergy and Energy Crop Business
 - 2015 : Executive Vice President, Refinery Project Development
 - 2015 : Executive Vice President, Associated Company Business, Renewable Energy Business
 - 2014 : Senior Vice President, Associated Company Business, Renewable Energy Business
 - 2013 : Senior Vice President, Refinery Technique, Refinery Business
 - 2012 : Senior Vice President, Refinery Engineering, Refinery Business
 - 2011 : Vice President, Refinery Engineering, Refinery Business
 - 2009 : Vice President, Refinery Technique, Refinery Business
 - Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
 - Managing Director, Bangchak Biofuel Company Limited
 - Director, KSL Green Innovation Public Company Limited
 - Director, BCPG Shareholding in the Company: None (As of August 29, 2019)
 - Familial relationship between directors and executives: None
 - Criminal records on violation of securities and futures contract laws: None



Executives

Ms. Revadee Pornpatkul

Executive Vice President, Human Resource Management, appointed to BCPG Public Company Limited

- Age 59
- Education / Training
 - Master of Business Administration, Thammasat University
 - Bachelor Business Administration (Accounting), Ramkhamhaeng University
 - Bachelor of Law, Sukhothai Thammathirat University
 - Bachelor of Science, Chulalongkorn University
 - Director Accreditation Program (DAP99/2012)
 - Executive Development Program (EDP 12/2013)
 - Company Secretary Program (CSP71/2016)
 - Smart Disclosure Program (SDP/2016)
 - Executive Energy Management Program (EEM/2017), Ministry of Energy
 - Power Curriculum Program for Executives (Class 1/2017), Ministry of Energy
 - Developing an Outward Mindset (2018)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2018 - Present : Executive Vice President, Human Resource Management, appointed to BCPG Public Company Limited
 - 2015 : Senior Vice President, Corporate Administration and Information Technology, BCPG Public Company Limited
 - 2013 : Vice President, Associated Company Business, appointed to Bangchak Solar Energy Company Limited
 - 2007 : Vice President, Accounting and Taxation, Accounting and Finance
 - 2004 : Senior Manager, Accounting, and Acting Vice President, Accounting and Tax
 - 2002 : Manager, Accounting
 - Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
 - Director, Lomligor Company Limited
 - Director, BSE Energy Holdings Pte. Ltd.
 - Director, BCPG Japan Corporation
 - Director, BCPG Engineering Company
 - Director, Bangchak Solar Energy Company Limited
 - Director, Bangchak Solar Energy (Prachinburi) Company Limited
 - Director, Bangchak Solar Energy (Chaiyaphum1) Company Limited
 - Director, Bangchak Solar Energy (Buriram) Company Limited
 - Director, Bangchak Solar Energy (Buriram 1) Company Limited
 - Director, Bangchak Solar Energy (Nakhonratchasima) Company Limited
 - Director, Thai Digital Energy Development Co., Ltd.
 - Director, BCPG Indochina Co., Ltd.
 - Director, Happiness Sharing Foundation
- Shareholding in the Company: 16,967 shares or 0.001232% (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Ms. Pakawadee Junrayapes

Executive Vice President, Sustainability Development and Corporate Compliance

Company Secretary

- Age 58
- 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 (BMD) class 9/2019, Thai Institute of Directors (IOD)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2018 - Present : 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, BCPR Pte. Ltd.
 - o Director, BCPR Company Limited
 - o Director, BCP Innovation Pte. Ltd
 - o Director, Bangchak Ventures Pte.Ltd.
- Shareholding in the Company: 15,500 shares or 0.001126% (As of August 29, 2019)



- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Dr. Michael William Fischer

Executive Vice President, Natural Resources Business Unit

- Age 61
- Education / Training
 - PH.D Doctor of Philosophy, University of Wales
 - Bachelor Degree of Science, University of Leeds
- Experience
 - Bangchak Corporation Public Company Limited
 - 2018-Present : Executive Vice President, Natural Resources business unit, Bangchak Corporation Public Company Limited
 - Others
 - 2015 - Present : Managing Director & CEO, Nido Petroleum Ltd
 - 2014 - 2015 : President, Africa Business Unit, Ophir Energy Ltd
 - 2005 - 2006 : Senior Vice President, Exploration, Operations and Projects,OMV Exploration and production GmbH
 - 2004 : Asset/Exploration Manager, Woodside Energy Ltd, Perth
- Other directorship positions / Other positions at present
 - Other listed companies
 - o Director, OKEA ASA (OSE)
 - Non-listed companies
 - o Managing Director and Chief Executive Officer, Nido Petroleum Pty Ltd
 - o Director, BCPR Pte. Ltd.
 - o Director, BCPR Company Limited
 - o Director, BCP Energy International Pte. Ltd.
- Shareholding in the Company: None (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Suwat Meemook

Executive Vice President, Bangchak Initiative and Innovation Center (BiiC)

- Age 54
- Education / Training
 - Master of Business Administration, Mississippi College, USA
 - Bachelor of Science in Civil Engineering, Chulalongkorn University
 - Director Certification Program (DCP 268/2018), Thai Institute of Directors (IOD)
 - Dale Carnegie Course, Dale Carnegie, Washington D.C., USA
- Experience
 - Bangchak Corporation Public Company Limited
 - 2018 - Present : Executive Vice President, Bangchak Initiative and Innovation Center

Others

- 2015 - 2018 : Executive Vice President, Digital Business Development, King Power International Company Limited
- 2012 - 2014 : General Manager, G-Able Company Limited
- 2011 : Vice President, Bangkok Bank Public Company Limited
- 1999 - 2011 : Senior Finance Manager, World Wide Small Medium Business, Service and Partner, Microsoft Corporation, Washington D.C., USA
- Other directorship positions / Other positions at present
 - Other listed companies
 - None-
 - Non-listed companies
 - Director, BCP Innovation Pte. Ltd
 - Director, BCV Bio Based Co., Ltd.
 - Director, BCV Energy Co., Ltd.
 - Director, BCV Innovation Co., Ltd.
 - Director, BCV Partnership Co., Ltd.
 - Director, Bangchak Ventures Pte. Ltd.
- Shareholding in the Company: None (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Ms. Sattaya Mahattanaphanij

Executive Vice President, appointed to BCPG Public Company Limited

- Age 54
- Education / Training
 - Master of International Business and Information Management System, Widener University, USA
 - Bachelor's degree, Business Administration (Finance and Banking), Assumption University
 - Certificate, Board Nomination and Compensation Program (BNCP 5/2019), Thai Institute of Directors (IOD)
 - Certificate, Company Secretary Program (CSP 82/2017), Thai Institute of Directors (IOD)
 - Committee of Occupational Safety, Health and Work Environment (SEP/2017)
 - Advance Senior Executive Program (ASEP-3) Sasin and Kellogg School of Management

- Experience

- Bangchak Corporation Public Company Limited

- 2019 – Present : Executive Vice President, appointed to BCPG Public Company Limited

- Others

- 2018 – Present : Senior Executive Vice President, Corporate Excellence, BCPG Public Company Limited

- 2016 – 2017 : Executive Vice President, Finance and Accounting, BCPG Public Company Limited

- 2006 – 2016 : Executive Director, Advantgarde Capital Company Limited

- Other directorship positions / Other positions at present

- Other listed companies

- Senior Executive Vice President, Corporate Excellence, BCPG Public Company Limited

- Non-listed companies

- Director, BCPG Investment Holdings Pte. Ltd.
 - Director, Greenergy Holdings Pte. Ltd.
 - Director, Greenergy Power Pte. Ltd.
 - Director, Advantgarde Capital Company Limited

- Shareholding in the Company: None (As of August 29, 2019)

- Familial relationship between directors and executives: None

- Criminal records on violation of securities and futures contract laws: None



Executives

Ms. Phatpuree Chinkkulkitnivat

Executive Vice President, appointed to BCPG Public Company Limited

- Age 45
- 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
 - Advanced Management Program, Harvard Business School (AMP 192/2017)
 - 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)
 - Euro Money Training on Country Risk Analysis (2007)
 - CFA (“Chartered Financial Analyst”) Charter holder (2002)
 - Lecturer in Corporate Finance for College of Management Mahidol University (2000)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : Executive Vice President, appointed to BCPG Public Company Limited

Others

- 2018 - Present : Senior Executive Vice President, Finance and Accounting, BCPG Public Company Limited
- 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
 - o Senior Executive Vice President, Finance and Accounting, BCPG Public Company Limited
 - Non-listed companies
 - o Director, Impact Energy Asia Development Limited
- Shareholding in the Company: None (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Budit Hansapaiboon

Executive Vice President, Planning and Trading Business

- Age 47
- Education / Training
 - Master of Business Administration, LEHIGH University, USA
 - Bachelor of Engineering (Chemical Engineering), Chulalongkorn University
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : Executive Vice President, Planning and Trading Business and Vice President, Planning and Logistics

Others

- 2018 - 2019 : Senior Vice President, Planning and Logistics and Trading Business
- 2017 : Senior Vice President, Strategic and Supply Planning
- 2016 - 2017 : Vice President, Business Operation Division Bio-product Business Group
- 2014 - 2016 : Vice President, Renewable Energy Business Group
- 2012 - 2014 : Senior Manager, Bangchak Biofuel Company Limited
- Other directorship positions / Other positions at present
 - Other listed companies
 - None-
 - Non-listed companies
 - Director, Bongkot Marine Service Co., Ltd.
- Shareholding in the Company: 696 shares or 0.000051% (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Kittiphong Limsuwannarot

Executive Vice President, appointed to BBGI Public Company Limited

- Age 55
- Education / Training
 - Master of Business Administration, University of Dallas, Texas, USA
 - Bachelor of Science (B.Sc.) Chemical Engineering, Chulalongkorn University
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : Executive Vice President, appointed to BBGI Public Company Limited

Others

- 2015 – 2019 : Vice President – Downstream Market Development
PTT Global Chemical Public Company Limited
: President Thai Bioplastics Industry Association : TBIA
- 2014 – 2018 : Managing Director, Solution Creation Co.,Ltd.
- 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
- Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
-Senior Executive Vice President, New Business, BBGI Public Company Limited
- Shareholding in the Company: None (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Warakorn Kosolpisitkul

Acting Executive Vice President, Marketing Business and Oil Terminal

- Age 53
- Education / Training
 - Master of Business Administration, Stetson School of Business and Economics, MERCER UNIVERSITY, Atlanta Georgia, USA
 - Bachelor of Business Administration, Bangkok University
 - Certificate of Top Management, Duke Corporate Education
 - Leadership Succession Program (LSP), Institute of Research and Development for Public Enterprises (IRDP)
 - Smart Branding & Marketing for Digital Economy (Smart Marketing)
 - Executive Development Program (EDP), FPRI & Kellogg
 - Middle level energy executive, Ministry of Energy
 - Top Executive Program in Commerce and Trade (TEPCoT) Class 12
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 – Present : Acting Executive Vice President, Marketing Business and Oil Terminal
 - 2018 : Senior Vice President, Marketing Business Strategy and Planning
 - 2013 : Vice President, Retail Business
 - 2012 : Vice President, Associated business of Bangchak Green Net Company Limited
: Managing Director Bangchak Green Net Company Limited
 - 2003 : Manager, Business Development Division
 - 2001 : Manager, Central District Division
 - 1997 : Assistant Manager, Metropolitan District Division
- Other directorship positions / Other positions at present
 - Other listed companies
-None-
 - Non-listed companies
 - o Director, Bangchak Green Net Company Limited
 - o Director, Happiness Sharing Foundation
- Shareholding in the Company: 19,885 shares or 0.001444% (As of August 29, 2019)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Ms.Chantip Wongchieowittaya

Acting Vice President, Financial Accounting

(The person supervising accounting since June 10, 2019)

- Age 41
- Education / Training
 - Master of Accountancy, Faculty of Commerce and Accountancy, Chulalongkorn University
 - Bachelor degree of Accountancy, Faculty of Commerce and Accountancy, Thammasat University
 - Financial Management and Business Planning (Year 2019), Japan Cooperation Center Petroleum (JCCP)
 - Executive Management Development Program (EMDP) (Year 2019), Thailand Management Association (TMA)
 - CFO Focus on Financial Reporting Class 6 (Year 2018), Federation of Accounting Professions
- Experience
 - Bangchak Corporation Public Company Limited
 - 2019 - Present : 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
 - None -
- Shareholding in the Company: None (As of August 29, 2019)
- 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	Mrs. Saruda Changsiricharoen	/
	1.4	Mr. Somchai Tejavaniya	/
	1.5	Mr. Yodphot Wongrukmit	/
	1.6	Mr. Warakorn Kosolpisitkul	/
	1.7	Mr. Seri Anupantanan	//
2. BCP Trading Pte. Ltd.	2.1	Mr. Wattana Opanon-amata	/
	2.2	Mr. Surachai Kositsareewong	/
	2.3	Mr. Chalermchai Udomranu	/
	2.4	Mr. Bundit Hansapaiboon	/
	2.5	Mr. Lim Chia Wei Roy	/

Note: The 1.4th to 1.7th and 2.1st to 2.4th 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 Report of the Audit Committee

Report of the Audit Committee

To the Shareholders

The Audit Committee consists of qualified directors who are independent and experienced, with Mr. Suthep Wongvorazathe serving as Chairman, with Pol. Lt. Gen. Chaiwat Chotima and Dr. Porameteer Vimolsiri serving as members.

This year the committee met 12 times, eight of which with the management (in the absence of those with invested interests on applicable items). Below are the meeting attendance records.

Name	Attendance
Mr. Suthep Wongvorazathe	12/12
Pol. Lt. Gen. Chaiwat Chotima	12/12
Dr. Porameteer Vimolsiri	11/12

In addition, the committee twice met with the Enterprise-wide Risk Management Committee (ERMC).

Below are the highlights of the committee's deliberations:

1. Reviewed the quarterly and annual financial statements, related financial reports, information disclosure that was adequate and timely, compliance with generally accepted accounting practices, accounting standards, and key changes in accounting policies. Also, reviewed connected transactions between shareholders and



subsidiaries or related companies. The committee met Bangchak's law team to get updates on significant cases where Bangchak had been sued in court, the outcome of which could have key repercussions on its businesses.

2. Reviewed and ensured that Bangchak

- A suitable, transparent, and efficient internal control system and internal audit practices are in place, complete with independent and efficient monitoring of Internal Control's performance, including its views on internal control weaknesses on pricing and discounts provided by the Marketing Business and the work inspection by the Refinery Business.
- Supported
 - Internal Audit's counseling for subsidiary BBGI Plc.'s and BCPG Plc.'s internal audit system
 - Internal Audit's participation in the ISO 22301 assessment project and counseling on internal audit to the management
 - A program was constantly developed to aid ACL audit (Script) together with OCR (Optical Character Recognition) application to audit work. Ordered more training courses on emerging technologies, including AI and Blockchain
 - Formed a project on the Community of Practices for Internal Audit (COP IA) to develop the competency of internal auditors of Bangchak Group



- Recognized stringent safety for looking after unused equipment, a possible cause of accidents in the refinery
3. Reviewed Bangchak's compliance with all announced accounting standards, legal provisions, SET's requirements, and applicable laws in a thorough, accurate fashion under corporate governance principles, with a focus on exceeding compliance.
 4. Selected, nominated, and proposed pay for KPMG Phoomchai Audit Ltd. as Bangchak's external auditor for 2019; held quarterly discussions with the external auditor about audit-related problems and timely corrective actions on key issues.
 5. Reviewed the adequacy of Bangchak's risk management processes and proceeded with audit under the existing risks. This year meetings were held with ERMC, where this committee advised that committee to
 - Recommended investigation of locating SPAR outlets and merchandise models, including software designed to aid merchandise management. Besides, the shop configuration of SPAR and Inthanin Café located in One Roof buildings should be reviewed for suitability.
 - Recommended risk investigation upon the promulgation of the Personal Data Protection Act
 - Took seriously up-to-date rights of access to assorted business processes
 - Hired additional IT-savvy personnel for higher audit efficiency.



6. Urged and ensured compliance with the refinery's safety and environmental stewardship standards for the surrounding communities and society.
7. Revised the committee's charter in line with SEC's and SET's rules and requirements as well as the corporate governance policy to ensure shareholders, business partners, customers, and other stakeholders that Bangchak's business complies with requirements and the code of conduct while upholding an efficient internal control system.
8. Reviewed Internal Audit's policy and handbook to embrace roles, duties, and responsibility of the Audit Committee and Internal Audit to guide its tasks.
9. Advocated international-standard quality for internal auditor development.

Monitoring Bangchak's performance this year under the assigned scope of duties and responsibility, the Audit Committee feels that Bangchak had prepared materially correct financial statements under the generally accepted accounting principles. Data for connected transactions or those that might produce conflicts of interest were duly disclosed. In place were an internal control system and risk management practices that were adequate and fit business circumstances. Finally, Bangchak accurately and thoroughly abided by the laws, SET's requirements, and applicable legal provisions.



(Signed) *Suthep Wongvorazathe*
(Mr. Suthep Wongvorazathe)
Chairman, Audit Committee
January 23, 2020



Attachment 4 Details of Head of Internal Audit and Head of Compliance Department

Head of Internal Audit

Mr. Pichit Wongrujiravanich

Executive Vice President, Internal Audit

- Age 59
- Education / Training
 - MS (Accounting), Thammasat University
 - BA (Accounting), Thammasat University
 - Higher Certificate in Auditing, Thammasat University
 - Certified Public Accountant, license no. 3766
 - Director Accreditation Program (DAP89/2011), Thai Institute of Directors (IOD)
 - Audit Committee Program (ACP39/2012), Thai Institute of Directors (IOD)
 - Anti-Corruption for Executive Program (ACEP5/2013), Thai Institute of Directors (IOD)
 - Executive Development Program (EDP12), Thai Listed Companies Association.
 - Director Certification Program (DCP198/2014), Thai Institute of Directors (IOD)
 - Leadership Succession Program (LSP7), Institute of Research and Development for Public Enterprises (IRDP)
- Experience
 - Bangchak Corporation Public Company Limited
 - 2015-present : Executive Vice President, Internal Audit
 - 2011 : Senior Vice President, Internal Control Office
 - 2005 : Vice President, Internal Control Office
 - Others
 - 1992 : Assistant to Executive Director, Yontrakit Group
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - None –



- Shareholding in the Company: 11,071 shares or 0.000804% (As of August 29, 2019)
- 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, Sustainability Development and Corporate Compliance and Company Secretary

- Age 58
- 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
 - Executive Development Program (EDP2012), Ministry of Finance
 - Company Secretary Program (CSP34/2010), Thai Institute of Directors (IOD)
 - Director Certification Program (DCP142/2010), Thai Institute of Directors (IOD)
 - Successful Formulation and Execution of Strategy (SFE16/2012), Thai Institute of Directors (IOD)
 - Anti-Corruption: The Practical Guide (ATCG2/2013), 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 (BMD) class 9/2019, Thai Institute of Directors (IOD)



- Experience

- Bangchak Corporation Public Company Limited

- 2018-Present : Executive Vice President, Sustainability Development and Corporate Compliance and Company Secretary
 - 2015 : Senior Vice President, Corporate Compliance, 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, BCPR Pte. Ltd.
 - o Director, BCPR Company Limited
 - o Director, BCP Innovation Pte. Ltd
 - o Director, Bangchak Ventures Pte.Ltd.

- Shareholding in the Company: 15,500 shares or 0.001126% (As of August 29, 2019)
- Relationship among Family with other Directors, management, Major Shareholders or Subsidiaries: None
- Criminal records on violation of securities and futures contract laws: None

Scope of duties

- 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.



Attachment 5 Asset Revaluation

- None -