

Annual Information Filing

As of December 31, 2016

THE BANGCHAK PETROLEUM PUBLIC COMPANY LIMITED

(English Translation)

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1. Policy and Business Overview

1.1 Vision, Objectives, Goals, and Strategies

This year Bangchak revised its vision, mission, and values as annually practiced to ensure that they are in line with business and investment directions, as well as the changing business environment. The details are as follows:

Vision

Evolving Greenovation

To be the Leading Asian Greenovation Group, founded on Good Corporate Governance, through Inclusiveness and Sustainability

Mission

Bangchak commits 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, Learning culture, and happy Workplace.

Objectives and goals

Bangchak is determined to be a Thai energy company engaging in business alongside social and environment stewardship. It aims to strike a good balance between worth and value, with contribution to a better quality of life of the Thai people.



Valuing sustainable growth of the corporation, Bangchak strives to raise its management excellence to world standards. His Majesty the late King Bhumibol's philosophy of "Sufficiency Economy" has been embraced in Bangchak's business management. Having learned from this philosophy that doing a profitable business does not mean profiteering, but sustainable growing into the future with innovative development and advance technology. Bangchak appreciates valuable natural resources and will try to meet its vision of becoming "the leading Asian Greenovation Group" and meet goals concerning the business, society, and the environment by 2020. Below are the essences.

1. Business goals

- 1.1 Refining and Trading Business Group:** Elevating the refinery safety standards, increasing operating efficiency, and refining stability to its highest level with expansion into related businesses, such as oil trading
- 1.2 Marketing Business Group:** Maintaining the second largest domestic market share, developing new formats for service stations with outstanding features fitting each location, while offering new amenities, such as restaurants and new forms of convenience stores in response to evolving customer behavior to win customers' satisfaction and pursue "The Most Admired Brand"
- 1.3 Green Power Business:** Investing in power generation from renewable energy to produce 1,000 MW through BCPG Public Company Limited
- 1.4 Bio Based Products Business Unit:** Continuously expanding the bio-based product business, including biodiesel and



ethanol, while aiming for further biotechnological research and development to achieve innovative bio-based products with high value added

1.5 Natural Resources and Business Development Business:

Expanding business concerning energy, exploration and production, and natural resources, both inside and outside Thailand, as well as research & development and other innovations.

1.6 Corporate Management and Sustainability Development:

Increasing competitiveness and corporate management to develop the company into an excellent employer, forge human resource excellence, relentlessly improve work processes, and promote new mindsets to create innovative products.

1.7 Being open, transparent, and auditable: Conducting an open, transparent business which is auditable. This includes disclosure of information about transparent business under good corporate governance principles and SET regulations.

2. Environmental and social objectives

2.1 To become a low-carbon company that minimizes its net carbon dioxide emission and mitigates climate change impacts

Bangchak sets a goal to become a low-carbon company by continuously improving the refinery's efficiency in energy and resource usages. It also expands investment to the production of alternative/renewable energy, displacing CO2 emission.



2.2 Business development along with social and environmental development

To ensure corporate sustainability, Bangchak engages in business that takes care of society and the environment along while focusing on business growth, including CSR after-process activities and creation of CSV among the business, society, and the environment through CSV/CSR in-process activities.

Bangchak has, moreover, set an extended goal from CSR/CSV to operate a Social Enterprise (SE) to create jobs and revenue, while encouraging people in such community to exercise environmental stewardship where they live.

Business Strategies

Bangchak has formulated a 3S Strategy to attain its organizational goals, both in the short term and long term, as detailed below:

1. Security: Enhancing national energy security

Expanding investment to upstream businesses to supply sufficient energy for the business sector and public demand. Seeking new sources of energy, such as through lithium mining.

2. Stability: Developing business for growth and diversifying risks for secure revenue

Sustainably creating value for the business by increasing the proportion of new-business income. Bangchak invests in green power business and other businesses by focusing on businesses with steady returns and low external risks, both local and overseas, such as green power plants.



3. Sustainability: Developing the business pattern that benefits society and the environment

Keeping business development in balance among business, social and environmental value, Bangchak focuses on sustainable development, such as developing service stations under the concept of “Greenovative Experience”. Moreover, Bangchak pays attention to water, which is a crucial resource in production processes, so it sets target in water usage reduction and waste water reuse to ensure optimal use.

Since the business consumes a large volume of energy, Bangchak has set a goal to become a low-carbon company that minimizes carbon dioxide emission and mitigates climate change impacts.

1.2 Transition and milestone development

2016

- **Rolling out new Vision, Mission, and Values**

The management of Bangchak had revised its corporate vision, mission, and values to ensure alignment with the new directions of the operation and investment, as well as the changing business environment. The new Vision, Mission and Values had been announced since May 2016.

Refinery and Trading Business Group

- **Annual Maintenance Turnaround** were proceeded during February 8 to March 23. It was finished 1 day earlier than planned and enabling the refinery to constantly maintain its high capacity throughout the year.

- **Establishing BCP Trading Pte. Ltd., a subsidiary**

In May, Bangchak set up BCP Trading Pte. Ltd., a wholly owned subsidiary of Bangchak, in Singapore with a registered capital of US\$1 million. The company was tasked with commodity trading, including crude oil, refined products, chemical and petrochemical



products, as well as related businesses such as oil price hedging, contracting vessels, arranging oil storage places, and oil distribution.

- **Establishing Bongkot Marine Service Co., Ltd., an associated company**

Since May, with Bangchak holding 30% shares and Prima Marine Co., Ltd., holding 70%, the joint venture, Bongkot Marine Service Co., Ltd. has been incorporated with a registered capital of Baht 240 million and has been tasked with the supply of an oil floating storage unit to accommodate Bangchak's expanded refining capacity.

Marketing Business Group

- **Establishing Bangchak Retail Co., Ltd., a subsidiary**

In February, Bangchak set up Bangchak Retail Co., Ltd. (BCR), which runs a food and drink business, including Inthanin Coffee and Lemon Kitchen, as well as retail shops, department stores, large and small supermarkets to increase its versatility in the development of non-oil businesses. BCR has a registered capital of Baht 300 million, wholly owned by Bangchak.

- **Launching Green S Revolution products**

In August, Bangchak launched products in the gasoline group produced with Green S Revolution, an innovative technology for vehicles with Direct Injection Gasoline Engine (DIG) in particular, to enhance engine efficiency.

- **Establishing Oam Suk Social Enterprise Co., Ltd., an associated company**

In September, Bangchak established Oam Suk Social Enterprise Co., Ltd., a joint-venture company with 40% shares held by Bangchak and 60% by the Buddhist Economics Foundation. With a registered capital of Baht 10 million, Oam Suk SE runs a business that purchases agricultural produce and organic crops for processing and marketing, distribution, and research & development.

- **Launching SPAR, a new form of supermarket in Bangchak service station**

In November, Bangchak Retail Co., Ltd. (BCR), BCP's subsidiary, launched the first SPAR – a new form of supermarket in Bangchak service station on Ratchaphruek Road. Using the concept of SPAR Fresh & Easy Food Market, SPAR has unique attractions,



including fresh food. BCR is also ready to support community products by developing and selling them under the SPAR brand.

SPAR International Co., Ltd., a major retail and wholesale company of the Netherlands, awarded a master license to BCR to expand its business in Thailand, Myanmar, Laos, and Cambodia. Expansion of 50-80 branches per year, both in the service station and stand-alone, is planned.

Green Power Business

- **BCPG Co, Ltd. acquiring SunEdison Japan and Huang Ming Japan**

February 2016, BCPG Co, Ltd. (BCPG), a Bangchak subsidiary, took over a solar power plant worth Yen 9,626 million in Japan from the SunEdison Group. Of the total installed capacity of 198 MW (contractual capacity of around 164 MW), the plant already had 13 MW in the commercial stage and 185 MW in the development stage.

At the end of the first quarter 2016, BPCG acquired the entire shares of Huang Ming Japan Co., Ltd., a company in Japan. Then in the second quarter, Huang Ming Japan inked a deal to buy plots of land and licenses required for the development of two solar plant projects with a combined contractual capacity of 30 MW against a total installed capacity of 36 MW.

BCPG has teamed up with Agricultural Cooperatives to run solar farms in Ang Thong and Ayutthaya (totaling 12 MW), 7MW of which went on commercial operation this year. This coming year will produce more 5MW added to its generation and sale.

BCPG Plc. listed and starting trading on SET

BPCG Plc. was listed and started trading on September 28, 2016. A total of 590 million shares, worth Baht 5.9 billion, were sold to BCP shareholders and general investors, as well as institutional investors and benefactors, to increase its capital.



Bio Based Products Business Unit

- **Establishing Bangchak Bioethanol (Chachoengsao) Co., Ltd., a joint venture**

Since April 2016, Bangchak changed its investment from buying shares to entering a joint venture with Sima Inter Product Co., Ltd., to set up a company whose name was changed from BCP Bioethanol Co., Ltd. to Bangchak Bioethanol (Chachoengsao) Co., Ltd. With a registered capital of Baht 500 million, the company had Bangchak holding 85% shares and started its commercial operation on October 3, 2016.

- **Bangchak Biofuel Co., Ltd., inaugurating second biofuel plant**

The plant came on stream and started commercial ethanol production with an installed capacity of 520,000 liters per day for a total installed capacity of 810,000 liters per day since June 2016.

Natural Resources and Business Development Business

- **Increasing capital in Nido Petroleum Limited**

In December, Bangchak arranged for a capital increase in BCP Energy International Pte., Ltd. (BCPE), a subsidiary, to allow BCPE to increase its common shares in proportion to its shareholding in Nido Petroleum Limited, worth Australian \$25.94 million, for appraisal drilling in the Mid-Galoc area of the producing Galoc oil field of the Philippines.

Awards of 2016

- SET Sustainability Award for the second consecutive year – in the category of Outstanding Sustainability Awards. The presentation ceremony was held by SET in recognition of listed companies with outstanding sustainable business operations. Awarded companies are honored as role models for other listed companies.
- A top-ten ASEAN listed company with business integrity, according to a survey outcome on business integrity, organized by the ASEAN CSR Network and the National University of Singapore



- Awards won at the '6th Asian Excellence Recognition Awards 2016' event, organized by the Corporate Governance Asia magazine (Hong Kong-based):
 - Best Investor Relations Award for five consecutive years, presented to companies with outstanding investor relations and based on votes and surveys among readers, investors, analysts, etc.
 - Asia's Best CFO Award (Investor Relations) and Best Environmental Responsibility for two consecutive years, based on votes and surveys among readers, investors, analysts, etc.
- Platinum Award, organized by The Asset magazine (Hong Kong-based), in recognition of Bangchak's overall outstanding performance (financial, management, corporate governance, social and environmental responsibility, and investor relations), for the three consecutive year.
- Asia Pacific Entrepreneurship Award 2016, Outstanding Category, for corporate leaders' determination and ability to foster constant business growth with corporate governance and socio-environmental responsibility, organized by Enterprise Asia, an independent promoter and developer of Asian business operators
- Asia Responsible Entrepreneurship Award 2016, Health Promotion, for Bangchak's project designed to better the quality of life and health of its refinery's neighboring families, organized by Enterprise Asia, an independent promoter and developer of Asian business operators
- A top-55 listed company on the Thailand Sustainability Investment (THSI) list for the second year in a row, recognized for Bangchak's sustainable business with extensive social and environmental stakeholders and for its management processes for corporate sustainability, which aid investment decisions for quality shares and long-term returns, organized by the Stock Exchange of Thailand (SET)
- Thailand Quality Class (TQC) for the third year in a row, recognized for Bangchak's integrated corporate management system under the Thailand Quality Award criteria and for its display of world-class quality, organized by the Office of Thailand Quality Awards
- CAC membership certificate: This year Bangchak received first recertification since 2013 under the CAC (Collective Action Coalition against Corruption) Project, launched with the cooperation of eight leading organizations, with the Thai Institute of Directors (Thai IOD) as project secretariat



- CG Award 2016 for two consecutive years, for Bangchak's business conduct under corporate governance principles on transparent, credible information disclosure and in upholding integrity, organized by the Thai Chamber of Commerce, Office of the National Counter Corruption Commission, and University of the Thai Chamber of Commerce.
- Certificate for Outstanding Code of Conduct 2016, presented by the Thailand Chamber of Commerce, for Bangchak's business practices under a code of conduct that induces widespread acceptance, credibility, and faith among the public, both in Thailand and overseas business sectors, organized by the Thailand Chamber of Commerce
- Best Sustainability Report Award 2016, organized by CSR Club, Thai Listed Companies Association, SEC, and Thaipat Institute. The award went to companies with the recognition of Bangchak's valuing of quality reporting under the GRI standard, business integrity, and due regard for stakeholders, society, and the environment. Bangchak has won the award for four consecutive years.
- ESG100 Certificate, for the second year in a row, in recognition of the top 100 listed companies widely acclaimed for ESG (Environmental, Social and Governance), which aids investors' decisions along with financial performance, organized by ThaiPat Institute.
- Thailand ICT Excellence Awards 2016 for Knowledge Management Project, in recognition of Bangchak's efforts to enhance its competitive edge, providing a role model for others. The award was organized by the National Electronics and Computer Technology Center (NECTEC), Software Park Thailand, and the College of Innovation, Thammasat University.
- Certificate for Friendly Design 2016 in recognition of Bangchak's advocacy of friendly designs and application of the philosophy for the handicapped, the elderly, and the public in an effort to promote a decent society, organized by Thailand's Foundation for Friendly Designs.
- Bangchak earned an overall 'Excellent' score for ten consecutive years, based on the assessment outcomes of a survey on CG report of listed companies for 2016, organized by the Thai Institute of Directors (Thai IOD).
- Bangchak scored an 'Excellent' 100% in all AGM criteria for eight years under the '2016 Annual General Meeting Assessment Project', organized by the Thai Investors Association.



- Green Industry Level 5: Green Network – the highest level of Green Industry Awards in recognition of Bangchak’s environment-friendly operations in support of sustainable development. The award aims to honor businesses with continuous improvement and responsibility for society and the environment while encouraging business partners and allies in its supply chain to join the green industry. Initiated by the Ministry of Industry, the Green Industry Award also promotes cooperation with communities and consumers in organizing environmental activities.
- The Best Contact Center Agent – in recognition of outstanding call-center service that impresses customers, organized by the Thai Contact Center Trade Association (TCCTA)

2015

- Achieved a peak refining capacity of 126.6 KBD in June. Also, reached an average refining capacity of 118.4 KBD in August, a record rate since operating the Hydrocrack Unit.
- Bangchak developed UCO (unconverted oil) for export to SK Oil of South Korea for use as a raw material for lube base oil production. High in quality and clean, UCO contains low sulfur and nitrogen.
- Bangchak acquired a 25-MW cogeneration plant located on the compound of Bangchak Refinery from PTT Plc for a total core-asset value of Baht 1,332 million, adding efficiency to its power & steam generation system to be used for refining processes.
- Bangchak launched Green S, new technology products derived from sophisticated processes and containing outstanding properties due to new additives that synergizes two powers:
 - E20S gasohol features outstanding properties due to the S Purifier and S Modifier, which complete fuel combustion in the engine, thus providing power and environmental protection. With less combustion pollutants because of lower sulfur content (10 ppm), E20S is superior to the Euro 5 standard.
 - Hi Diesel S boasts outstanding properties due to the S Power and S Guard additives, which raises combustion efficiency, thus providing power and clean burning, protecting the engine, reducing corrosion, and responding to driving fully.
- Bangchak issued debentures worth Baht 3,000 million with 12-year and 15-year maturity to mainly expand its renewable-energy business under the strategy of renewable-energy leadership. TRIS Rating,



meanwhile, upgraded Bangchak's rating from A-/Stable last year to A/Stable this year.

- PTT Plc sold all its 374,748,571 shares (27.22%) in Bangchak to VAYU1 Fund and the Social Security Office, accounting for 15.25% and 11.97% of Bangchak's paid-up capital.
- Nido Petroleum Ltd. acquired more shares in Galoc Production Co., WLL (GPC), now accounting for 55.88%. Nido Petroleum, Bangchak's subsidiary, acquired more shares in GPC, going from 22.88% to 55.88% and assuming operatorship in the Galoc oil field. This transaction was worth USD 87.4 million (Baht 2,876 million).
- Bangchak's Board of Directors approved its investment in the lithium mining business via shareholding in Western Lithium USA Corporation (a Canada-listed company), which conducts the mining business in the American continent for processing into lithium carbonate, a key raw material for battery production.
- Extraordinary Meeting No. 1/2558 approved a restructuring plan of Bangchak's renewable-energy business by transferring its common shares in subsidiaries in the renewable-energy business group to BCPG, a new company resulting from the restructuring plan for power businesses. The meeting also approved the initial public offering (IPO) of BCPG on SET.
- Bangchak sold all 1,930,500 shares (10.66% of the paid-up capital) of ASEAN Potash Chaiyaphum PCL to S Group AEC (Thailand) Co., Ltd., altogether worth Baht 202 million, since it is not a core business.
- Bangchak has adopted the Thailand Quality Award (TQA) criteria in developing its organizational capability in conjunction with business development to strive for sustainability in human resource development as well as business growth. These guidelines include effective work structural architecture supporting current and future businesses, work process efficiency improvement suitable for all situations, information system and technological modernization, and support of innovations for all employees, aiming to become a knowledge-based organization.
- With a strong commitment to the continuous development of its workforce, Bangchak has defined a clear policy on job rotation to broaden staff skills in preparation for career path development and for current job requirements and expected knowledge and competency in line with the Company vision and business goals. The Competency Base Management System has been adopted to develop human resources systematically. As for personnel development, the Company set the preparation of a successor pool and systemization of career management plans, and continuous learning through



various channels. Moreover, the Company promoted innovation projects in the organization, including employee group activities and cross-functional teams, including the Cascade Project for Innovation, Community of Practice (CoP), and Kaizen activities to promote sharing of knowledge and experiences among them. The ultimate aim of all these activities and projects is to drive Bangchak toward an entity of innovation.

- To upgrade its assessment standard for personnel abilities and administration system, Bangchak applied for participation in the Best Employer Project for Thailand, which helped it detect aspects for further improvement. The exercise added assessment of other aspects besides employee engagement, namely employer brand, leadership, and high-performance culture. The first year's assessment score for Bangchak was 70 as targeted. A roadmap was prepared to constantly close the gaps in the future.
- **Efficiency improvement in work process and preparedness for different scenarios:** To assess, identify, and mitigate risks at all levels impacting business goals, an Enterprise Risk Management (ERM) system was launched. This year the Company introduced Scenario Planning for assessing changing circumstances that are likely to cause risks and have impacts on long-term organization's goals. Scenario planning is regularly presented for the review and monitoring of risk management plans at ERM (Enterprise Risk Management Committee) and PRMC (Price Risk Management Committee) meetings. Bangchak also achieved ISO 22301:2012 certification for Business Continuity Management (BCM).
- **Information system and technological modernization**
To meet the requirements of instant information and technologies to operate all work processes safely, effectively, and smoothly, modernization of information system and technology is a prerequisite. Today's common is the perception of fast technological changes, which could manipulate strong impacts—positive and negative ones. Recognizing the value of IT systems, which lead to convenience, safety, and effectiveness, Bangchak has applied its systems of customers' opinion-sharing and data collection, and more service provision through the IT system and mobile applications. Cases in point were customers' complaint and feedback input through the SAP Call Center and the communication and direct inputting of goods and service-related data through the social media. Besides, data can find rapid applications to efficiently meet the highly dynamic needs of consumers. In addition, the Company has internationalized IT systems in support of work within the organization. For instance, it



adjusted SAP SRM (Supplier Relationship Management) to link its databases to the SAP ERP system for greater efficiency. The Company also modified the BCP Knowledge Management System to accommodate modern, diverse functions to support knowledge-sharing within the organization. Consequently, knowledge can be linked and extended within the same group of companies and become increasingly efficient. In addition, the Company has internationalized IT systems in support of work within the organization. Moreover, Bangchak has installed an enterprise resource planning system through an enterprise network to provide 24/7 access to all employees under ISO 27001, a reliable system standard for network and data center. An additional system, Digital Control System (DCS), was implemented at distillation unit control rooms to ensure the utmost reliability of refining operations, under ISO/IEC 20000-1:2011 in service management system standard. The Company used SAP Enterprise Resource Planning (ERP) SAP ECC6.0, which is modern and international. Thus, the Company could access all analytical and operational data thoroughly and more efficiently. Furthermore, the Company developed Security and Safety Management system and Budgeting Management system (e-budget), in order to improve work more efficiently. The Company also planned IT Road Map for its subsidiaries.

2014

- Planned a 46-day major turnaround period including maintenance for CDU and auxiliary units from May 1st to June 15th, 2014.
- Established Operational Excellence Enhancement, strived for Plant Reliability, and prevented Unplanned Shutdowns through plans encompassing Personnel and Process Safety Excellence, Process Safety Management System. For Efficiency and Reliability Excellence, the Company constantly managed risks through SIL (Safety Integrity Level), RCM (Reliability Centered Maintenance), and RBI (Risk-Based Inspection) for all processes and equipment. As for Environmental Protection Excellence, the Company commissioned experts to upgrade the standards for refinery environmental practices, safety, and work processes, thus garnering recognition worldwide. Besides valuing refinery safety, environment, and process equipment, the Company minimized risks of oil leaks in the transport system by requiring that all crude oil and petroleum product vessels are to be double-hulled.



- Regularly improved refining efficiency by executing the 3E (Efficiency, Energy, and Environment) Project to add value to products by installing a CCR (Continuous Catalytic Regeneration unit) in place of the old one, which will improve consumption of energy and lengthening of turnaround cycles. A construction plan of cogeneration power plants for greater energy stability, and striving to raise its safety level and environmental stewardship.
- Achieved ISO 50001:2011 certification for energy management under the ANAB (American National Accreditation Board), echoing the success in developing and upgrading the standards for energy management systems at Bangchak Refinery and Oil Distribution Centers on a par with world-class refineries.
- Ran knowledge-sharing projects on social and environmental responsibility to grow allies in establishing a Green Society, including business partners, service stations, and the public. In addition, Bangchak continually organized emergency plan training and training on chemicals for communities, schools, and nearby condominiums to strengthen their confidence in safety.
- Expanded and improved its service station network in high-potential areas and constantly improved the settings of service stations. As of year-end 2014, the Company's network commanded 444 standard service stations together with 626 community service stations, for a total of 1,070 Bangchak-brand stations, recognized in "Brand of Choice survey" done by research agency since 2009 as the second top brand for a fifth consecutive year. Bangchak service stations also participated in Ministry of Commerce's project to improve proper sale volume measurement to ensure consumers that oil companies do not shortchange them. Bangchak service stations were duly certified under this project for accurate volumetric measurement, standard quality, good services, and hygienic settings. Compared with service stations of other brands, Bangchak won the highest number of awards for quality and excellence in services.
- "Best Service Station Toilets 2014" by Bangkok Metropolis Administration: The Bangchak Service Station Udomsuk 45 Branch won the unique distinction of being the sole service station chosen for the award, with the clean standard, equipped with amenities and available around the clock. The station's nice-smelling toilets, located in safe and secure areas, can accommodate the handicapped, the elderly, and pregnant women. Bangchak won this award of the Bangkok Metropolitan Administration for the second successive year, in 2013 taking the accolade with the Vibhavadi Rangsit Branch.



- The Company launched “Bangchak Hi-Diesel”, a high-quality new product with better performance due to the Hi Clean additive, which promotes complete combustion, clean engines, and full-strength performance. As a result, consumers save fuels, while the Hi Power additive gives more power to engines.
- Continually promoted and expanded sales of Gasohol E20, and Gasohol E85. The Company raised the number of service stations selling Gasohol E20 by 22, and selling Gasohol E85 by 98. Service stations selling E20 and E85 number were 700 and 200 respectively.
- Executed CRM (Customer Relationship Management) through the Bangchak Gasohol Club Card and Bangchak Diesel Club Card to establish long-term engagement and maintain customer bases. Cardholders accrue points from fuel, food, and service purchases at service stations. In addition, Bangchak developed the “Bangchak Card Connects Thais” for customers of community service stations to expedite their refueling and allow the stations to launch sales promotional activities or customer relationship activities suiting individual locations.
- Promoted and improved the image of service station’s non-oil businesses to generate income and offer complete services serving the need of modern customers. Bangchak joined renowned food & beverage allies like McDonald’s, Black Canyon, and KFC in serving customers at service stations located on main roads. It also expanded and launched Big C Mini convenience stores by 29 branches in 2014, bringing the total to 91. Finally, the Inthanin Coffee outlets, both in and outside Bangchak service stations, grew by 24 during the year to 320 outlets.
- Bangchak lubricants received ISO 9001 (quality management standard) certification and ISO/TS16949 (automotive industry quality management standard) certification, which the latter is the first for a Thai company. Bangchak regularly improves its products. This year the Company issued GE ECO, a lubricant designed for eco-cars and hybrid cars, as well as newer models. To popularize and lead them to greater acceptance of quality, it also staged sales promotional activities for products. A case in point was the “Bangchak Lubricants for Engine Fitting, Fitting You” project, which the Company supported and launched sales booth at Thai Fight boxing matches. Bangchak also constantly focused on lubricant market expansion to the industrial sector and markets in neighboring countries.



- Organized three sales giveaway promotions in support of community goods: seedless velvet tamarind (*dialium cochinchinensis*), roast rice tea/roast rice green tea, and organic brown rice.
- The **biodiesel business**: this year posted an average capacity of 360,000 liters per day, 100% in utilization rate, which met the current biodiesel demand for Bangchak and then more for sale to external business partners to generate income. Bangchak Biofuel Co., Ltd., secured approval from its board of directors to construct a second phase B100 unit with an additional capacity of 450,000 liters per day under an investment outlay of Baht 1.8 billion. An EPC contract was signed in December 2014, with construction underway. Production and commercial sales are expected by the third quarter of 2016.
- The **solar power business**: In 2014, Bangchak fulfilled its 118-MW PPA. Phase 3 of the project, with a 48-MW capacity, consists of 16 MW at Amphoe Kabin Buri, Prachin Buri; 8 MW at Amphoe Dan Khun Thot, Nakhon Ratchasima; 8 MW at Amphoe Prakhon Chai, Buri Ram; 8 MW at Amphoe Nong Ki, Buri Ram, and 8 MW at Tambon Hua Tha-le, Amphoe Bamnet Narong, Chaiyaphum. All projects have been completed and started commercial operation since April 2014.
- **Ethanol business**: Bangchak held common shares in Ubon Bio Ethanol Co., Ltd. This year's output averaged 250,000 liters per day, roughly 76% in utilization rate.
- **Petroleum Exploration and Production business**: In 2014, Bangchak moved into the oversea investment. BCP Energy International Pte. Ltd. (BCP Energy) was set up in Singapore to engage in businesses concerning energy, petrochemical, and natural resources abroad. BCP Energy has acquired 402,951,875 common shares (81.4%) in Nido Petroleum Ltd., which is listed on the Australian securities exchange and engages in oil and gas exploration and production with a focus on Southeast Asian resources. Nido has expanded its investment by signing a share purchase agreement with Otto Energy Ltd. (Otto) to acquire all shares of Galoc Production Company WLL (GPC), a subsidiary of Otto. GPC is a 33% shareholder in the Galoc oil field in the Philippines. If the shareholders' meeting of Otto endorses such transaction, Nido will see its shareholding in the Galoc field rise from 22.88% to 55.88% and assume the operatorship of the field.
- Bangchak has adopted the Thailand Quality Award (TQA) criteria in developing its organizational capability in conjunction with business development to strive for sustainability in human resource development as well as business growth. These guidelines include



effective work structural architecture supporting current and future businesses, work process efficiency improvement suitable for all situations, information system and technological modernization, and support of innovations for all employees, aiming to become a knowledge-based organization.

- Bangchak has strong commitment to the continuous development of its workforce and continuous learning through various channels. Moreover, the Company promoted innovation projects in the organization, including employee group activities and cross-functional teams to promote sharing of knowledge and experiences among them. It also launched innovation projects for summer intern students. The ultimate aim of all these activities and projects is to drive Bangchak toward an entity of innovation.
- To upgrade its assessment standard for personnel caliber and administration system, Bangchak applied for participation in the Best Employer Project for Thailand, which helped it detect aspects for further improvement. The exercise added assessment of other aspects besides employee engagement, namely employer brand, leadership, and high-performance culture. A roadmap was prepared to constantly close the gaps.
- In response to the need for sustainable growth and the need to meet customers' demand more effectively, organizational restructuring was undertaken with the creation of a Business Development and Strategy Group, directly responsible for defining the business strategies and plans coherently with business development plans. Additional work units were integrated at service stations, with a focus on more development of food, snacks, and drinks. More emphasis on work process improvement and innovations was added to materialize physical values in the near future.
- **Efficiency improvement in work process and preparedness for different scenarios**

To assess, identify, and mitigate risks at all levels impacting business goals, an Enterprise Risk Management (ERM) system was launched. This year the Company introduced Scenario Planning for assessing changing circumstances that are likely to produce risks and wield long-term impacts on the organization's goals. Scenario planning is regularly presented for the review and monitoring of risk management plans at ERM (Enterprise Risk Management Committee) and PRMC (Price Risk Management Committee) meetings.

- **Information system and technological modernization**

The Company has internationalized IT systems in support of work within the organization. For instance, it adjusted SAP SRM (Supplier

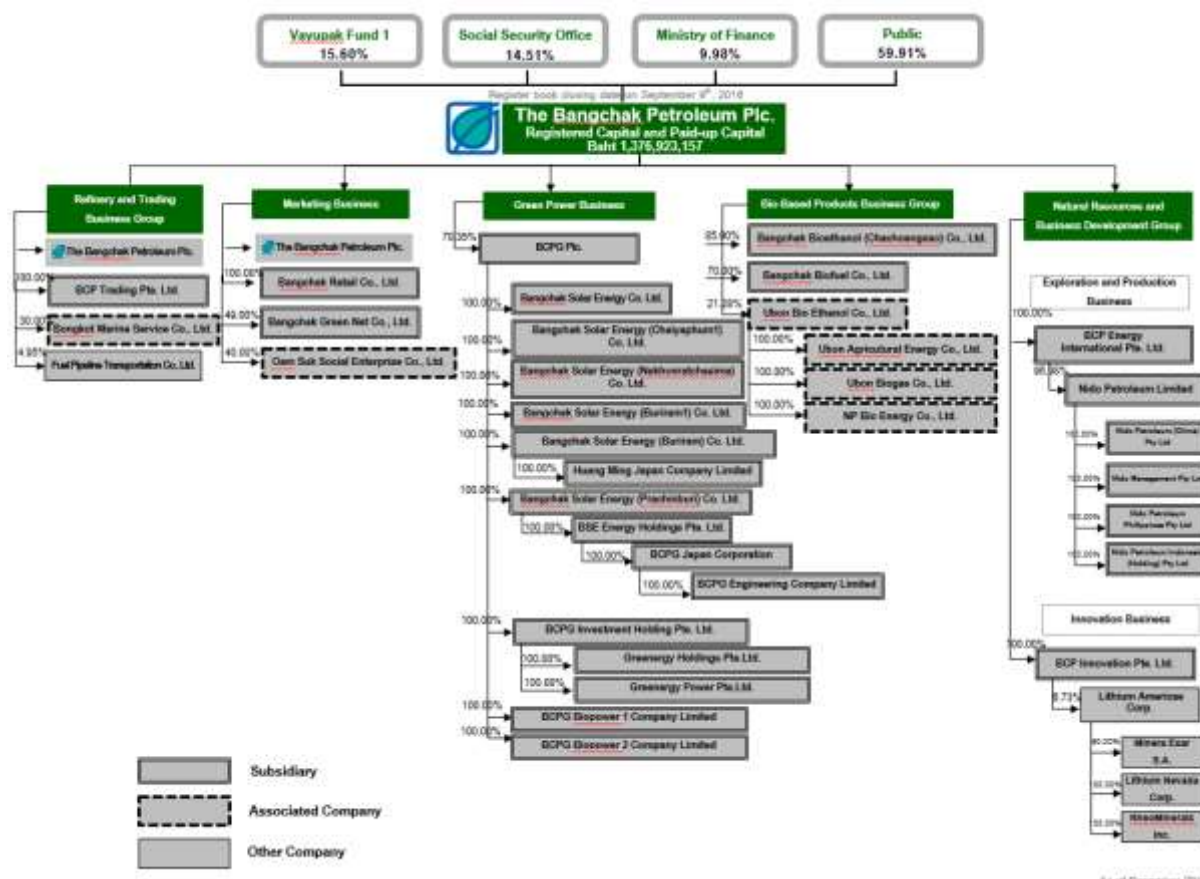


Relationship Management) to link its databases to the SAP ERP system for greater efficiency. Today's common is the perception of fast technological changes, which could manipulate strong impacts—positive and negative ones. Recognizing the value of IT systems, which lead to convenience, safety, and effectiveness, Bangchak has applied its systems of customers' opinion-sharing and data collection, and more service provision through the IT system and mobile applications. Cases in point were customers' complaint and feedback input through the SAP Call Center and the communication and direct inputting of goods and service-related data through the social media. Besides, data can find rapid applications to efficiently meet the highly dynamic needs of consumers.



1.3 Shareholding Structure

Equity Chart of Bangchak Petroleum Plc and Other Companies



Refinery and Trading Business Group

Bangchak’s complex refinery has a nameplate capacity of 120,000 barrels per day, with gasoline and diesel as the majority of the yields. The quality of its gasohol and diesel products meet the public sector’s Euro 4 standard. It focuses on energy stability in its production processes by using electricity and steam derived from its cogeneration power plant, while replacing fuel oil with cleaner-burning natural gas. The company is now ready to raise the efficiency of its processes with the implementation of Efficiency, Energy, and Environment: 3E Project and Yield, Energy Efficiency, Safety and Reliability Enhancement Project: YES-R.

BCP Trading Pte. Ltd. (BCPT)

Established in Singapore, BCPT engages in commodity trading, encompassing crude oil, petroleum and petrochemical products,



chemicals, and related businesses. It has an initial registered capital of US\$1 million, wholly owned by Bangchak.

Bongkot Marine Service Co., Ltd.

This joint venture with a registered capital of Baht 240 million, in which Bangchak holds a 30% stake, engages in supplying and operating Floating Storage Unit.

Fuel Pipeline Transportation Co., Ltd. (FPT)

FPT engages in the business of fuel transport via an underground multiproduct pipeline from Bangchak Refinery, following the railway route to Chong Nonsi Oil Depot, Don Muang International Airport Oil Depot, and finally to Bangchak's Oil Depot at Amphoe Bang Pa-in and to FPT. A pipeline connection was made at the Makkasan area in Bangkok with the system of JP One Asset Co., Ltd., to supply aviation fuels to Suvarnabhumi International Airport. FPT's registered capital is Baht 3.660 billion, and Bangchak's stake here is 4.95%.

Marketing Business Group

The Marketing Business Group sells fuel products and lube fuels to consumers through Bangchak's network of 1,075 service stations nationwide, made up of 460 standard type and 615 agricultural cooperative service stations as of year-end 2016. To provide convenience to customers, the stations offer supplementary businesses under the operation of Bangchak Retail Co., Ltd. In addition, the Marketing Business group also distributes fuel products to industrial users together with the transport sector, airlines, vessels, construction sector, and agricultural sector.

Bangchak Green Net Co., Ltd. (BGN)

With a registered capital of Baht 1 million, of which Bangchak holds 49.0%, BGN engages in service station administration and manages the sale of other consumer products at Bai Chak and Lemon Green convenient store outlets.

Bangchak Retail Co., Ltd. (BCR)

Founded on January 27, 2016, with a registered capital of Baht 300 million, BCR, wholly-owned subsidiary of Bangchak, engages in the food and drink business to accommodate steady growth in the retail business



through the SPAR supermarket brand, Inthanin Coffee, and Inthanin Garden premium coffee shop, and other retail businesses.

Oam Suk Social Enterprise Co., Ltd.

Oak Suk Social Enterprise's initial registered capital is Baht 10 million, of which Bangchak holds a 40% stake. It engages in the purchase of agricultural product and organic crops for processing, marketing, distribution, and R&D.

Green Power Business Group

Under PPAs with EGAT and PEA, Bangchak engages in the solar power generation business (solar farm) under the name of "Sunny Bangchak". In 2015, Bangchak restructured its clean power business by founding BCPG Co., Ltd., to engage and invest in the clean power business by selling the solar farm business (phase 1) and transferring its common shares in its clean power business to BCPG.

BCPG Public Company Limited (BCPG)

With a registered capital of Baht 10 billion, BCPG Public Company Limited engages in the business and invest in clean power generation, domestic and abroad. This year BCPG acquired solar farm business in Japan and was chosen to participate in ground-based solar farm projects for agricultural cooperatives. The total capacity under BCPG's contracts is 324 MW, out of the installed capacity of about 418 MW. On September 28, 2016, BCPG has been listed on the Stock Exchange of Thailand (SET) with an IPO in a portion of 30% of BCPG's paid-up capital. Bangchak holds 70.35% equity in BCPG.

Bangchak Solar Energy Co., Ltd. (BSE)

Wholly owned by BCPG, BSE has a registered capital of Baht 1.8 billion. It manages phase 2 (32 MW) of the solar farm projects, located in Amphoe Bamnet Narong, Chaiyaphum, and Amphoe Bang Pa-Han, Phra Nakhon Si Ayutthaya, each with a capacity of 16 MW, together with phase 3 (48 MW), operated by five subsidiaries. These are located at Amphoe Kabin Buri, Prachin Buri (16 MW) under the operation of Bangchak Solar Energy (Prachin Buri); Amphoe Dan Khun Thot, Nakhon Ratchasima (8 MW) under the operation of Bangchak Solar Energy (Nakhon Ratchasima) Co., Ltd.; Amphoe Prakhon Chai, Buri Ram (8 MW) under the operation of Bangchak Solar Energy (Buri Ram) Co., Ltd.; Amphoe Nong Ki, Buri Ram (8 MW) under the operation of Bangchak Solar Energy (Buri Ram 1) Co., Ltd.; and Tambon Hua Thale,



Amphoe Bamnet Narong, Chaiyaphum (8 MW) under the operation of Bangchak Solar Energy (Chaiyaphum 1) Co., Ltd.

BCPG Investment Holdings Pte. Ltd.

With a registered capital of Singapore \$40,000, BCPG's wholly owned company was founded in Singapore to invest in overseas solar farm businesses. Today in Japan, it boasts a contractual capacity of about 194 MW out of a total installed capacity of about 236 MW, of which 20 MW is already in commercial operation and 174 MW under development and construction. Besides solar power generation, BCPG plans to invest in several other forms of clean-energy power businesses, including biomass, wind farms, and geothermal power plants.

BCPG Biopower 1 Co., Ltd., and BCPG Biopower 2 Co., Ltd.

Both companies develop and operate biomass power plants with a registered capital of Baht 60 million and Baht 20 million respectively, wholly owned by BCPG.

Bio Based Products Business

Bangchak advocates the blending of ethanol with gasoline and biodiesel with diesel to form Gasohol 91, Gasohol 95, Gasohol E20, and Gasohol E85, together with Hi-Diesel for distribution. Bio Based Products Business consists of the following.

Bangchak Biofuel Co., Ltd. (BBF)

BBF has a registered capital of Baht 281.5 million, of which Bangchak holds 70% equity. With crude palm oil as the main raw material, BBF's total biodiesel capacity is now increased to 810,000 liters per day. Located in Amphoe Bang Pa-In, next to Bang Pa-in Oil Depot, Phra Nakhon Sri Ayutthaya, BBF is preparing to construct a prototype plant for high-value bio-based products from palm fatty acids to add value. Also to add value to its products, it has initiated a pure glycerine project.

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

BBE has a registered capital of Baht 500 million, of which Bangchak holds an 85% stake. Located at Amphoe Phanom Sarakham, Chachoengsao, BBE engages in 99.5% ethanol production with a capacity of 150,000 liters/day, based on fresh cassava and cassava chips to accommodate the steady rising demand for ethanol. It is preparing to expand the capacity to 200,000 liters per day.

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

UBE has a registered capital of Baht 2.740 billion, of which Bangchak holds a 21.28% stake. Located at Amphoe Na Yia, Ubon Ratchathani, UBE engages in the ethanol and tapioca flour business with a current capacity of 400,000 liters per day based on fresh cassava, cassava chips, and molasses to enhance ethanol supply security and accommodate Bangchak's sale growth in Gasohol E20 and Gasohol E85. Its subsidiary engages in processing cassava into flour with a capacity of 700 tons per day and operating a biogas power generation plant derived from the treatment of wastewater derived from flour and ethanol processes.

Natural Resources and Business Development

Incorporated in Singapore, BCP Energy International Pte. Ltd. (BCPE) runs and invests in international businesses of energy, petrochemicals, and natural resources. BCPE currently holds common shares in Nido Petroleum Limited, listed on the Australian stock exchange. Nido Petroleum engages in petroleum exploration and production (E&P) with an investment focus in Southeast Asia.

In 2015, Bangchak set up BCP Innovation Pte. Ltd. (BCPI) in Singapore to engage in overseas innovation-based business through investment in Lithium Americas Corporation (LAC), listed on Canada's stock exchange. LAC operates a lithium mining business in Argentina and the United States. Commanding soaring demand, lithium serves as a key raw material for batteries.

BCP Energy International Pte. Ltd. (BCPE)

BCPE has a registered capital of US\$111.4 million, wholly owned by Bangchak. BCPE was founded in Singapore to engage and invest in overseas energy, petrochemical, and natural resource businesses. Today, it has invested in 96.98% of Nido Petroleum Ltd.'s common shares.

BCP Innovation Pte. Ltd. (BCPI)

BCPI has a registered capital of US\$5.1 million, wholly owned by Bangchak. Incorporated in Singapore, BCP Innovation Pte. Ltd. (BCPI) runs and invests in overseas innovation businesses. As of December 2016, it invested in 6.7% of the common shares of Lithium Americas Corporation (LAC).

**Nido Petroleum Limited (NIDO)**

Listed on the Australian stock exchange, Nido Petroleum Limited (Nido) engages in the E&P business with an investment focus in Southeast Asia. It holds rights in producing oil fields, namely Galoc, Nido, and Matinloc in the Philippines with a current combined output of 4,500 barrels per day, as well as rights in fields under development and exploration, namely West Linapacan in the Philippines, and rights in fields under exploration, namely SC6B, SC14D, SC54A, SC54B, SC58, and SC63 in that country. It also owns rights in the Gurita Field of Indonesia.

Lithium Americas Corporation (LAC)

Registered on the Toronto stock exchange, Canada, LAC (6.7% owned by Bangchak) operates a lithium mine for lithium carbonate and lithium hydroxide, key raw materials for batteries with robust trends for batteries of various products, namely hybrid cars, electric cars, assorted electrical appliances, and batteries for large-scale power plants.

LAC is an M&A product between LAC and Western Lithium USA Corporation (WLC) in 2015, both listed on the Toronto stock exchange. It changed its name to WLC and, in 2016, to LAC. Today LAC is developing two mining projects in Argentina and the United States. The Argentina project is run by an affiliate named Minera Exar S.A., with production set to begin in 2019 at 25,000 tons per year of lithium carbonate. The US project is under development and run by another affiliate named Lithium Nevada Corporation. Finally, WLC's businesses also consist of organoclay for petroleum E&P well drilling under the operation of RheoMinerals Inc. (formerly Hectatone Inc.) since 2015, with maximum capacity of 10,000 tons per year.



2. Business Description

Bangchak Petroleum Public Company Limited is a Thai energy company engaging in business alongside social and environmental stewardship. Its core business - petroleum refining - spans procurement of crude oil from domestic and overseas sources and refining it into various standard products. With a current production capacity of 120,000 barrels per day, Bangchak distributes its refined products to over 1,000 retail stations around the country. It has also spread its wings to other businesses, including oil trading, power production from green energy, bio based products, natural resources and innovation business. Bangchak's mission is to enhance national energy security, while investing in new businesses to keep the organization moving forward and ensure sustainability.

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



Refining and Trading Business Group

Bangchak boasts a modern complex refinery with a nameplate capacity of 120,000 barrels per day. Most of its yields are high-value gasoline and diesel. The quality of gasohol and diesel from Bangchak refinery meet the public sector's Euro 4 standard. Bangchak was the first in Asia to produce Gasohol E20 of the Euro 5 standard. The product is environmentally friendly with a sulfur content of lower than 10 ppm—



fivefold reduction from the Euro 4 standard. Bangchak strives for energy stability in the production process by leveraging electricity and steam derived from its cogeneration power plant, while replacing fuel oil with the cleaner-burning natural gas. Bangchak is now ready to raise the efficiency of its refining processes with the implementation of these projects as follows:

- Efficiency, Energy, and Environment Project: 3E
- Yield, Energy Efficiency, Safety and Reliability Enhancement Project: YES-R.
- Installation and commissioning of Advanced Process Control (APC) at Plant 2 and Plant 4 to raise process efficiency while reducing energy consumption
- Preparedness of processes, oil tanks, oil pipelines, and oil vessels, leading to uninterrupted, efficient refining processes. As a consequence, Bangchak's average capacity this year reached 101,000 barrels per day, higher than the goal of 96,000 barrels per day despite a 45-day planned maintenance turnaround (February 8 – March 23). The turnaround proceeded very efficiently and faster than planned, enabling the refinery to constantly maintain its high throughput.
- Planning on crude procurement for high GRMs. Deployed the "roll month" hedging contract to decrease crude oil costs, with a resulting annual average market GRM of US\$5.99 per barrel
- Recognizing environmental and safety impacts during the maintenance work, Bangchak added measures to prevent



harm to the environment together with safety measures by applying chemical decontamination to all area of the refinery to make it easier to clean equipment and cleaner as well as safer for workers. It upgraded work safety standards and forged a safety culture and awareness among all employees by pioneering the Process Safety Management (PSM) system in the refinery.

- Bangchak set up BCP Trading Pte. Ltd., a wholly owned subsidiary in Singapore, to engage in commodity trading, including crude oil, petroleum, petrochemical and chemical products as well as related businesses such as oil price hedging, contracting vessels, arranging oil storage places, and distribution. It has an initial registered capital of US\$1 million.



Marketing Business Group

This year, over 76% of refined products were sold through Bangchak's retail network of over 1,075 stations. Of the total number, 460 were standard stations and 615 were agriculture cooperative service stations (as of the end of December 2016). At present, **Bangchak ranks second in market share**, 15.1% which was a bit higher than last year while some major oil companies lost their market shares, in which sales



to customers in the industrial, transport, aviation, marine, construction, and agricultural sectors were included. In retail marketing, Bangchak stations are positioned for selling fuels from renewable energy, namely Gasohol 91, Gasohol 95, Gasohol E20, Gasohol E85, and Hi-diesel. This year Bangchak unveiled its newly developed “Green S Revolution” products in the above-mentioned gasohol group, which represent innovation for direct injection gasoline engine (DIG). The new products raise combustion efficiency, enhance engine power, eases combustion pollutants, and preserve the environment. Also available at service stations to provide customers with the utmost convenience are supplementary businesses to attract more patrons to service stations, including a convenience store, a coffee shop, and fast cooked-to-order dishes, as well as lube oil-changing and car wash services.

Bangchak’s convenient stores sell consumer products at Bai Chak, Lemon Green, Big C Mini stores at service stations with large space and close to communities (some 166 stores), and six SPAR supermarkets from the Netherlands, piloted at Bangchak’s service stations on Ratchaprhuek Road in Bangkok since November 2016, under the “SPAR Fresh&Easy Food Market” concept. Also, there are some 402 Inthanin Coffee outlets, 46 premium Inthanin Garden Cafes, and “Lemon Kitchen” fast cooked-to-order dishes located on the compounds of service stations, at leading educational institutes, and now expanding to premium commercial locations. In addition, Bangchak has its lube oil-changing and car wash services made available in the form of Green Series business, comprising Green Serve, Green Wash, and Green Tyre.

In addition, Bangchak agricultural cooperative service stations, which operated since 1990, has developed continuously to the 27th year of business alliance with community organization. Bangchak’s policy is to



develop cooperative service stations sustainable by creating standards of quality and service to meet Bangchak standard service stations. This could draw more members and customers to visit cooperative service stations. In 2016, Bangchak develops supporting projects for cooperative service stations. These projects are, for instance, COOP Coaching Project, or training service station management by standard service station team, or COOP Turn Pro project, which supports potential cooperatives to upgrade stations. Cooperative service stations continuously develop new business to strengthen growth for community organization, better well being for members, align with the vision of inclusiveness and sustainability.

This year Bangchak further developed service stations under the “Greenovative Experience” format to accommodate new Thai lifestyles with a 4Rs process (Renewable, Recycle, Reuse, and Reduce). Featured are an installed solar rooftop to generate solar power; an EV charger for electric cars; an automatic plastic bottle collector for recycling into polyester fiber; collection of rainfall and used water to water plants; health-conscious coffee shops’ use of biodegradable cups and organic coffee seeds obtained through forest preservation and chemical-free fertilizers; application of energy-saving materials; and addition of green areas.

Apart from fuel products, Bangchak manufactures and sells special lubricating oil and products like transmission fluids, brake fluids, grease, and others under the “BCP Lubricants” brand, selling them to the domestic market through the Bangchak service station network, outlets, plants, and the OEM (original equipment manufacturer) market. A portion of these were exported.



Bio Based Products Business Unit

Recognizing that renewable energy is imperative for national energy security through reduced trade deficits arising from oil imports, Bangchak promotes ethanol and biodiesel for blending in gasoline and diesel. Its products in this category include Gasohol 91, Gasohol 95, Gasohol E20, Gasohol E85, and Hi-Diesel.

This year Bangchak modified its vision to “Evolving Greenovation” in pursuit of a leading green innovation group of companies with a goal to conduct R&D to extend renewable energy in pursuit of green innovation. The former renewable-energy business unit was therefore restructured into “Bio Based Product Business”, made up of:

- **Bangchak Biofuel Co., Ltd. (BBF)**, 70% owned by Bangchak, engages in the biodiesel business based primarily on crude palm oil, with a nameplate capacity of 810,000 liters per day, as the second biodiesel Plant has operated this year.
- **Bangchak Bioethanol (Chachoengsao) Co., Ltd. (BBE)** Located at Amphoe Phanom Sarakham, Chachoengsao, BBE (85% owned by Bangchak) engages in ethanol production with a capacity of 150,000 liters/day, with commercial production beginning this year. BBE enhances ethanol supply for Bangchak and accommodates the future plan of sales growth in E20 and E85 gasohols.
- **Ubon Bio Ethanol Co., Ltd.** (with 21.28% shareholding), located in Na Yia district, Ubon Ratchathani province,



produces ethanol and cassava flour. Its capacity is 400,000 liters per day of ethanol.



Green Power Business

In 2015, Bangchak's green-power business was restructured with the establishment of BCPG Co., Ltd. (BCPG), to run and invest in the clean power business. To this end, Bangchak sold its common shares in affiliates engaging in green power production, namely Bangchak Solar Energy Co., Ltd. and other five affiliates, to BCPG.

This year BCPG successfully listed on the Stock Exchange of Thailand (SET) with an IPO for up to 30% of its paid-up capital after the IPO to invest more in green power projects in Thailand and elsewhere.

Today, in Thailand BCPG runs solar farms known as Sunny Bangchak with a combined installed capacity of 170 MW, including those run by cooperatives in Ang Thong and Ayutthaya (totaling 12 MW), 7 MW of which went on commercial operation this year. This coming year will produce more 5 MW added to its generation and operation.

BCPG is striving to grow green-energy business overseas by acquiring the business of SunEdison Japan, which owns four operating solar farms in Japan with a combined installed capacity of 13 MW; under construction and development are 185-MW facilities (as of February 2016). The company later completed the construction of the Nikaho Power Plant with an installed capacity of 13 MW and began commercial operation in July. Meanwhile, it acquired a solar farm of Huang Ming



Japan Company Limited in Japan, which is under the developmental stage. As of the year-end, BCPG commanded a total capacity of 26 MW in Japan.



Natural Resources and Business Development Business

Incorporated in Singapore by Bangchak, BCP Energy International Pte. Ltd. (BCPE) engages in international businesses concerning energy, petrochemicals, and natural resources. It currently holds common shares in Nido Petroleum Ltd., listed on the Australian stock exchange. Nido Petroleum conducts petroleum exploration and production with an investment focus in Southeast Asia. This year Bangchak recapitalized BCPE to enable it to add shares in Nido for assessment drilling in the Mid-Galoc area of the Galoc oil field from 81.25% to 96.98%.

Recognizing the robust demand trend for lithium for battery application in renewable power plants for enhanced stability in the power transmission system and generation from renewables, with a rising trend for battery application in electric cars, BCPE engages in innovation-based businesses overseas through investment in Western Lithium USA Corporation, later renamed Lithium Americas Corporation, listed on Canada's stock exchange, and ran lithium mines in Argentina and the United States.

Finally, this year Bangchak founded Bangchak Initiative and Innovation Center (BIIC) to engage in R&D, management of technology and networks, and incubation of startup businesses to drive Bangchak



toward the “Evolving Greenovation” vision, a drive toward Asia’s leading green innovation companies equipped with good corporate governance. Above all, its business is to be run with inclusiveness and sustainability.



Revenue Structure

In 2016, revenue from sales and service as shown in the financial statements of BCP and subsidiaries totalled Baht 144,705 million, of which Baht 137,064 million was posted by the Company. Revenue from subsidiaries included Baht 29,286 million from Bangchak Green Net Co., Ltd. (with 49% shares), Baht 6,830 million from Bangchak Biofuel Co., Ltd. (with 70% shares), Baht 3,084 million from BCPG Public Company Limited and subsidiaries (with 70.35% shares), Baht 1,503 million from Nido Petroleum Ltd. (an indirect subsidiary with 96.98% shares), Baht 31 million from Bangchak Retail Co., Ltd. (with 100% shares), Baht 263 million from Bangchak Bioethanol (Chachoengsao) (with 85% shares), and Baht 876 million from BCP Trading Pte. Ltd. (with 100% shares). Of the total revenue, Baht 34,232 million represented connected transactions, most of which came from sales of refined products through Bangchak Green Net Co., Ltd. The revenue structure of Bangchak and its subsidiaries during 2014-2016, divided by type of products and services, is shown below:

Product/Service	Operated by	2016		2015		2014	
		Revenue (Baht Mill.)	%	Revenue (Baht Mill.)	%	Revenue (Baht Mill.)	%
Refined products ^{1/}	BCP and subsidiary	141,257	96.8	147,797	97.3	177,265	95.6
Electricity	BCP and subsidiary	3,084	2.1	3,010	2.0	2,692	1.4
Consumer products	Subsidiary	364	0.3	333	0.2	361	0.2
Others ^{2/}	BCP and subsidiary	1,195	0.8	733	0.5	5,157	2.83
Total		145,900	100.0	151,873	100.0	185,475	100.0

Note: 1/ The proportions of earnings from sales of refined products in the domestic in 2016, 2015 and 2014 were 91.5%, 89.1%, and 90.3% respectively.

2/ Other revenues (excluding revenue from sales or services) included investment income, gain from crude and product oil price hedging contract, gain from foreign currencies forward contract, gains from foreign exchange and reverse of allowance for loss from impairment assets, share of profit of associates and joint ventures, revenue from sales promotional campaigns, land leases, service station rentals, and equipment rentals.



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-fuelled 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.

In August 2016, Bangchak unveiled its newly developed “Green S Revolution” products for new benzene engine, which first in Thailand represented innovation for direct injection gasoline engine (DIG). The new products raise combustion efficiency, enhance engine power, eases combustion pollutants, and preserve the environment.

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.

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.

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 recertification 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 sulphur 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.

2016 Thai Economic Overview

Economic growth rose from 2.8% recorded in 2015 to 3.2% projected for 2016, reported by the Bank of Thailand. The higher growth rate was driven by a push by the government to accelerate the spending of national budget on both routine expenditures and several new economic stimulus measures, such as for tourism, for household spending, and for private



investment under Royal Decree No. 604 for special tax privileges. Other measures implemented during the year were tax reduction for property transfer, leading to more construction work early in 2016, and reduction in personal income taxes, announced in the last quarter. Despite numerous economic measures, several negative factors remained in the Thai economic fundamentals, including sluggish private investment partially stemming from export contraction due to the weaker economy and slower-than-expected economic growth of trading partners, including the US and the EU, and a significant drop in import of raw materials in China resulting from their economic restructuring. Moreover, the Thai household income in 2016 was pressured by the sluggish demand for labor, which in turn depressed consumption in the private sector.

The Bank of Thailand also reported projected inflation of 0.2% for 2016, a rise of 1.1% from the previous year. The inflationary pressure included a rise in the world oil price and commodities and domestic economic growth.

The Thai GDP growth in 2017 is projected to remain at 3.2%, relatively stable from the 2016 level. Major positive factors are mainly domestic, including higher household purchasing power after the maturation of the First-Car scheme, lowering of personal income taxes and the adjustment in the minimum wage, higher private investment, especially in the service industry, and benefits from megaproject infrastructures invested by the government. Export is set to recover mildly following global economic recovery projected by more positive indicators in certain countries, and higher demand for commodities and consumers' products in neighbor countries under explicit economic stimulus measures.



Summary of Thai economy and inflation

Summary of Thai economy and inflation			
Percentage	2015*	2016	2017
Economic growth	2.8	3.2 (3.2)	3.2 (3.2)
Headline inflation	-0.9	0.2 (0.3)	1.5 (2.0)
Core inflation	1.1	0.7 (0.8)	0.8 (1.0)

* Actual data

() Monetary policy report, September 2016

Source: <https://www.bot.or.th>

The 2017 Thai headline inflation is projected to stay at 1.5%, a slight increase from the previous year due to predicted higher oil prices and the weaker Baht. Under this projection, the Dubai crude price will likely be increasing, and the exchange rate between the Baht and US\$ will average at 35.50.

There are, however, some negative factors behind this economic projection. Export recovery will likely be very limited due to a very slow pace of global economic expansion, driving the slowdown in manufacturing. A significant uncertainty on world oil prices still remains amid speculations of possible failure to effectively control production under the new quota, following some hiccups since Q3/2016. Thailand would have to rely more on domestic economic mechanisms to drive its economic growth in 2017.

Domestic oil business

In line with the national GDP, domestic demand for refined products rose by 3.15% from 111 million liters per day in 2015 to 115 million liters per day in 2016. The increase was driven up by several economic stimulus measure in the service sector, and accelerated spending by state agencies. Even with smaller economic growth as the export sector was under contraction, demand for gasoline and diesel rose by 9.85% and 2.73% respectively, compared to 2015, due to relatively low retail prices. Sales of gasohol products went up by 10.56%, pushing the market share of gasohol up to 95.4% of the total gasoline market.

Another major factor driving up the demand for gasoline and diesel in 2016 was the government's retail price restructuring, under which retail prices



of gasoline and diesel remained low, reflecting low world oil prices. Prices of LPG and NGV, however, remained high. The demand for jet fuel in 2016 dropped by 6.7% following the slowdown in the global economy.

Domestic demand for refined products

Product	Demand (million liters/day)		
	2016	2015	Growth variation
Regular Gasoline	1.34	1.37	-2.19%
Gasohol	27.65	25.01	+10.56%
Gasoline Group	28.99	26.39	+9.85%
Jet fuel	17.93	19.22	-6.71%
Diesel Group	61.71	60.07	+2.73%
Fuel Oil	6.15	5.60	+9.82%
Total	114.78	111.28	+3.15%

Source: Department of Energy Business

Demand for refined products in 2017 is predicted to be stable compared to the 2016 level. This projection is based on trend of growth in the world and Thailand economics, but capped by projected higher oil prices following the lower production quota imposed by major oil-producing countries.

The average domestic supply dropped by 3.89% or 45 KBD from 2015 to 1,088 KBD in 2016. The total crude run was from six main refineries, namely Thai Oil, IRPC, PTT Global Chemical, Esso, SPRC, and Bangchak. The lower supply growth rate was due to major planned annual turnaround of Bangchak and PTT Global Chemical, and the unplanned shutdown of PTT Global Chemical's Olefins Unit#3.

Average crude run by domestic refineries

Refinery	Crude Run (thousand barrels per day, KBD)		
	2016	2015	Growth variation
Thai Oil	337	313	7.67%
IRPC	185	189	-2.12%
Esso	135	142	-4.93 %
SPRC	173	182	-4.95%
PTT Global Chemical	157	193	-18.65%
Bangchak	101	113	-10.62%
Total	1,088	1,132	-3.89%

Source: Energy Policy and Planning Office and The Bangchak Petroleum Public Company Limited



Marketing Business

The number of domestic service stations rose steadily to keep pace with the public policy granting reduced refined-product reserve requirements to in turn cut costs for operators and keep decent marketing margins through the year. As a result, in 2016 the total rose by 569 to 25,602 nationwide. As for the number of service stations selling E20 and E85 gasohol, the year saw 257 and 160 added to the respective tallies to take them to 3,236 and 939, while the market saw growth in the number of gasohol-compatible vehicles, including E20.

Number of service stations

Unit: station

Oil trader	2016 ^{1/}	2015	2014
PTT	1,609	1,578	1,505
Shell	499	491	489
Esso	537	534	511
Bangchak	1,062	1,072	1,070
Chevron	363	362	359
PTTRM	149	147	147
PTG	1,306	1,150	951
Others	20,077	20,009	19,181
Total	25,602	25,343	24,213

Source: Department of Energy Business

Remarks: ^{1/} number of stations as of September 30, 2016

In 2016, sales volumes by domestic service stations averaged 1,985.9 million liters a month, a 9.3% rise from last year's 1,817.1 million liters month. Bangchak posted 9.9% more sales through its service stations, which raised its market share through service stations from 15% to 15.1%, while maintaining the No. 2 domestic market share through service stations.



Sales volume of fuels through service stations for 2015 - 2016

Operator	Average Sales volume (million liters/month)			Market share (%)		
	2016	2015	Δ	2016	2015	Δ
PTT	734.0	674.8	8.8%	37.0	37.1	-0.1
Bangchak	299.2	272.3	9.9%	15.1	15.0	+0.1
Esso	256.6	247.0	3.9%	12.9	13.6	-0.7
Shell	254.3	235.6	8.0%	12.8	13.0	-0.2
Thai Oil	162.7	125.3	29.8%	8.2	6.9	+1.3
PTRM	111.6	108.8	2.6%	5.6	6.0	-0.4
Caltex	97.8	94.7	3.3%	4.9	5.2	-0.3
PTG Energy	30.7	29.1	5.4%	1.5	1.6	-0.1
Susco Group	36.1	27.0	34.0%	1.8	1.5	+0.3
Others	2.9	3.2	-11.0%	0.1	0.2	-0.1
Total	1,985.9	1,817.7	9.3%	100	100	

Source: Department of Energy Business and The Bangchak Petroleum PLC.

The lubricating oil sold by Article 7 traders amounted to roughly 34.5 million liters a month (according to the Department of Energy Business, December 31, 2016), an 11.3% 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.	196	18.23



Station Format		Number (station)	Share (%)
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.	47	4.37
3.	Joint Venture stations (JV): This is a joint investment between Bangchak and operators interested in running the service station business.	56	5.21
4.	Dealer-Owned, Dealer-Operated stations (DODO): The operator is the station owner, land owner, and sole investor, as well as a distribution agent.	161	14.98
5.	Co-Operative stations (CO-OP): These stations are invested by the community. In most cases, the community is the land owner and investor.	615	57.21
Total		1,075	100

Remarks: The Bangchak Petroleum PLC, as of December 31, 2016.

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) Sale to domestic refineries and petrochemical plants – Oil refineries and petrochemical plants normally order products from Bangchak for feedstock.

4) 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	2016		2015		2014	
	Volume	%	Volume	%	Volume	%
1. Outlet & End-User Customers	96.7	71.7	90.5	70.6	82.3	69.5
2. Supply Sales Customers	-	-	-	-	-	-
3. Sale to domestic refineries and petrochemical plants	19.3	14.3	16.3	12.7	16.5	13.9
4. Export Customers	18.9	14.0	21.4	16.7	19.6	16.6
Total	134.9	100.0	128.2	100.0	118.4	100.0

Source: The Bangchak Petroleum PLC.



Sales value of Bangchak's products and services

Products	2016		2015		2014	
	million baht	%	million baht	%	million baht	%
<u>Domestic Sale</u>						
1. High-speed diesel	73,090	53.0	73,857	56.7	81,991	46.8
2. Fuel oil	1,678	1.2	1,814	1.4	3,467	2.0
3. Gasoline	39,371	28.6	41,319	31.7	49,591	28.3
4. Other products and services	13,450	9.8	13,326	10.2	17,240	9.8
Total domestic sale	127,589	92.6	130,318	90.2	152,289	86.9
<u>Export sale</u>						
1. High-speed diesel	2,107	1.5	2,652	1.8	3,237	1.8
2. Fuel oil	6,998	5.1	10,208	7.1	15,966	9.1
3. Gasoline	545	0.4	838	0.6	2,422	1.4
4. Other products and services	599	0.4	438	0.3	1,345	0.8
Total export sale	10,249	7.4	14,136	9.8	22,970	13.1
<u>Combined sales value</u>						
1. High-speed diesel	75,197	54.6	76,509	53.0	85,228	48.6
2. Fuel oil	8,676	6.3	12,022	8.3	19,433	11.1
3. Gasoline	39,916	29.0	42,157	29.2	52,013	29.7
4. Other products and services	14,049	10.2	13,766	9.5	18,585	10.6
Total sales value	137,838	100.0	144,454	100.0	175,259	100.0
% increase/decrease	-4.58		-17.58		-4.42	

Source: The Bangchak Petroleum 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

	2016	2015	2014
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	53.4	59.1	42.4
2. Fuel oil	14.2	16.9	14.9
3. Gasoline	19.8	22.2	17.5
4. Aviation fuel, kerosene	11.1	11.7	8.6
5. LPG	2.6	2.8	2.9
6. Products for internal use and product loss during operation	0.2	0.1	0.0
Total output volume (B)	101.4	112.9	86.5
% increase of output volume	-10.2	30.6	-12.9
% of capacity utilization (B/A)	89.4	99.6	76.2

Source: The Bangchak Petroleum 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.

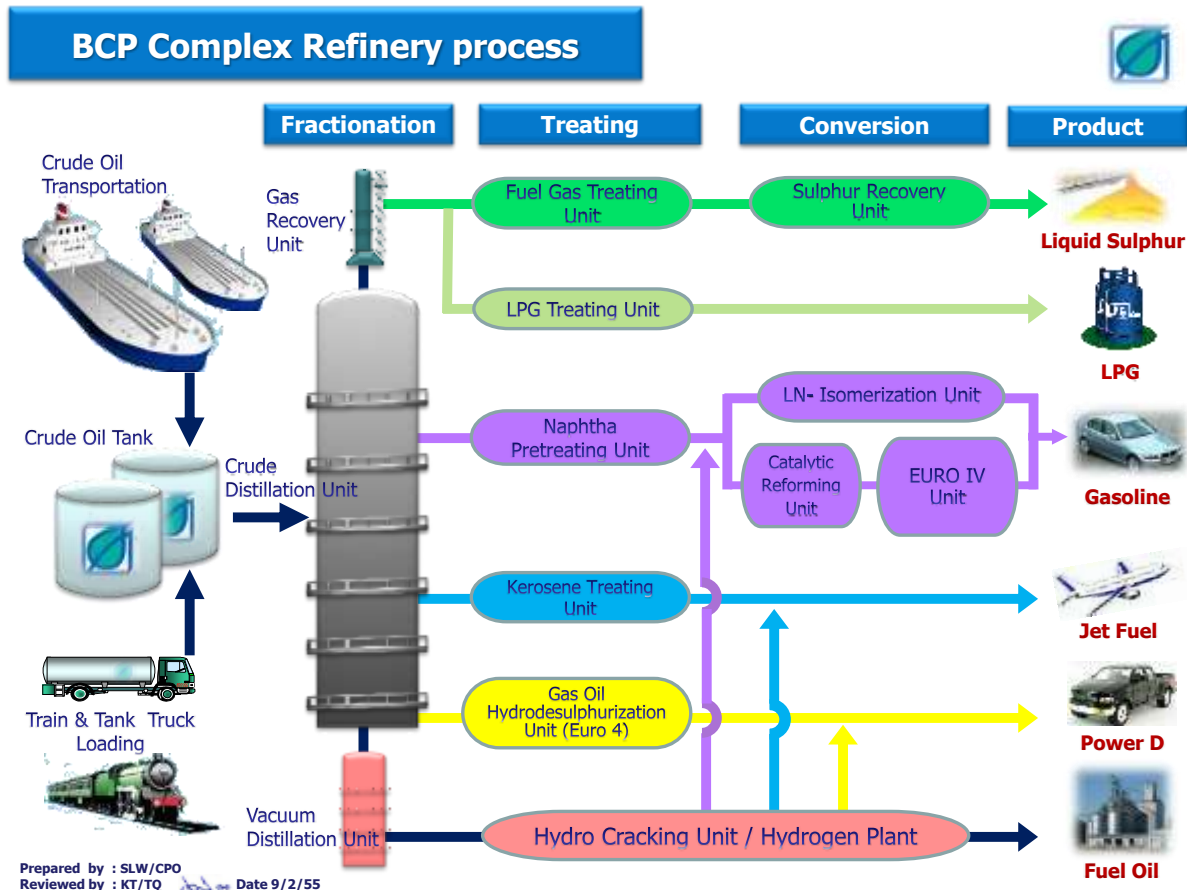


Fuel gas obtained from the process will be refined by removing the sulphur content. Treated fuel oil, diesel after sulphur content removal under the Euro 4 standard, aviation fuel, and cooking gas are kept in storage tanks for sale.

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					
	2016		2015		2014	
	Volume	%	Volume	%	Volume	%
Sirikit	26,944	16.5	29,095	19.1	27,948	20.2
Tantawan	29,830	18.3	25,871	17.0	27,616	19.9
Erawan	31,217	19.1	26,470	17.4	24,681	17.8
Nasanun/Nasanun East	2,096	1.3	718	0.5	706	0.5
Jasmine	12,997	8.0	12,678	8.3	13,759	9.9
Manora	11,029	6.8	12,900	8.5	1,343	1.0
Others	48,967	30.0	44,655	29.3	42,469	30.7
Total	163,080	100	152,387	100	138,522	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 2016, Bangchak procured indigenous crude oil from many fields, totalling 14,312 thousands barrels, which mainly from Sirikit (Phet) field, Pattani Field, Benchamas Field, and others.

This year, Bangchak imported crude 23,548 thousands barrels. There are 85.2% Crude from the Far East fields, such as Labuan and Bunga Kekwa from Malaysia; Seria Light Export Blend, and Champion from Brunei; Banyu Urub and Pangkah from Indonesia, There are 1.3% Curde from the Middle East Field, which is Macila from Yemen. Also, there are 13.5% 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	2016		2015		2014	
	Million Baht	%	Million Baht	%	Million Baht	%
<i><u>Cost of indigenous feedstock</u></i>						
1. Crude and semi-finished products	34,332	38.4	41,381	42.1	64,870	43.2
2. Finished products	9,945	11.1	11,387	11.6	29,602	19.7
Total	44,277	49.5	52,768	53.7	94,472	62.9
<i><u>Cost of imported feedstock</u></i>						
1. Crude and semi-finished products	39,553	44.2	45,182	45.9	50,889	33.9
2. Finished products	5,606	6.3	379	0.4	4,892	3.3
Total	45,159	50.5	45,561	46.3	55,781	37.1
<i><u>Combined costs of indigenous and imported feedstock</u></i>						
1. Crude and semi-finished products	73,885	82.6	86,563	88.0	115,759	77.0
2. Finished products	15,551	17.4	1,766	12.0	34,494	23.0
Total feedstock cost	89,436	100	98,329	100	150,253	100

Source: The Bangchak Petroleum PLC.



3. Risk Factors

Bangchak has introduced risk management to all units, applying related processes under the international COSO ERM and ISO 31000 standards. It has systematically structured risk management, reporting channels, and monitored its outcomes. Risk management at Bangchak falls into corporate, business group, functional, and divisional levels. In addition, Bangchak has transferred risk management to its affiliates to ensure that their risk management plans embrace all components and business processes to accommodate prevailing circumstances that could impact their businesses.

This year Bangchak conducted risk management by first examining internal and external factors that could affect its businesses. For external factors, it reviewed megatrends and data from The Global Risks Report 2016, 11th Edition, published by the World Economic Forum, to come up with risk management plans and identify business opportunities. It found that the risks affecting the core corporate businesses remained Energy Price Shocks, while on the environmental side, Climate Change, Water Crisis, Extreme Weather Events, and Biodiversity Loss and Ecosystem Collapse are increasingly likely.



As a result, Bangchak assessed the risks and impacts of such factors while drawing up plans to forge confidence in corporate goal achievement as follows:

1. Economic risks

To lower risks arising from the highly volatile refining business stemming from the volatile world oil price, Bangchak manages risks to lessen such impacts on short-term and long-term business goals as detailed below:

- Short-term risk management of world oil price volatility

Bangchak monitors oil price situations daily to keep track of trading changes in the world market and presents them to executives and relevant parties, proposing oil price hedging contract engagement as seen appropriate. In charge of monitoring of actions and development of risk management systems, devising policies, and setting goals is the appointed Price Risk Management Committee (PRMC). The bottom line is to minimize business volatility from oil price and foreign exchange that affects business performance.

- Long-term risk management of world oil price volatility

To lower risks facing the oil business subject to the volatile world oil price, Bangchak has expanded its investment into alternative energy and



innovation businesses to grow the proportion of new businesses with steady income streams, which consist of

- Green Power: Bangchak founded BCPG Plc, a subsidiary that grows investment and looks after power generation and other renewable-energy businesses, both domestic and overseas
- Bio Based products: Bangchak expanded its biodiesel capacity to 810,000 liters per day. With a larger nameplate capacity after the second biodiesel unit (520,000 liters per day) came on stream, Bangchak's commercial production and sale went ahead in July 2016. Also founded was Bangchak Bioethanol Co., Ltd., with an ethanol capacity of 150,000 liters per day. Currently, the company has ethanol capacity of 550,000 liters per day.
- Innovation: Bangchak invested in 6.7% of the lithium mining shares operated by Lithium Americas Corp. to accommodate growth in battery-based alternative energy.

2. Operating, Social, and Environmental risks

Bangchak conducts business with primary regard for safety of the environment and society. The management assess risks and their potential impacts on dynamic external and internal surroundings and apply lessons



learned to improve its business processes and devise additional plans. At the same time, they develop and heighten safety standards to ensure

greater confidence in Bangchak's businesses through the following projects:

- Enhance process stability by completing the PMS (Power Management System) in 2016 and constructing a combined-cycle power plant, due for completion in 2017. This would add power stability for the refinery, thus lowering the likelihood of emergency refining suspension.
- Manage risks through continuous SIL (Safety Integrity Level), RCM (Reliability-Centered Maintenance), and RBI (Risk-Based Inspection) to cover both equipment and processes so as to plan equipment repair well ahead of time and properly, as well as reducing accidents.
- Develop a safety system after TIS/OHSAS 18001 standard. In place are HAZOP (Hazard and Operability Studies) assessment and PSM for safety management throughout refining processes.
- Prevent river oil spills by requiring double-hull vessels for crude oil and refined-product tankers.
- Develop and constantly improve safety technology for jetty equipment, system, and tools in line with OCIMF (Oil Company



International Marine Forum) standards, including modernizing the wharf's firefighting system, devising a plan to develop Quick Release Hook vessel berthing, and installing an additional close-circuited camera system.

- Execute the enclosed ground flare construction project to ease community impacts of gas venting through the flare tower, due for completion by 2018
- Display online air quality on two additional billboards (Sai Jai Thai Foundation on Sanpawuth Road and in front of the refinery, near Gate 2, Oil Railway Road) to expand exposure to air quality readings and forge wider confidence among communities and society. In total, Bangchak now has six billboards.
- Stage activities for the understanding and awareness of safety for communities around the refinery (schools, temples, and condominiums) through education on evacuation and firefighting, more extensive installation of communication and warning systems for the communities, and invitation for community representatives to observe emergency drills.
- Pay due regard to risks and impacts of global climate change that could affect corporate businesses, namely



- Water shortage risks: A Refinery Water Management Taskforce seeks an approach for optimal water management to maintain process stability, including the issuance of measures for water consumption reduction, reuse, and recycling with the reverse osmosis technology
- Natural-disaster risks: Bangchak constructed earth dams (ridges) around its solar farms while diligently monitoring water levels at dams ahead of time to have its plans ready for roll-out.
- Support the formulation of a risk management plan against fraud and corruption so as to promote transparent business under corporate governance in line with the risk assessment of bribery concerning state officials under the Constitution's complementary act governing corruption prevention and suppression of 1999 (amended No. 3 of 2015).

3. New business investment risks

Besides alignment with the corporate strategic direction and returns on new businesses, consideration of project risk management in new ventures is most vital. Bangchak requires that each new investment must have a risk management plan approved by ERMIC before further approval by the Board. To this end, a clear, systematic project analytical process is



mandatory for each project stage or period. Imperative are the following conditions: no impacts on the environment or communities, and consideration of risks for the investment country in question. That way, one can be assured of investment project success as planned.

4. Business Continuity Management (BCM)

Bangchak has acquired ISO 22301:2012 standard certification covering its former Head Office (10th floor, Building A, Energy Complex), Bangchak Refinery and Bangchak Oil Distribution Center, Central Region Business Office, and Bang Pa-in Oil Distribution Center for four straight years now. This certification underscores Bangchak's readiness to accommodate crises efficiently under international standards while stakeholders can rest assured that Bangchak can handle emergency responses while continuing to deliver its products.

Bangchak has compiled global risks and assessed those from assorted threats to conclude that terrorist acts are now looming as threats. Therefore, this year it staged a simulated drill under the Business Continuity Plan (BCP) to handle threats of sabotage at the refinery and Bang Pa-in Oil Distribution Center. The drill outcomes were then used in amending emergency procedures, securing additional resources to add efficiency to its BCM (Business Continuity Management) processes and extending the



system to affiliates. To this end, Bangchak informed affiliates to recognize the value and jointly learn and observe drills so as to achieve an efficient

BCM system. That way, they can be assured that, under assorted crises, they can continue to proceed or resume business promptly, securely, and sustainably the way Bangchak can.

Bangchak annually reviews, develops, and improves its corporate risk management processes to enable itself to respond to changing internal and external circumstances by activating efficient risk management plans. The intent is to lower various corporate risks to manageable levels to in turn ensure business achievement against short-term and long-term objectives and goals in a sustainable way.



4. Review of business assets

Asset	Ownership	Book value Baht million ^{1/}	Obligation
Refinery land	Long-term lease	363	None
Other properties	Ownership	1,320	None
Buildings	Ownership	210	None
Machinery & distillation tower equipment	Ownership	19,509	None
Power generators	Ownership	0	None
Sales and office equipment	Ownership	2,169	None
Platinum catalysts ^{2/}	Ownership	239	None
Vehicles	Ownership	104	None
Other assets ^{3/}	Ownership	25	None
Works in progress	Ownership	3,336	None
Total	-	27,275	-

Note:

- 1/ This year Bangchak set aside Baht 55 million in allowance (reversal of) for impairment of land property, machinery, and equipment, consisting of Baht 12 million in property, Baht 15 million in machinery and distillation tower equipment, and Baht 28 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, 2019 Oct. 15, 2019 Dec. 20, 2018
2. GRENA ZENITH SJ	1	Lubricant	Nov. 5, 2026
3. ISO GREEN	1	Gasoline	Jun. 10, 2024
4. GE GOLD	5	Synthetic gasoline-engine lubricant	Jan. 13, 2023 Feb. 12, 2022 Nov. 20, 2021 Dec. 25, 2021
5. GE PLUS	3	Gasoline-engine lubricant	Jan. 13, 2023 Nov. 20, 2021 Dec. 25, 2021
6. GE SILVER	2	Semi-synthetic gasoline-engine lubricant	Nov. 4, 2024 Dec. 25, 2021
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	1	Synthetic diesel-engine lubricant	Oct. 9, 2023
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, 2018
16. D3 COMMONRAIL TURBO	1	Diesel-engine lubricant	Oct. 30, 2018
17. POWER D B5	1	High-speed diesel	May 20, 2019
18. BANGCHAK POWER D	1	High-speed diesel	Jul. 10, 2018
19. LEMON GREEN [®]	1	Drinking water	Feb. 23, 2019
20. SUPER POWER D B5 (EURO 4)	2	Diesel-engine lubricant Diesel	Nov. 3, 2020 May 2, 2022
21. SUPER POWER D (EURO 4)	2	Diesel-engine lubricant Diesel	Nov. 3, 2020 May 2, 2022
22. INTHANIN COFFEE	2	Drinks, cakes, bread, fruit juices	Sep. 29, 2025



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry ¹
23. INTHANIN GARDEN	5	Key chains, cups, drinks, toasts, sandwiches, cakes, cookies, pies, French bread, fruit juices, sweet drinks	Mar. 29, 2025
24. PREMIO INTHANIN	5	Drinks, biscuits, cups, plates, tokens, water bottles, pens	Feb. 13, 2021
25. INTHANIN PREMIO BY BANGCHAK	3	Water bottles, water containers, cups, plates, food, bowls, pens	Feb.13, 2021
26. INTHANIN PREMIO COFFEE BY BANGCHAK	5	Drinks, biscuits, tokens, shirts, caps, umbrellas, sunshades	Feb.13, 2021
27. GE NGV	1	Semi-synthetic gasoline-engine lubricant	Dec. 25, 2021
28. GE PLATINUM	1	Synthetic gasoline-engine lubricant	Dec. 25, 2021

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, 2018
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	1	Goods sales management	Oct. 10, 2026
7. GRENA CARCARE	1	Vehicle cleaning, maintenance & repair	Feb. 23, 2019
8. Gold food plate (black & white)	1	Sale of goods, foods, and drinks	Sep. 4, 2023
9. Gold food plate (colored)	1	Sale of goods, foods, and drinks	Sep. 4, 2023
10.LEMON GREEN [®]	2	Goods sales management	Feb. 23, 2019 Nov. 18, 2023
11. GREEN AUTO SERVICE	1	Automotive maintenance & repair	Jul. 24, 2025
12.GREEN SERVE	1	Vehicle maintenance	Sep. 1, 2025



Service logo	Number of registered logos	Goods/service under logo	Expiry ¹
13.Green Wash	1	Vehicle cleaning & lubrication	Sep. 1, 2025
14.GREEN WASH AUTOCARE	2	Vehicle cleaning	Jul. 25, 2026
15.GREEN WASH EXPRESS	1	Vehicle cleaning	Jul. 25, 2026
16.GREEN BIKE EXPRESS	1	Motorbike maintenance	Jul. 25, 2026
17. GREEN TYRE EXPRESS	2	Tyre sale & mending	Aug. 15, 2026
18. GREEN WASH THE PREMIUM	1	Vehicle cleaning	May 20, 2019
19. INTHANIN PREMIO COFFEE BY BANGCHAK	2	Food & fresh coffee business management	Feb. 13, 2021
20. PREMIO INTHANIN	2	Food & fresh coffee business management	Feb. 13, 2021
21. Baichak	1	Food & drink sale	Mar. 15, 2021
22. Baichak Mart	2	Food & fresh coffee business management, Miscellaneous goods for consumers' convenience	Jan. 18, 2022 Apr. 1, 2023
23. Bangchak colored strips, three colors leaf	1	Vehicle service station	Sep. 24, 2023
24. BUBBLY TEA	1	Food & drink sale	Jun. 4, 2024
25. HURRICANE ICE	1	Food & drink sale	Jun. 4, 2024
26. MILK AND BREAD	1	Food & drink sale	Jun. 4, 2024
27. LOW COST	1	Vehicle service station	Apr. 28, 2025
28. INTHANIN COFFEE	3	Food & fresh coffee business management	Sep. 29, 2025 Oct. 11, 2025
29. INTHANIN GARDEN	1	Food & drink sale	Mar. 29, 2025



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. INTANIN COFFEE (Registered in Myanmar) [®]	1	Food & fresh coffee business management	-
10. BAICHAK MART (Registered in Myanmar) [®]	1	Miscellaneous goods for consumers' convenience	-
11. GREEN SERVE (Registered in Myanmar) [®]	1	Vehicle maintenance	-
12. Bangchak leaf and BANGCHAK (Registered in Myanmar) [®]	2	Fuel products & Vehicle service station	-
13. Bangchak leaf and BCP (Registered in Myanmar) [®]	2	Fuel products & Vehicle service station	-



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
14. Bangchak leaf and BANGCHAK (Registered in Cambodia)	2	Fuel products & Vehicle service station	Nov. 19, 2020
15. Bangchak leaf (Registered in PRC (China))	1	Fuel products	Jan. 6, 2021
16. Bangchak leaf and BCP LUBRICANTS (Registered in Jordan)	1	Fuel products	Nov. 23, 2023
17. Bangchak leaf and BCP LUBRICANTS (Registered in Philippines ⁴)	1	Fuel products	Jun.1, 2025
18. Bangchak leaf and BCP LUBRICANTS (Registered in Kenya)	1	Fuel products	Dec. 9, 2023
19. Bangchak leaf and BCP LUBRICANTS (Registered in OAPI countries ⁵)	1	Fuel products	Dec. 6, 2023
20. INTHANIN COFFEE (Registered in PRC (China))	1	Food & fresh coffee business management	Feb. 20, 2025
21. INTHANIN COFFEE (Registered in Vietnam)	1	Food & fresh coffee business management	Sep. 2, 2023
22. INTHANIN COFFEE (Registered in LPDR (Laos))	1	Food & fresh coffee business management	Dec. 4, 2024
23. BAICHAK MART (Registered in PRC (China))	1	Miscellaneous goods for consumers' convenience	Jan. 27, 2025
24. BAICHAK MART (Registered in Vietnam)	1	Miscellaneous goods for consumers' convenience	Sep. 2, 2023
25. BAICHAK MART (Registered in LPDR (Laos))	1	Miscellaneous goods for consumers' convenience	Dec. 4, 2024
26. GREEN SERVE (Registered in LPDR (Laos))	1	Vehicle maintenance	Dec. 4, 2024
27. Bangchak leaf and BANGCHAK (Registered in PRC (China))	1	Service stations	Jan. 27, 2025
28. Bangchak leaf and BANGCHAK (Registered in LPDR (Laos))	2	Fuel products, service stations	Dec. 4, 2024



Trademark	Number of registered trademarks	Goods/services under trademark	Expiry
29. Bangchak leaf and BANGCHAK (Registered in Vietnam)	2	Fuel products, service stations	Sep.29, 2023 Nov. 18, 2023
30. Bangchak leaf and BCP (Registered in PRC (China))	1	Fuel products	Jan. 13, 2025
31. Bangchak leaf and BCP (Registered in LPDR (Laos))	2	Fuel products, service stations	Dec. 4, 2024
32. Bangchak leaf and BCP (Registered in Vietnam)	2	Fuel products, service stations	Sep.29, 2023
33. Bangchak leaf and Bangchak (Registered in Cambodia)	2	Fuel products, service stations	Oct. 1, 2023
34. Bangchak leaf and BCP (Registered in Cambodia)	2	Fuel products, Service stations	Oct. 1, 2023
35. Bangchak leaf and BCP LUBRICANTS (Registered in PRC (China))	1	Fuel products	Jan. 17, 2024
36. Bangchak leaf and BANGCHAK (Registered in PRC (China))	1	Fuel products	Jan. 27, 2025
37. Bangchak leaf and BCP LUBRICANTS (Registered in Malaysia)	1	Fuel products	Jun. 10, 2025
38. INTHANIN COFFEE (Registered in Cambodia)	1	Food & fresh coffee business management	Sep. 5, 2023
39. BANGCHAK MART (Registered in Cambodia)	1	Miscellaneous goods for consumers' convenience	Sep. 5, 2023
40. GREEN SERVE (Registered in Cambodia)	1	Vehicle maintenance	Sep. 5, 2023
41. Bangchak leaf and BCP (Registered in PRC (China))	1	Fuel products, Service stations	Oct. 21, 2023
42. Bangchak leaf and BCP LUBRICANTS (Registered in PRC (China))	1	Fuel products	Aug. 13, 2025
43. INTHANIN (Registered in Myanmar) [®]	1	Food & fresh coffee business management	-
44. INTHANIN GARDEN (Registered in Myanmar) [®]	1	Food & fresh coffee business management	-



Trademarks and Service Marks under deliberation in Thailand

Trademark	Number of registered trademarks	Goods/services under trademark	Remarks
1. GE SYNTECH	1	Semi-synthetic gasoline engine lubricant	Filed Jun. 17, 2013
2. WASH PRO	1	Vehicle cleaning, maintenance & repair	Appealed Apr. 22, 2016
3. Moo Yang Ta Dang	1	Food & Beverages service	Filed Feb. 16, 2016
4. LE-MON KITCHEN	1	Food & Beverages service	Filed Apr. 22, 2016
5. LE'MON KITCHEN	1	Food & Beverages service	Filed Apr. 22, 2016
6. INTHANIN	4	Souvenirs, Fruit juices, syrup, coffees, teas, cocoa, breads, cakes, cookies, food & beverages	Filed Jul. 13, 2016
7. Hi Diesel S	1	Fuel products	Filed Jul. 13, 2016
8. Gasohol E85 S	1	Fuel products	Filed Jul. 13, 2016
9. Gasohol E20 S	1	Fuel products	Filed Jul. 13, 2016
10. Gasohol 91 S	1	Fuel products	Filed Jul. 13, 2016
11. Gasohol 95 S	1	Fuel products	Filed Jul. 13, 2016
12. SUPER 1	1	Lubricants	Filed Sep. 13, 2016
13. GREEN S REVOLUTION	2	Fuel products, vehicle service station	Filed Sep. 13, 2016
14. COFE' TO GO	1	Artificial milk, coffees cocoa, teas, food & beverages	Filed Dec. 9, 2016

Trademarks and Service Marks under extension process in Thailand

Trademark	Number of registered trademarks	Goods/services under trademark	Remarks
1. GE GOLD	1	Synthetic gasoline-engine lubricant	Dec. 9, 2016
2. D3 GOLD	1	Synthetic diesel-engine lubricant	Dec. 9, 2016
3. D3 TURBO PLUS	1	Semi-synthetic diesel-engine lubricant	Dec. 9, 2016



Trademark	Number of registered trademarks	Goods/services under trademark	Remarks
4. BANGCHAK MAXDRIVE	1	Gasoline additive	Dec. 9, 2016
5. GE GOLD SM	1	Synthetic gasoline-engine lubricant	Dec. 9, 2016
6. GE PLUS	1	Gasoline-engine lubricant	Dec. 9, 2016
7. GE SILVER	1	Semi-synthetic gasoline-engine lubricant	Dec. 9, 2016
8. SUPER HDX	1	Diesel-engine lubricant	Dec. 9, 2016
9. D3 EXTRA PLUS	1	Diesel-engine lubricant	Dec. 9, 2016
10. D3 PICK UP PLUS	1	Diesel-engine lubricant	Dec. 9, 2016

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 - LPDR - Iraq - Turkmenistan	3	Fuel products	Filed on: Nov. 20, 2013 Aug. 3, 2015 Jun. 23, 2015
2. Bangchak leaf and BANGCHAK, registered in PRC (China)	1	Fuel products & service stations	Filed on Sep. 27, 2013
3. GREEN SERVE registered in Vietnam	1	Vehicle maintenance	Filed on Sep. 3, 2013
4. Bangchak leaf and BCP LUBRICANTS registered in Turkmenistan	1	Fuel products	Filed on Jun. 23, 2015
5. Bangchak leaf and BCP LUBRICANTS, registered in Iraq	1	Fuel products	Filed on Aug. 3, 2015

Note:

- ❶ Registered trademarks and service logos are in effect 10 years from registration dates and extendable every 10 years
- ❷ Belongs to Bangchak Green Net Co., Ltd., a subsidiary
- ❸ 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



- ④ In registering trademarks in Philippines, one must submit Declaration of Actual Use within 3 years from filing.
- ⑤ 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

Below are details as of December 31, 2016, about Bangchak's ongoing legal dispute(s) to which the company is a party; which could significantly affect its business; and which did not result from routine business conduct.

- Bangchak was sued as a joint defendant (defendant No. 5) together with the Ministry of Finance (defendant No. 1) in a tort on the eviction of plaintiff from state property around the Bangchak Refinery pier, rented from the Ministry of Finance. The damages demanded amounted to Baht 1,055 million. On June 3, 2009, the Civil Court read the verdict of the Appeal Court dismissing the case, against which the plaintiff filed an appeal to the Supreme Court, which is considering the case.
- Bangchak was sued as a joint defendant (defendant No. 1) together with a company (defendant No. 2) for violating a contract concerning appointment of a lubricating oil distribution agent. The plaintiff demanded damages of Baht 45.64 million and later added a suit for Bangchak's contract violation, demanding damages for its revocation of lubricating oil distribution rights of Baht 688.28 million. Both cases are under the deliberation of a lower court. In any case, Bangchak maintains its proper compliance with all terms.



6. General information and other key information

- Company Name : The Bangchak Petroleum Public Company Limited
- Head Office : 2098 M Tower Building, 8th Floor
Sukhumvit Rd., Bangchak
- Phra Khanong, Bangkok 10260
- Nature of business : Nature of business: An oil refinery with a nameplate capacity of 120,000 barrels per day and a petroleum business covering retail and wholesale
- 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, 2016) 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 (as of December 31, 2016)

- Vayupak Fund 1	214 Million shares	15.60%
- Social Security Office	197 Million shares	14.31%
- Ministry of Finance	137 Million shares	9.98%
- Minor Shareholders	829 Million shares	60.11%
Total	<u>1,377 Million shares</u>	<u>100.00%</u>
- Customers
 - The public, via Bangchak service stations and those of dealers nationwide
 - Industrial sector, including industrial plants



- Transport and service sectors, including airliners, ocean-going vessels, hotels, trucks, and construction work
- Agricultural sector, via agricultural cooperative service stations
- Overseas export markets.

- Office and Terminals
 - Head Office
2098 M Tower Building, 8th Floor, Sukhumvit Road, Bangchak, Phra Khanong, Bangkok 10260
Tel. 0-2335-8888, Fax 0-2335-8000
Email: info@bangchak.co.th
 - Bangchak Refinery and Terminal
210 Soi Sukhumvit 64, Bangchak, 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. 0-3535-0289, 0-3535-0292
Fax (Central Region Business Office) 0-3535-0290
Fax (Bang Pa-In Terminal) 0-3527-6920
 - Northern Region Business Office
87/9 Siri Yee-wan Building,
3rd Floor, Thung Hotel Road, Tambon Wat Ket, Amphoe Muang, Chiang Mai 50000
Tel. 0-5330-0484, Fax 0-5330-0485
 - Northeastern Region Business Office
499 Moo 12, Mitraphab Road, Tambon Muang Kao, Amphoe Muang, Khon Kaen 40000
Tel. 0-4326-1751-52, 0-4326-1789,791, Fax 0-4326-1790
 - Southern Region Business Office
Room 402, 4th Floor, P.C. Tower, 91/1 Moo 1, Kanchanawithi Road, Tambon Bang Kung, Amphoe Muang, Surat Thani 84000
Tel. 0-7722-4790-2, Fax 0-7722-4793
 - Samut Sakhon Oil Distribution Center
100/149 Moo 1, Tambon Tha Chin, Amphoe Muang, Samut Sakhon 74000
Tel. 0-3482-0519-520, Fax –none-
 - Si Racha Oil Distribution Center
115/14 Moo 10, Tambon Thung Sukhla, Amphoe Si Racha, Chon Buri 20230, Tel. 0-3849-3179, Fax 0-3849-3129



- Rayong Oil Distribution Center
1, 3B Road, Tambon Map Ta Phut, Amphoe Muang, Rayong
21150, Tel. 0-3860-9389, Fax 0-3860-9413
- Surat Thani Oil Distribution Center
104/1 Moo 2, Surat-Pak Nam Road, Tambon Bang Kung,
Amphoe Muang, Surat Thani 84000
Tel. 0-7727-5056-8
- Song Kla Oil Distribution Center
3/26 Moo 6, Tambon Sa Ting Mor, Amphoe Singha Nakorn, Song
Kla 90280
Tel. 0-7433-2782, Fax 0-7433-2782
- Suksawat Lubricant Oil Distribution Center
196 Moo 1, Suksawat Road, Tambon Pak Khlong Bang Pla Kot,
Amphoe Phra Samut Chedi, Samut Prakan 10290
Tel. 0-2815-6997-8
- Subsidiaries
 - BCPG Public Company Limited (BCPG)
99/1 Moo 9 (Highway No. 3048), Tambon Bang Krasan,
Bang Pa-in District, Ayudthaya 13160
Tel.0-2619-0778 Fax. 02619-0779
Email: info@bcpgroup.com
Website: <http://www.bcpgroup.com>
 - 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
 - Bangchak Retail Co., Ltd. (BCR)
223/94 Country Complex, Building A, 18th Floor, Sanpawut Rd.,
Bangna, Bangna, Bangkok 10260
Tel. 0-2335-4995 Fax. 0-2361-2252
 - Bangchak Biofuel Co., Ltd. (BBF)
28 Moo 9 (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in
District, Ayudthaya 13160
Tel. 0-3527-6500 Fax. 0-3527-6549
Website: <http://www.bangchakbiofuel.co.th>



- Bangchak Bioethanol (Chachoengsao) Co.,Ltd. (BBE)
96/10-11 Moo 7, Tambon Koh Kanoon, Amphoe Panomsarakham, Chachoengsao 24120
Tel. 0-3809-0670-2 Fax. 0-3809-0673

- Bangchak Solar Energy Co., Ltd. (BSE)
99/1 Moo (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in District, Ayudtthaya 13160
Tel. 0-3527-6000 Fax. 0-3527-6014
E-mail: info-sunny@bangchak.co.th
Website: <http://www.bangchak.co.th/sunny-bangchak/>

- Bangchak Solar Energy (Prachinburi) Co., Ltd.
99/1 Moo (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in District, Ayudtthaya 13160
Tel. 0-3527-6000 Fax. 0-3527-6014

- Bangchak Solar Energy (Chaiyaphum 1) Co., Ltd.
99/1 Moo (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in District, Ayudtthaya 13160
Tel. 0-3527-6000 Fax. 0-3527-6014

- Bangchak Solar Energy (Buriram) Co., Ltd.
99/1 Moo (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in District, Ayudtthaya 13160
Tel. 0-3527-6000 Fax. 0-3527-6014

- Bangchak Solar Energy (Buriram 1) Co., Ltd.
99/1 Moo (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in District, Ayudtthaya 13160
Tel. 0-3527-6000 Fax. 0-3527-6014

- Bangchak Solar Energy (Nakhonratchasima) Co., Ltd.
99/1 Moo (Highway No. 3048), Tambon Bang Krasan, Bang Pa-in District, Ayudtthaya 13160
Tel. 0-3527-6000 Fax. 0-3527-6014

- BCP Energy International Pte. Ltd.
8 Marina Boulevard # 05-02, Marina Bay Financial Centre,
Singapore 018981



- BCP Innovation Pte. Ltd.
8 Marina Boulevard # 05-02, Marina Bay Financial Centre,
Singapore 018981

- BCP Trading Pte. Ltd.
8 Marina Boulevard #05-02, Marina Bay Financial Center,
Singapore 018981

- Nido Petroleum Limited
Aquila Centre, Level 3, 1 Preston Street, COMO WA 6152,
Australia
Tel. +61 8 9474 0000
Fax. +61 8 9474 0099
E-mail: reception@nido.com.au
Website: www.nido.com.au



- Information on Reference Persons

Securities Registrar	The Stock Exchange of Thailand 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
Registrar and Debenture Holders Representative	Bangkok Bank Public Company Limited 333 Silom Road, Silom, Bangrak, Bangkok 10500 Thailand Tel. 0-2230-1478 Website: www.bangkokbank.com Bank of Ayudhya Public Company Limited 1222 Rama III Road, Bang Phongphang, Yan Nawa, Bangkok 10120 Thailand Tel. 0-2296-5689 Website: www.krungsri.com
Legal Advisor	Baker & Mckenzie Ltd. 25 th Floor, Abdulrahim Place, 990 Rama IV Road, Silom, Bangrak, Bangkok 10500 Thailand Tel. 0-2636-2000 Fax. 0-2636-2111 LS Horizon Limited 14 th Floor, GPF Witthayu Tower, A 93/1 Wireless Road, Lumpini, Phatumwan, Bangkok 10330 Thailand Tel. 0-2627-3443 Fax. 0-2627-3250



Clifford Chance (Thailand) Limited
130-132 Sindhorn Building Tower 3,
21st Floor, Wireless Road, Lumpini,
Phatumwan, Bangkok 10330 Thailand
Tel. 0-2401-8800 Fax. 0-2401-8801

**Chandler and Thong-ek Law Officers
Limited**
20 Bubhajt 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 March 6, 2017)		Number of Shares	Shareholding (%)
1.	Vayupak Fund 1	214,866,400	15.60
2.	Social Security Office	197,134,697	14.32
3.	Ministry of Finance	137,442,767	9.98
4.	Thai NVDR Co., Ltd.	102,945,553	7.48
5.	Krungsri Dividend Stock LTF	41,339,400	3.00
6.	STATE STREET BANK EUROPE LIMITED	35,311,538	2.56
7.	AIA Company Limited-EQ4-P	30,000,069	2.18
8.	STATE STREET BANK AND TRUST COMPANY	24,203,598	1.76
9.	Bangkok Life Assurance PLC	21,456,800	1.56
10.	Krungsri Dividend Stock Fund	19,752,300	1.43
Top 10 Total		824,403,122	59.86
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 March 6, 2017)		Number of Shares	Shareholding (%)
1.	N.C.B.TRUST LIMITED-NORGES BANK 5	22,879,400	1.66
2.	BNY MELLON NOMINEES LIMITED	11,406,100	0.83
3.	THE BANK OF NEW YORK MELLON	8,964,200	0.65
4.	RBC INVESTOR SERVICES BANK S.A.	7,464,600	0.54
Total		50,714,300	3.68

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



• Issuance of other securities

Debentures

Bangchak was ranked at A (stable) for credit rating of the company and its debt instruments by TRIS Rating Co., Ltd. Below are the details of its debentures as of December 31, 2016 and 2015:

	Consolidated financial statements		Separate financial statements	
	Year-end 2016 (Baht million)	Year-end 2015 (Baht million)	Year-end 2016 (Baht million)	Year-end 2015 (Baht million)
Debentures	16,000.00	16,000.00	16,000.00	16,000.00
Less issuance expenses before amortization	(12.43)	(15.79)	(12.43)	(15.79)
Total	15,987.57	15,984.21	15,987.57	15,984.21

On March 3, 2015, Bangchak issued debentures which unsubordinated and unsecured without a Debentureholders' Representatives in the Name-Registered Certificate valued at Baht 1,000 each. Interest is paid every June 30 and December 30 through maturity of each tranche, detailed below:

Value (Baht million)	Interest rate (% per year)	Maturity (years)	Maturity date
2,000	4.72	12	March 3, 2027
1,000	5.05	15	March 3, 2030

On April 11, 2014, Bangchak issued debentures which unsubordinated and unsecured without a Debentureholders' Representatives in the Name-Registered Certificate valued at Baht 1,000 each. Interest is paid every June 30 and December 30 through maturity of each tranche, detailed below:

Value (Baht million)	Interest rate (% per year)	Maturity (years)	Maturity date
2,000	3.73	3	April 11, 2017
2,000	4.35	5	April 11, 2019
2,500	4.81	7	April 11, 2021
3,500	5.18	10	April 11, 2024



On April 30, 2012, Bangchak issued debentures which unsubordinated and unsecured without a Debentureholders' Representatives in the Name-Registered Certificate valued at Baht 1,000 each. Interest is paid every June 30 and December 30 through maturity of each tranche, detailed below:

Value (Baht million)	Interest rate (% per year)	Maturity (years)	Maturity date
2,000	4.92	7	April 30, 2019
1,000	5.35	10	April 30, 2022

Under the requirement governing debenture issuers' rights and duties, Bangchak must comply with the stated requirements and conditions, including the maintaining of financial ratios.

• Dividend policy

The Bangchak Petroleum Public Company Limited 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	2011	2012	2013	2014	2015	2016 (first half)
Earnings per share (Baht/share)	4.24	3.10	3.38	0.52	3.01	1.79
Annual dividend (Baht/share)	1.65	1.25	1.35	1	2.00	0.80
Dividend rate (%)	39	40	40	192	66	45

Subsidiaries' dividend policies (only dividend-paying ones)

- 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.

- Bangchak Biofuel Co., Ltd.

Dividend payment must have the approval of an AGM and will be made only when the company has allocated at least 5% of its net profit in a given year as provisional capital until the provisional capital reaches 10% of the registered capital. The Board may consider interim dividend payment to shareholders but not as long as it still has cumulative losses.

- BCPG Public Company Limited

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

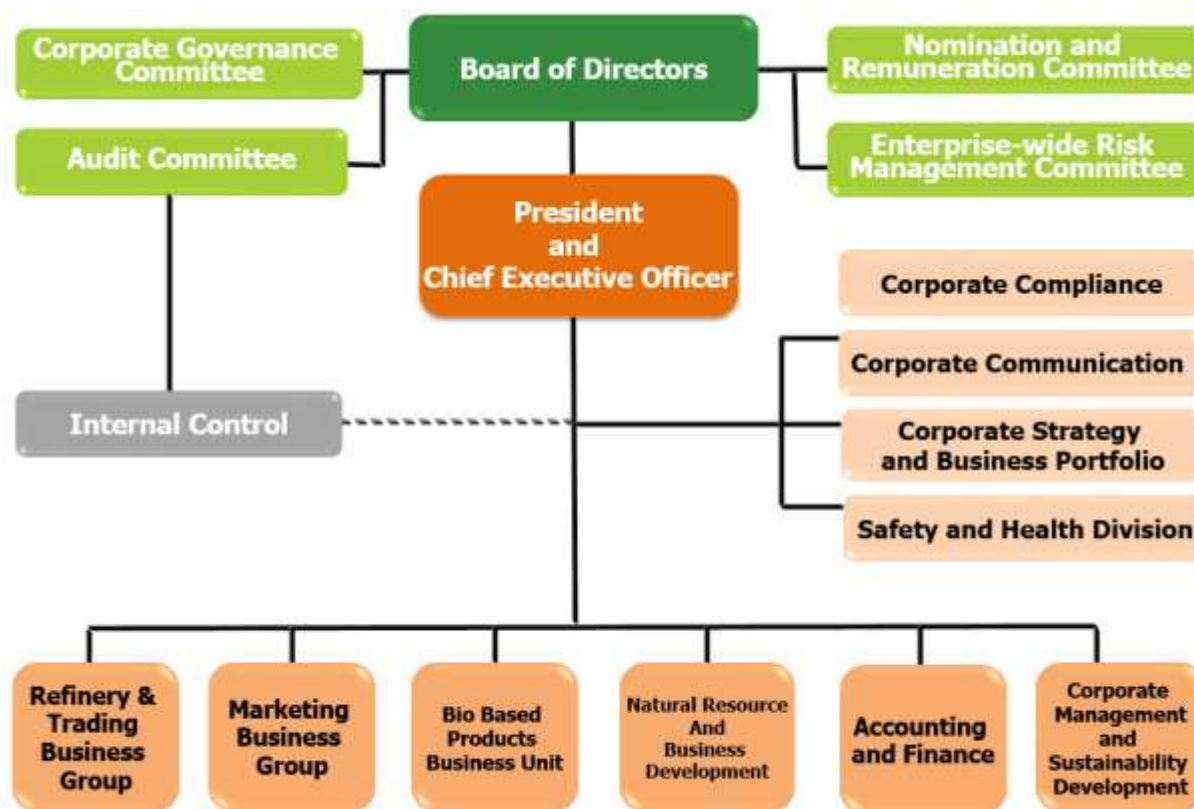
- Bangchak Solar Energy Co., Ltd., and five other companies under project areas

This company's dividend payment is no lower than 80% of the net profit appearing in its separate financial statements after deducting all provisions under the company's regulations and under the law, subject to the cashflow remaining after deducting the company's annual obligations and annual investment plan requirements, together with other considerations considered suitable and essential by its board of directors.



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 2016

Notes: The Audit Committee considers, appoints, transfers, and assesses the performance of the head of Internal Control Office, in addition to reviewing the unit's independence

1. Board of Directors : 15 Directors (As of December 31, 2016)

	Name	Position	Appointment date
1.	Mr. Pichai Chunhavajira	- Chairman	April 24, 2012
2.	Prof. Dr. Chai-Anan Samudavanija	- Vice Chairman (Independent Director) - Chairman of the Nomination and Remuneration Committee	April 24, 2003
3.	Mr. Surin Chiravisit	- Vice Chairman (Independent Director) - Chairman of the Corporate Governance Committee	April 8, 2010



	Name	Position	Appointment date
		<ul style="list-style-type: none"> - Member and Secretary of the Nomination and Remuneration Committee 	
4.	Mr. Suthep Wongvorazathe	<ul style="list-style-type: none"> - Independent Director - Chairman of the Audit Committee - Member of the Nomination and Remuneration Committee 	October 30, 2012
5.	Pol.Lt.Gen. Chaiwat Chotima	<ul style="list-style-type: none"> - Independent Director - Member of the Audit Committee - Member of the Nomination and Remuneration Committee 	April 9, 2014
6.	Lt.Gen.Apirat Kongsompong	<ul style="list-style-type: none"> - Independent Director - Member of the Nomination and Remuneration Committee 	September 26, 2014
7.	Adm. Sucheep Whoungmaitree	<ul style="list-style-type: none"> - Independent Director - Member of the Corporate Governance Committee 	May 26, 2015
8.	Mr. Krisada Chinavicharana	<ul style="list-style-type: none"> - Independent Director - Member of Audit Committee 	November 23, 2015
9.	General Vitch Devahasdin	<ul style="list-style-type: none"> - Independent Director - Member of the Corporate Governance Committee 	April 5, 2016 (replacing Dr. Vikrom Koompirochana)
10.	Mrs. Prisana Praharnkhasuk	<ul style="list-style-type: none"> - Independent Director - Member of the Audit Committee 	April 5, 2016 (replacing Asst.Prof.Dr. Anusorn Tamajai)
11.	Mr. Prasong Poontaneat	<ul style="list-style-type: none"> - Director (Representative from Ministry of Finance) - Chairman of the Enterprise-wide Risk Management Committee 	April 24, 2012
12.	Mr. Visit Vongruamlarp	<ul style="list-style-type: none"> - Director (Representative from Ministry of Finance) - Member of the Enterprise-wide Risk Management Committee 	April 8, 2015
13.	M.L. Puntrik Smiti	<ul style="list-style-type: none"> - Director (Representative from Social Security Office) - Member of the Corporate Governance Committee 	October 27, 2015
14.	Dr. Prasert Sinsukprasert	<ul style="list-style-type: none"> - Director - Member of the Enterprise-wide Risk Management Committee 	April 5, 2016 (replacing Mrs. Arunporn Limskul)
15.	Mr. Chaiwat Kovavisarach	<ul style="list-style-type: none"> - President and Chief Executive Officer - Member and Secretary of the Corporate Governance Committee 	October 30, 2012



Name	Position	Appointment date	
	<ul style="list-style-type: none"> - Member and Secretary of the Enterprise-wide Risk Management Committee - Secretary to the Board of Directors 		
Directors whose terms were completed and resigned in 2016			
1.	Asst.Prof.Dr. Anusorn Tamajai	<ul style="list-style-type: none"> - Independent Director - Chairman of the Audit Committee 	April 25, 2002 (Completed term on April 5, 2016)
2.	Mrs. Arunporn Limskul	<ul style="list-style-type: none"> - Independent Director - Member of the Audit Committee 	April 10, 2013 (Completed term on April 5, 2016)
3.	Dr. Vikrom Koompirochana	<ul style="list-style-type: none"> - Independent Director - Chairman of the Corporate Governance Committee 	April 10, 2013 (Being Independent Director on May 22, 2015) (Completed term on April 5, 2016)

The names and number of the authorized directors who have authority to sign on behalf of the Company are: Mr. Pichai Chuhavajira 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 Lt.Gen.Apirat Kongsompong or Mr. Visit Vongruamlarp or Adm. Sucheep Whoungmaitree or Mrs. Prisana Praharnkhasuk, 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 minimum 5 and maximum 15 directors without gender discrimination. Today there are 15 of them, with two female members.
- 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 subcommittee in view of clear-cut responsibilities and duties.**

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 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 (effective from the date the Company receives the letter of 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 Remuneration

“To provide remuneration for Directors, the Company focuses on people with knowledge, capability, experience, sound career profile, leadership, vision, morality, ethics and good attitude toward the organization, who can dedicate adequate time for the Company’s benefit. Moreover, consideration was also given to Board diversity and Board skill matrix in order to nominate the Directors’ qualifications by **considering skills which have been missing and also appropriate qualifications in compliance with the structure of Directors and in line with the Company’s business strategies. 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.”

Directors’ nomination

1. Bangchak allows minor shareholders to nominate directors by submitting their names to the company.
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 company decided that directors can serve for maximum consecutive terms as follows:

“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.”



Directors do not hold more than three consecutive terms, meaning that they cannot serve for more than nine years (three years in each term) to allow the Company to find other qualified Directors for the maximum benefit of the Company.

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. Lead the Company in business administration by defining and reviewing its vision, objectives, main goals, and business strategies, and by pursuing helpful information, while freely expressing views.
3. **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.**
4. Manage business for sustainable value, which includes sound performance, creating value with long-term perspectives, ethical and responsible business that benefits or eases socio-environment impacts (Good Corporate Citizen), and resilience to changes.
5. Ensure that all Directors and employees are filled with Duties of Care and Duties of Loyalty, and that they are engaged in transactions free of conflicts of interest.
6. Independent and non-executive Directors are prepared to express their opinions freely in formulating strategies, management, use of resources, appointment of Directors and business standard as well as to disagree with other Directors or the administration on conflicts that affect the equality of all shareholders.
7. Establish a Corporate Governance Policy and Code of Conduct to guide Directors and employees, with an annual review and assessment.
8. Exemplify compliance with the Corporate Governance Policy and Code of Conduct, together with the Stock Exchange of Thailand's (SET's) policy on good practices for Directors of listed companies.
9. Establish an effective and reliable accounting system, financial report, internal controls and internal audit.
10. Establish a system for risk management through appropriate and sufficient risk management guidelines and measures, with regular monitoring.
11. Establish a suitable, transparent, and fair executive recruitment system under which Executive Vice Presidents upward must be appointed by the Board.



12. Establish a suitable executive compensation system to inspire them and benchmark them with prevailing industry practices, linking it with Key Performance Indicators (KPIs). Short-term compensation means monthly salaries and bonuses; long-term compensation is individually decided, for instance, Employee Stock Option Program (ESOP) and Employee Joint Investment Program (EJIP).
13. Appoint a Company Secretary under securities and exchange laws to advise the Board on essential laws and regulations, handle document preparation for Board meetings, handle key Board documents and activities, coordinate compliance with Board resolutions, and disclose the Company Secretary's qualifications and experience in the Annual Report and on the Company's website.
14. Regularly and fully report to the shareholders the corporate status and its outlooks (positive and negative) with adequate rationales.
15. Assess and review the performances of itself and the President and Chief Executive Officer each year for improvement.
16. Report on one's own portfolio of securities, as well as those of their spouses and children under legal age, in the Company and affiliated companies to the monthly Board of Directors' meeting and must report to the Company without delay in the following cases:
 - Directors or related person with vested interests in Bangchak's or its affiliates' management
 - Hold shares or debentures in the Company or the subsidiary companies.
17. 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
- 18. 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.**

Role of the Chairman, leader of the Board

1. Steer, monitor, and ensure efficient performance of the Board in fulfilling the Company's objectives and main goals.
2. Ensure full participation by the Directors in advocating a corporate culture of ethics and Good Corporate Governance.
3. Set Board meeting agenda in consultation with the President and Chief Executive Officer, with measures to ensure that essential matters are included



4. Allocate adequate time for the management to table matters and for Directors to thoroughly discuss important matters
5. Promote Directors' exercising of full discretion, their attention to all matters brought to the meetings, and corporate governance matters
6. 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

- Scheduled monthly meetings for the year are agreed in advance by the Board
- **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 President and Chief Executive Officer so that the management may take actions on such issues.
- **Each Board meeting should be attended by no less than three-quarters of the Board. The same applies to the number of Directors in attendance for each voting agenda item.**
- 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)



This year **the Board held 12 regular meetings, five extra meetings and two annual seminars on corporate strategies with the management to revise the corporate vision and set goals every five years (2015-2020)** under Bangchak's vision, mission, and values, together with an assessment of business circumstances.

Orientation of new directors

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.

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:

- Organizing a "Vision and Mega-Trend" seminar for the Board and management team
- Organizing a lecture on "Growth Trend of Electrical Vehicles" for the Board
- Organizing a visit to a geothermal power plant in New Zealand for the Board.
- Thai Institute of Directors (IOD) Program:
 - Advanced Audit Committee Program (AACP23/2016): Dr. Vikrom Koompirochana
 - Role of the Chairman Program (RCP38/2016): Dr. Vikrom Koompirochana
 - Boards that Make a Difference (BMD1/2016): Asst.Prof.Dr. Anusorn Tamajai
 - Director Certification Program (DCP221/2016): Adm. Sucheep Whoungmaitree
 - Director Certification Program (DCP229/2016): Dr. Prasert Sinsukprasert

As of today, three directors have attended IOD's Director Accreditation Program (DAP) and nine have attended its Director Certification Program (DCP). Training details appear under "The Board".



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 (Audit Committee-AC)

Audit Committee must consist of at least three Independent Directors and at least one member must be knowledgeable or experienced in accounting and finance or audit, sufficient for ensuring the reliability of the Company's Financial Report.

Name	Position
1. Mr. Suthep Wongvorazathe	Chairman and Independent Director with expertise in accounting and finance
2. Pol.Lt.Gen. Chaiwat Chotima	Member and Independent Director
3. Mr. Krisada Chinavicharana	Member and Independent Director
4. Mrs. Prisana Praharnkhasuk	Member and Independent Director with expertise in accounting and finance, and graduated in accounting
Executive Vice President, Internal Control	Secretary

Scopes, duties and responsibilities

- 1) To ensure accuracy and adequacy of the Company's financial reporting according to the Accounting Principles governed by laws.
- 2) To ensure that the Company has suitable and efficient internal control system and internal audit and to assure 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 Stock Exchange of Thailand (SET) 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 out and on the responses from the management.
- 6) To empower the auditing and investigating of all related party under the authorization of the Audit Committee and also to authorize in



- hiring 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 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 control office 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 Control Office
 - 11) To appoint, transfer, and undertake annual evaluation of the Chief Audit Executive and review the independence of Internal Control Office.
 - 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
 - (1) transaction which lead to conflict of interest
 - (2) dishonest, extremely unusual or remiss Internal Control system
 - (3) breaking the securities and exchange law, regulations of the exchange or laws relating to business of the Company,The Audit Committee has to report any of those to the Board of Directors so as to modify and revise within prescribed time. If the Board of Directors or executives does not modify and revise within 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 perform any other act assigned by the Board of Directors with approval of the Audit Committee.

Audit Committee has rights to revoke the external auditor's contract if the external auditor does not perform, neglects its duties, or is engaged in malfeasance.

2. Nomination and Remuneration Committee (NRC)

The Nomination and Remuneration Committee consists 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. Prof. Dr. Chai-anan Samudavanija (Resigned on January 26, 2017)	Chairman and Independent Director
2. Mr. Suthep Wongvorazathe	Member and Independent Director
3. Pol.Lt.Gen. Chaiwat Chotima	Member and Independent Director
4. Lt.Gen.Apirat Kongsompong	Member and Independent Director
5. Mr. Surin Chiravisit (Appointed as Chairman of NRC on January 26, 2017)	Member and Secretary, Independent Director

Scopes, duties and responsibilities

1. Define required qualifications 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 duties assigned by the Board of Directors.

3. Enterprise-wide Risk Management Committee (ERMC)

The Enterprise-wide Risk Management Committee consists of at least three persons and at least one member must be knowledgeable in risk management. External person can be member if qualified by the specified criteria.

Name	Position
1. Mr. Prasong Poontaneat	Chairman and Non-Executive Director
2. Mr. Visit Vongruamlarp	Member and Non-executive Director
3. Mr. Prasert Sinsukprasert	Member and Non-executive Director
4. Mr. Chaiwat Kovavisarach	Member and Secretary, Executive Director



Scopes, duties 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 duties assigned by the Board.

4. Corporate Governance Committee (CGC)

The Corporate Governance Committee consists of at least three persons and at least one member must be knowledgeable in corporate governance principles in line with international standards. The Chairman of the committee must be an Independent Director.

Name

Position

- | | |
|-------------------------------|---|
| 1. Mr. Surin Chiravisit | Chairman and Independent Director |
| 2. General Vitch Devahasdin | Member and Independent Director |
| 3. Adm. Sucheep Whoungmaitree | Member and Independent Director |
| 4. M.L. Puntrik Smiti | Member and Non-executive Director |
| 5. Mr. Chaiwat Kovavisarach | Member and Secretary,
Executive Director |

Scopes, duties 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 duties assigned by the Board.



Summary of Board and Sub-committees meeting attendance

	Names	Meeting attendance / total (times)								Remarks
		Board of Directors			Sub-committees					
		Meetings	Seminar	Total	AC	NRC	ERMC	CGC		
1	Mr. Pichai Chunhavajira ^{1/}	17/17	2/2	19/19	-	-	-	-		
2	Prof. Dr. Chai-Samudavanija Anan	5/17	1/2	6/19	-	0/4	-	-		
3	Mr. Surin Chiravisit ^{2/}	17/17	2/2	19/19	-	4/4	2/2	3/3		
4	Mr. Suthep Wongvorazathe ^{3/}	17/17	2/2	19/19	12/12	4/4	-	-		
5	Pol.Lt. Gen. Chotima ^{4/} Chaiwat	17/17	2/2	19/19	7/9	4/4	-	-		
6	Lt.Gen. Apirat Kongsompong	14/17	2/2	16/19	-	4/4	-	-		
7	Adm. Whoungmaitree Sucheep	17/17	1/2	18/19	-	-	-	3/3		
8	Mr. Krisada Chinavicharana ^{5/}	14/17	1/2	15/19	7/9	-	2/2	-		
9	Mr. Prasong Poontaneat ^{6/}	15/17	1/2	16/19	-	-	5/6	-		
10	Mr. Visit Vongruamlarp	17/17	2/2	19/19	-	-	6/6	-		
11	M.L. Puntrik Smiti	16/17	1/2	17/19	-	-	-	2/3		
12	Mrs. Prisana Praharnkhasuk ^{4/}	10/13	1/2	11/15	7/9	-	-		Appointed on April 5, 2016	
13	Gen. Vitch Devahasdin ^{7/}	12/13	1/2	13/15	-	-	-	3/3	Appointed on April 5, 2016	
14	Dr. Prasert Sinsukprasert ^{8/}	11/13	2/2	13/15	-	-	4/4		Appointed on April 5, 2016	
15	Mr. Chaiwat Kovavisarach	17/17	2/2	19/19	-	-	6/6	2/3		
Directors whose terms were completed and resigned in 2016										
1	Asst.Prof.Dr. Tamajai Anusorn	4/4	-	4/4	3/3	-	-	-		Completed term on April 5, 2016
2	Mrs. Arunporn Limskul	4/4	-	4/4	3/3	-	-	-		Completed term on April 5, 2016
3	Dr. Vikrom Koopirochana	4/4	-	4/4	-	-	-	-		Completed term on April 5, 2016

Note ^{1/} Chairman did not join any Sub-committee as member.

^{2/} Appointed as Chairman of CGC and dismissed from Chairman of ERMC on April 26, 2016

^{3/} Appointed as Chairman of AC on April 25, 2016

^{4/} Appointed as Member of AC on April 26, 2016

^{5/} Appointed as Member of AC and dismissed from Member of ERMC on April 26, 2016

^{6/} Appointed as Chairman of ERMC on April 26, 2016

^{7/} Appointed as Member of CGC on April 26, 2016

^{8/} Appointed as Member of ERMC on April 26, 2016

Assessment of directors' performances

The Board completes Board 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, ≤50%=improvement needed. The assessment is summarized below:

1) Individual directors

- Self-assessment relies on topics, namely responsibility for their roles, training and self-development, and conformance to the Corporate Governance Policy. The overall summary of assessment findings showed an average score of 95.09%, regarded as excellent.
- Cross-assessment by group (3-4 unnamed directors assessing another director) relies on topics, namely responsibility for their roles and directors' independence. The overall summary of assessment findings showed an average of 96.44%, regarded as excellent.

2) **Entire Board** relies on topics, namely Board Policy Structure and Qualifications of Board, Board performances, Board meetings, and self-development of Directors. The overall summary of assessment findings showed an average score of 96.19%, 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 95.80%, rated excellent.
- Nomination and Remuneration Committee, the group evaluation had the average score of 91.10%, rated excellent.
- Corporate Governance Committee, the group evaluation had the average score of 95.30%, rated excellent.
- Enterprise-wide Risk Management Committee, the group evaluation had the average score of 99.58%, 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 linked to the level of assigned 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 the 2016 AGM of April 5, 2016, 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.

Other Expenses

1) Other Essential Business Expenses

- Position car for the Chairman's business convenience
- Credit card for the Chairman's business use (up to 500,000 Baht/month)
- 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 2016, the individual remuneration of Directors was as follows:

	Names	Remuneration in Baht						Total
		BOARD	AC	NRC	ERMC	CGC	Bonus	
1	Mr. Pichai Chunhavajira	1,162,500	-	-	-	-	2,575,596.06	3,738,096.06
2	Prof. Dr. Chai-Anan Samudavanija	607,500	-	-	-	-	2,318,036.45	2,925,536.45
3	Mr. Surin Chiravisit	1,046,250	-	60,000	37,500	56,250	2,249,589.11	3,449,589.11
4	Mr. Suthep Wongvorazathe	930,000	353,750	60,000	-	-	2,060,476.85	3,404,226.85
5	Pol.Lt. Gen. Chaiwat Chotima	930,000	185,000	60,000	-	-	2,060,476.85	3,235,476.85
6	Lt.Gen. Apirat Kongsompong	810,000	-	60,000	-	-	2,060,476.85	2,930,476.85
7	Adm. Sucheep Whoungmaitree	870,000	-	-	-	45,000	1,236,286.11	2,151,286.11
8	Mr. Krisada Chinavicharana	780,000	185,000	-	30,000	-	214,515.40	1,209,515.40
9	Mr. Prasong Poontaneat	840,000	-	-	90,000	-	2,060,476.85	2,990,476.85
10	Mr. Visit Vongruamlarp	930,000	-	-	90,000	-	1,507,252.93	2,527,252.93
11	M.L. Puntrik Smiti ^{1/}	840,000	-	-	-	30,000	366,934.23	1,236,934.23
12	Mrs. Prisana Praharnkhasuk ^{2/}	630,000	185,000	-	-	-	-	815,000.00
13	Gen. Vitch Devahasdin ^{2/}	660,000	-	-	-	45,000	-	705,000.00
14	Dr. Prasert Sinsukprasert ^{2/}	660,000	-	-	60,000	-	-	720,000.00
15	Mr. Chaiwat Kovavisarach	930,000	-	-	90,000	30,000	2,060,476.85	3,110,476.85
TOTAL		12,626,250	908,750	240,000	397,500	206,250	20,770,594.54	35,149,344.54



Names	Remuneration in Baht						Total	
	BOARD	AC	NRC	ERMC	CGC	Bonus		
Directors whose terms were completed and resigned directors in 2016								
1	Asst.Prof.Dr. Anusorn Tamajai ^{3/}	240,000	106,250	-	-	-	2,060,476.85	2,406,726.85
2	Mrs. Arunporn Limskul ^{3/}	240,000	85,000	-	-	-	2,060,476.85	2,385,476.85
3	Dr. Vikrom Koopirochana ^{3/}	240,000	-	-	-	-	2,060,476.85	2,300,476.85
TOTAL		720,000	191,250	-	-	-	6,181,430.55	7,092,680.55

Notes:

- 1) M.L. Puntrik Smiti transferred her bonus to the Social Security Fund in compliance with the regulations of the Office of Social Security Fund.
- 2) Appointed on April 5, 2016
- 3) Completed term on April 5, 2016

Bonuses for directors whose terms were completed and who resigned in 2015 (performance in 2015 paid in 2016)

Names	BONUS (Baht)	Remarks
1. Mr. Krairit Nilkuha	553,223.92	Completed term on April 8, 2015
2. Mr. Sarakorn Kulatham	795,965.02	Resigned on May 22, 2015
3. Mr. Wirat Uanarumit	795,965.02	Resigned on May 22, 2015
4. Mr. Auttapol Rerkpiboon	513,707.92	Resigned on May 22, 2015
5. Mr. Nakorn Silpa-archa ^{1/}	587,094.77	Resigned on October 13, 2015
TOTAL	3,245,956.65	

Notes: ^{1/} Mr. Nakorn Silpa-archa transferred his bonus to the Social Security Fund in compliance with the regulations of the Office of Social Security Fund.

Comparison of Remuneration of Directors in 2015 and 2016

Remuneration	2015		2016	
	Directors	Baht	Directors	Baht
Meeting allowance	15	15,735,000	15	15,290,000
Bonus	15	3,018,871	15	30,197,982
TOTAL		18,753,871		45,487,982

Note: Bonuses for 2015 performance under the resolution of the 2015 AGM, held on April 8, 2015. (00.75 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 other companies in 2016

Company	Name	Total Remuneration in 2016 (Baht)				Net total
		Monthly Remuneration	Meeting Allowance	Bonus	Subcommittee Remuneration	
BCPG	Mr. Pichai Chunhavajira	381,250	356,250	-	-	737,500
	Mr. Chaiwat Kovavisarach	101,250	101,250	-	93,750 (Executive and Investment Committee)	296,250
NIDO	Mr. Chaiwat Kovavisarach	81,382.98 AUD\$ (per annum)	-	-	-	2,115,957

Notes:

- BCPG: BCPG Public Company Limited
- NIDO: Nido Petroleum Limited
- Exchange rate AUD\$ 1 equivalent to approximately Baht 26
- Mr. Chaiwat Kovavisarach's director remuneration paid by BCPG as from October 2016, after BCPG listing on SET, is under the regulation on the appointment of a director with entitlement for compensation in a company with joint-venture partners.

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 14 persons, No. 1 through No. 9 of whom are regarded as executives under SEC's definition (As of December 2016):

Name	Position
1. Mr. Chaiwat Kovavisarach	President and Chief Executive Officer
2. Mr. Wattana Opanon-amata	Chief Operation Officer and First Senior Executive Vice President, Refinery Business Group
3. Mr. Yodphot Wongrukmit	Senior Executive Vice President, Corporate Management and Sustainability Development
4. Mr. Bundit Sapianchai	Senior Executive Vice President
5. Mr. Surachai Kositsareewong	Senior Executive Vice President, Accounting and Finance



6. Mr. Pongchai Chaichirawiwat Chief Marketing Officer and Senior Executive Vice President, Marketing Business Group
7. Mr. Somchai Tejavanija Senior Executive Vice President, Natural Resource and Business Development
8. Mr. Kiatchai Maitriwong Senior Executive Vice President, Bio Based Products Business Unit
9. Mr. Chalermchai Udomranu* Senior Executive Vice President, Refinery Business Unit
10. Mr. Phichet Emwattana Executive Vice President, Planning and Trading Business
11. Mr. Pichit Wongrujiravanich Executive Vice President, Internal Control
12. Mr. Dhanajit Makarananda Executive Vice President, Refinery Project Development
13. Mr. Chokchai Atsawarangsalit Executive Vice President, Marketing Business and Oil Terminal
14. Mr. Viboon Wongsakul Executive Vice President, Retail Business and Marketing Support

* Appointed as senior executive vice president, effective from November 1, 2016.

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 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. 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 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.

Performance appraisals of 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. 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 President and Chief Executive Officer's compensation, which is then forwarded to the Board for approval. 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 remunerations, i.e. salary and bonus, and long-term ones—including Employee Stock Option Program (ESOP) and Employee Joint Investment Program (EJIP)—which the Board will consider on a case by case basis. These payments serve to motivate executives, are on par with the industry practice, and correlate to each person's Key Performance Index (KPI).
- 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 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 Good Governance Policy.

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

Remuneration	2015		2016	
	Persons	Baht	Persons	Baht
Salary	8	44,541,334.00	9	48,969,437.00
Bonus & Retirement pay	8	28,540,391.00	9	39,037,293.00
Provident fund	8	3,807,850.00	9	4,214,016.00
Total		76,889,575.00		92,220,746.00

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, 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 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:

Name	Subsidiary														Associated Company						Other Company			
	BGN	BBF	BSE	BSE-PRI	BSE-CPM1	BSE-BRM	BSE-BRM1	BSE-NMA	BSE Energy Holding	BCPG	BCPG Biopower 1,2	BCR	BBE (CCO)	BCPE	BCPI	BCPT	Nido	UBE	UBG	UAE	NPE	Bongkot Marine	Aom Suk	FPT
1. Mr. Pichai Chunchavajira	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Mr. Chaiwat Kovavisarath	-	-	-	-	-	-	-	-	-	○	-	●	-	-	-	-	/	-	-	-	-	-	-	-
3. Mr. Wattana Opanon-amata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	-	-	-	-	/	/	/
4. Mr. Yodphot Wongrukmit	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Mr. Bundit Sapianchai	-	/	●	●	●	●	●	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Mr. Surachai Kositsareewong	-	/	-	-	-	-	-	-	-	-	-	-	/	/	/	/	-	-	-	-	-	-	-	-
7. Mr. Pongchai Chaichirawwat	/	●	-	-	-	-	-	-	-	-	-	/	/	-	-	-	-	-	-	-	-	-	-	-
8. Mr. Somchai Tejavanija	-	-	-	-	-	-	-	-	-	-	-	-	-	/	/	-	-	-	-	-	-	-	-	-
9. Mr. Kiatchai Maitiwong	-	●	-	-	-	-	-	-	-	-	-	-	●	-	-	-	○	○	○	○	-	-	-	-
10. Mr. Phichet Emwattana	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	-	-	-	-	/	-	-
11. Mr. Chokchai Aitsarangsait	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Mr. Vboon Wongsakul	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-
13. Mr. Walcharaporn Saisuk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	-	-	-	-	-	-	-
14. Ms. Revadee Pornpatkul	-	-	/	/	/	/	/	/	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15. Ms. Naree Jiamwattanasuk	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16. Mr. Yongyul Chetchaowalit	-	-	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17. Ms. Sasamon Suputhmongkol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/

● = Chairman ○ = Vice Chairman ★ = Managing Director/President / = Director

Subsidiaries

- Bangchak Green Net Co., Ltd. (BGN)
- Bangchak Biofuel Co., Ltd. (BBF)
- Bangchak Solar Energy Co., Ltd. (BSE)
- Bangchak Solar Energy (Prachinburi) Co., Ltd. (BSE-PRI)
- Bangchak Solar Energy (Chaiyaphum 1) Co., Ltd. (BSE-CPM1)
- Bangchak Solar Energy (Buriram) Co., Ltd. (BSE-BRM)
- Bangchak Solar Energy (Buriram 1) Co., Ltd. (BSE-BRM1)
- Bangchak Solar Energy (Nakhonratchasima) Co., Ltd. (BSE-NMA)
- BSE Energy Holdings Pte. Ltd. (BSE Energy Holding)
- BCPG Public Company Limited (BCPG)
- BCPG Biopower 1 Co., Ltd. (BCPG Bio Power 1)
- BCPG Biopower 2 Co., Ltd. (BCPG Bio Power 1)
- BCPG Investment Holding Pte. Ltd. (BCPG Investment Holding)
- Bangchak Retail Co., Ltd. (BCR)
- Bangchak Bioethanol (Chachoengsao) Co., Ltd. (BBE-CCO)
- BCP Energy International Pte.Ltd. (BCPE)
- BCP Innovation Pte.Ltd. (BCPI)
- BCP Trading Pte. Ltd. (BCPT)
- Nido Petroleum Limited (NIDO)

**Associated Companies**

Ubon Bio Ethanol Co., Ltd. (UBE)
Ubon Bio Gas Co., Ltd. (UBG)
Ubon Agricultural Energy Co., Ltd. (UAE)
NP Bio Energy Co., Ltd. (NPE)
Bongkot Marine Services Co., Ltd. (Bongkot Marine)
Oam Suk Social Enterprise Co., Ltd. (Aom Suk)

Other Companies

Fuel Pipeline Transportation Co., Ltd. (FPT)

4. Company Secretary

Under the Securities and Exchange law (Articles 89/15 and 89/16), Board Meeting No. 6/2009 appointed Ms. Pakawadee Janrayapes, Senior Vice President, Corporate Compliance (renamed as “Legal and Corporate Compliance” as from February 1, 2017), as Company Secretary, effective from July 1, 2009. Her profile is as follows:

Ms. Pakawadee Junrayapes

- Age 55
- 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 (EDP 2012), Ministry of Finance
 - Company Secretary Program (CSP), 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)
 - Thailand and the ASEAN Economic Community class 4/2013, King Prajadhipok's Institute
- Experience
 - The Bangchak Petroleum Public Company Limited
 - 2015-present : Senior Vice President, Corporate Compliance, and Company Secretary
 - 2011-2015 : Vice President, the Secretary to The Board of the Directors Office, and Company Secretary



- 2009-2011 : Senior Manager, the Secretary to The Board of the Directors Office, and Company Secretary
- 2007-2009 : 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
 - None –
- Shareholding in the Company: 12,000 shares or 0.000872% (As of September 9, 2016)
- Familial relationship between directors and executives: 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 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, 2016, the Company had a total headcount of 1,196:

Employee	Persons
President and Chief Executive Officer (Corporate Compliance, Corporate Communication, Corporate Strategy and Business Portfolio, Internal Control, Safety and Health Division)	79
Refinery and Trading Business Group	551
Marketing Business Group	343
Bio Based Products Business Unit	17
Natural Resource and Business Development	22
Accounting and Finance	70
Corporate Management and Sustainability Development	114

Significant changes in number employee for the past three years

- None (Total employee in year 2016 were 1,196 persons, which increased slightly from 1,052 persons in year 2014)

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 Public Company Limited Provident Fund" by choosing the accumulated at a rate of five percent or ten percent of the salary and the Company will pay the same rate to the Fund. In 2016, 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 1,628.57 million Baht. The remuneration for President and Chief Executive Officer and Senior Executive Vice Presidents upward is 5.36% 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” (PDA) 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 2016, training on various topics was provided for staff, with an average training period of 44.92 hours/person/year. Part of the training involved wastewater treatment techniques and environmental laws and industrial environmental management. (Training details are included in the Sustainability Report under the “Employee Stewardship” and “Water Pollution”)



9. Corporate Governance



1. Corporate governance and Anti-corruption

- **Policy:** Since 2003, the Board of Directors has required a written corporate governance policy, which is to be revised annually. This year, Bangchak issued Revision 13 of the policy.
- **Training and Publicity:**
 - Arranged for all employees to acknowledge and take the annual test on the Corporate Governance and Anti-Corruption Policy. They are required to pass certain criteria to ensure proper understanding. The test was done on the e-HR system and the online knowledge management system (“We Share”) (Oct.26-Nov.11, 2016)
 - A talk on corporate governance as part of the orientation for new directors. (Apr.12, 2016)
 - A talk on corporate governance as part of the orientation for new employees. (Jul.5, 2016)
 - Organized the annual CG Day (12th year) under the “In HM the King’s Footsteps” theme, with Mr. Banyong Pongpanich as the guest speaker giving a talk on “Combating Corruption – Time to Get Serious”. Management and staff jointly pledged to fight corruption, showing their tireless efforts (Nov.11, 2016)
 - For the third year in a row, staged a 2016 business partners' seminar, educating them about the policy formulation and measures against corruption so as to support their roles as allies of the Thai private sector on anti-corruption. (Apr.27, 2016 and Oct.20, 2016)
 - For the third year in a row, issued notifications to stakeholders on Bangchak's "No Gift" policy for the New Year and any other occasion so as to elevate good corporate governance and set a standard for conducting business with all related parties fairly. (Nov.8, 2016)
- **Risk Assessment:** 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.

Bangchak values good corporate governance and anti-corruption alike. To this end, it has enlisted in the league of the UN Global Compact (UNGC), by the United Nations, and become one of the first 22 companies to gain membership



certification for CAC (Thai Private Sector Collective Action Coalition against Corruption). This year Bangchak received first recertification since 2013.

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 support its oversight of Bangchak. Details of these committees appear under “Management Structure”.

3. Nomination and appointment of directors and the President

Today, Bangchak has 15 directors, 9 of whom are independent ones. Bangchak has nine SEC-defined executives, with President and Chief Executive Officer serving as the top executive. Appointment of directors and President and Chief Executive Officer 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 President and Chief Executive Officer 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 President and Chief Executive Officer, 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

Bangchak 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 spouses and children under legal age, including connected persons, according to Article 59 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 to 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. Remuneration for the External Auditor

1) Audit Fee

The Company and its subsidiaries have paid audit fees as follows:

- The Company's External Auditor (Mr. Charoen Phosamritlert or Mr. Waiyawat Kosamarnchaiyakij or Mr. Natthaphong Tantichattanon) in the last year
 - none -
- The Audit Company (KPMG Phoomchai Audit Ltd.), persons and businesses related to the external auditor and the Audit Company in the last year
 - totaled 2,007,940 Baht -

2) Other fees

- none -

7. Compliance with corporate governance for listed companies

The Stock Exchange of Thailand (SET) has put in place a "Corporate Governance Principles for Listed Companies, 2012", which consists of principles and good guidelines for listed companies. This year, Bangchak maintained its compliance with corporate governance in five aspects.

1) Shareholders' rights

In the corporate governance policy, the Board defined the rights of the shareholders. Bangchak observed all of SET's corporate governance principles this year.

- 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.
- Included the Board's opinion for each agenda item and attached the annual report and the proxy form, which contains an explanation of proxy-supporting documents together with meeting notices.
- Allowed the shareholders to submit queries needing Bangchak's explanation on certain points of the agenda for the AGM ahead of the meeting since September 1, 2016.
- Facilitated and promoted attendance by institutional investors by assigning Investor Relations staff to contact them about agenda issues and collect advance proxy forms.



- Facilitated shareholders on the meeting date:
 - Reserved adequate parking spaces and arranged shuttle buses for them at the BTS Mo-Chit Station in case they were 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, President and Chief Executive Officer clarified the method for voting and vote-tallying for each agenda item, as well as requesting a shareholders' representative to witness vote-tallying.
- During the meeting, allowed the shareholders equal rights for expressing views and posing questions, 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 2016 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 company regulations. 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 regulation 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 person representing the shareholders witnessed vote counting at the AGM.

2) Equitable Treatment of Shareholders

In the corporate governance policy, the Board defined a policy for the fair treatment of shareholders beyond what is required by law. Bangchak observed all of SET's corporate governance principles.

- Publicized meeting documents on its website 30 days ahead of the meeting and delivered them to the shareholders 21 days ahead of the meeting.
- Allowed the shareholders to propose additional AGM agenda items and nominate directors from September 1 to December 31. 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. Bangchak observed all of SET's corporate governance principles. 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

Bangchak realized that staff is a vital element for business progress. Bangchak, therefore, has in place Individual Development Plans (IDPs) to raise staff knowledge and caliber. Additionally, staff are given competitive and fair compensation, depending on the overall performance of the company, both 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. The Balanced Scorecard is used to assess individual staff performance against their respective KPIs established. 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 and Society

The Company is dedicated to improving the quality of products and services for maximum customers' satisfaction. The policy aims to deliver quality goods which meets or exceeds the customer's demands under fair conditions. Bangchak's policy is also to deliver products of desired quality or of quality beyond customers' expectations under fair, responsible treatment of customers, and aims to give adequate, accurate and timely information about the products and services. The Company does not exaggerate or mislead the customer about the quality, quantity or other terms and conditions of the products or services. Company employees protect the customer's secrets and do not use them for personal gains.

Business Partners

- Bangchak has a Supplier Code of Conduct and a policy to select and treat business partners with fairness. Company regulations have been drawn up to govern procurement, supply and distribution of petroleum and petroleum products to ensure that business conducted with partners is managed properly and with responsibility for business partners while mutual benefit can be reaped.



Additionally, Bangchak 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. They will also firmly adhere to contract provisions. Whenever any condition cannot be complied with, Bangchak urgently informs the business partner(s) in advance to jointly solve problems.

- To select a business partner, Bangchak invites those who are 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, taking into account both price and technical aspects.

Lenders

Bangchak treats lenders fairly, responsibly, and transparently and seeks to fulfill all its contractual and financial obligations especially guarantee condition, capital management and payment. It does not engage in dishonest practices and does not conceal information which may cause losses for the lender. If the Company cannot fulfill one or more of its obligations, it seeks to notify the lender so that a resolution can be agreed upon together.

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.

Communities surrounding the refinery, society, and the environment

Bangchak conducts its business with adherence to environmental management standards, such as ISO 14000. The Company considers health and safety and the environment as 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 includes promotion of efficient resource consumption and employee training on occupational health, safety, environmental, and energy matters under the “Develop sustainable business, while safeguarding the environment and society” corporate culture.

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.



Resources Usage

Resource Usage, for instance power, water, chemicals, has been used worthwhile as targeted. It is reviewed and improved continuously to enhance usage more efficiently and suitable for business size. Bangchak handles waste disposal efficiently and reuses waste to maximize the benefits.

Sanctity of intellectual properties

Bangchak declared its policy on intellectual property management this year 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, either their staff or stakeholders. Whistleblowing can also be applied to suspicious financial statements or a lack of 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 Control
Bangchak Petroleum PCL
210 Sukhumvit 64, Bangchak, Phra Khanong
Bangkok 10260
Tel. 0-2335-4566.

During 2016, three cases involving scholarship grants and contractual repayment were raised. After investigation by relevant units, no indication of fraud was found.

Contact channels

The Board of Directors	Tel: +66 2 335 4638 Fax: +66 2 335 8000 E-mail: bcpsecretary@bangchak.co.th
Company Secretary	Tel: +66 2 335 4050 Fax: +66 2 335 8000 E-mail: pakawadee@bangchak.co.th
Investor Relations	Tel: +66 2 335 4583 Fax: +66 2 335 8000 E-mail: ir@bangchak.co.th

4) Information disclosure and transparency

In the corporate governance policy, the Board defined a policy for information disclosure and transparency. Bangchak observed all of SET's corporate governance principles.



- 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:

- 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 May and September and a meeting of the non-management directors in April and August.
- Organized a study visit on geothermal businesses in New Zealand to apply to Bangchak's business development.
- Developed performance assessment forms for the Board: individual (self-assessment and cross-assessment), group, and committee.
- Revise and define 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.
- Instituted a Compliance Division under Corporate Compliance Department, responsible for all units' full compliance, including all units' legal control self-assessment, supervision of license renewals through an alert system for supervisors and responsible employees. With the Legal unit, educated employees on legal knowledge through assorted channels, for instance, Outlook, intercom, and annual legal training.

The Board of Directors aim to manage all matters by following good Corporate Governance so that the Company's business run efficiently and honestly as well as responsible for every stakeholders. The Company followed good Corporate Governance as other listed companies. However, there are still some non-compliance aspects and the Company would review them and adjust to follow appropriately in the future as follows:



Non-compliance aspect	Justification
<ul style="list-style-type: none"> Board composition of 5-12 	<p>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.</p>
Non-compliance aspect	Justification
<ul style="list-style-type: none"> Board Chairman is an Independent Director 	<p>The Board appointed Mr. Pichai Chunchavajira, a non-management director, as its Chairman due to his proven expertise in company businesses, his leadership and meeting control ability, which produces smooth meetings. Also, Mr. Chunchavajira supports full participation and show of capability by all directors.</p>
<ul style="list-style-type: none"> Independent directors can serve for no longer than nine consecutive years 	<p>Bangchak limits all directors' terms at no more than nine consecutive years (since 2008), with an exception. By Bangchak's nature of business, it needs people with specialized competencies. Given the freedom and efficiency of directors' performance, these people may be suitable on the Board for longer than that.</p>
<ul style="list-style-type: none"> Directors and the management inform the Board or its assignee about Bangchak share trading at least one day before trading. 	<p>The Board of Directors are obliged to keep confidence of inside information obtained from their directorship and are not allowed to use such inside information for the benefit of their own or that of others. This includes prohibition to trade shares of Bangchak at least one month before the disclosure of financial statements and at least three days after such disclosure.</p>

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 system.



- **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 and 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 with a copy to Internal Audit for acknowledgment.

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.
- **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.



10. Social Responsibility

Bangchak's business relies on creating value for business, society, and the environment in parallel with its proper, systematic, and tangible responses to stakeholders' expectations. To illustrate its determination to corporate improvement to a Greenovation Group, in the middle of this year Bangchak modified its vision and mission from "Greenery Excellence" to "Evolving Greenovation" while adjusting its core values to "I AM BCP" to prepare the company for change and corporate growth.

Vision

To be the Leading Asian Greenovative Group, founded on Good Corporate Governance, through Inclusiveness and Sustainability

Mission

BCP commits 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, Learning culture and happy Workplace.

Core Value

Innovation

Agility & **M**obility

Beyond Expectation

Continuous Development

Pursuit of Sustainability

Not only operating in line with the corporate vision, Bangchak has also applied SDGs (Sustainability Development Goals) and international guidelines on sustainability and other development for excellence, including TQA (Thailand Quality Award), ISO 26000 social responsibility standard, and UNGC (UN Global Compact) to form its own approach for sustainable development. Please see additional information in the Sustainability Report, in accordance with Global Reporting Initiative (GRI), at the www.bangchak.co.th website.



11. Internal Control and Risk Management

Below is a summary of opinions of the Board of Directors (“Board”) of The Bangchak Petroleum Plc on the adequacy and suitability of the Company’s internal control system.

1. Control environment

The Company’s organizational environment and structure favor implementation of the internal control system. Corporate Compliance unit is the centralize unit to monitor compliance with laws, regulations, and rules of assorted agencies in a clear and tangibly measured way to guide employees’ work. Its business goals are deliberated by the Board in a clear and measurable way for use as concrete guidelines for employees. Bangchak had improved Operation Policy, Employee Handbook, Work Handbook, and a proper organizational structure which favor efficient business execution by the management. The management also consistently values business integrity and ethics. Bangchak has stressed to employees the issues of fraud risk and conflicts of interest by improving how information on employees’ conflicts of interest is given through the e-HR system for greater convenience and information timeliness.

Bangchak staged 2016 CG Day activities under the theme of “In HM the King’s Footsteps” by Mr. Banyong Pongpanich, who delivered the “Combating Corruption: Time to Get Serious” lecture. The management and employees together pledged to stay above corruption in a gesture of commitment to relentless resistance to corrupt practices.

Bangchak continued its emphasis on the No-Gift Policy in an effort to step up Corporate Governance and lay down a solid foundation for fair treatment of all. This year Bangchak not only won CAC recertification, but also staged an annual business partner seminar for the third straight year to educate and support business partners to become CAC allies.

The Company has instituted measures for whistle-blowing and complaint-filing against violations of the law and the Code of Conduct, or behavior potentially classified as frauds or malfeasance of those inside the Company or of stakeholders, including inaccurate financial reports or deficient internal controls. The Board has also instituted protective measures for whistle-blowers for stakeholders’ greater stewardship of Company benefits.



2. Risk Assessment

The Company has appointed the Enterprise-wide Risk Management Committee (ERMC) to define policies, strategies and enterprise-wide risk management goals; evolve such a management system for continual efficiency; support and actively encourage cooperation in risk management at all levels; and ensure suitable and efficient risk management. The company took into consideration risks associated with new ventures to bolster confidence that such businesses are viable and achieve goals. It also evolved a risk management process by integrating the approaches under ISO 31000 (which accounts for company-wide risk management) to achieve operating objectives and align with international standards. This year Bangchak investigated trends and applied the findings of a Global Risk study by World Economic Forum 2016 to delve into strategic risks against short-term and long-term corporate goal achievement, while staying vigilant for amended public policies potentially harming corporate performance and expanding opportunities for corporate innovation.

Stringent and consistent is the Company's valuing of a sound environmental and safety management system to its neighboring communities. It appointed Risk Management Sub-Committee – RMC, which consisted of top managements from various units, to monitor corporate performance and develop risk management system which followed the policies from RMC. The Company also appointed Price Risk Management Committee – PRMC to manage potential risks from running business which may occur from crude prices and baht values. In addition, the Company appointed Business Continuity Management (BCM) Taskforce, charged with system preparation to handle risks and potential crises; defined strategies to keep the company running even during emergencies; appointed a task force to draft business continuity management procedures to make plans comprehensive, ring-fence crisis and situations, and enable Bangchak's business to proceed uninterrupted in emergencies and mitigate potential. Bangchak is the first domestic refinery to win ISO 22301 certification (business continuity management) and undergo constant surveillance surveys from the accreditor.

3. Control activities

The Company's control activities rely on Key Performance Indicators (KPIs) as a planning and control tool, with segregation of responsibilities for checks and balances. This year, for business suitability, Bangchak



revised and redefined the authority and approval authority for various levels. Checks and balances were enforced by units and panels specifically appointed, including the Internal Audit, the Capital Investment Committee, and the Enterprise-wide Risk Management Committee. Authority, responsibility and approval of expenditure are defined in writing, along with preparation of documents that favor segmentation and identification of responsible parties should things go wrong. Custodianship and stewardship of Company properties to prevent losses or abuses have been instituted. The Company transactions with long-term obligations are properly monitored for contractual compliance. Measures are in place to prevent self-gains of Company opportunities or benefits. Procedures are in place to ensure that the Company observes the law and relevant regulations. Now in place is control self-assessment (CSA) at business levels, section levels, and work process levels throughout the company, as is an annual assessment of performance. This year Bangchak assigned its units to add risk assessment processes concerning bribery of public officials in line with the Constitution's complementary act governing the prevention and suppression of corruption of 1999 (third amendment of 2015). Talks were organized on the treatment guidelines for sensitive data affecting stock prices. Audits and recertification of ISO 14001, TIS 18001, and ISO 50001 were successfully undertaken. A session on Kaizen (continuous improvement) was held to share experiences and concepts to promote business efficiency while trimming losses. Bangchak's strict, suitable measures govern engagement in transactions with major shareholders, directors, among others, to prevent unlawful transfers of benefits; for instance, such transactions must first secure approval by disinterested parties, transaction data must be disclosed under SEC rules, and data on related parties or businesses under accounting standards must be disclosed.

In addition, a process monitored subsidiaries' performances and formulated their corporate governance policies along with their security, safety, occupational health, environment, and energy policies. The business processes of Bangchak Biofuel, Bangchak Solar Energy, and Bangchak Green Net—all subsidiaries—were reviewed. Finally, Bangchak also advocated its subsidiaries, namely BCPG Plc., Bangchak Biofuel, and Bangchak Green Net, for becoming CAC allies.



4. Information and communication

Bangchak developed its information system and data system for work readiness and security under a policy for IT system safety and a standard for application of the information system and networks. To this end, Bangchak won ISO 27001 certification (IT system security) and won a standard called DCS (Digital Control System) together with ISO/IEC 20000-1:2011 (service management standard). SAP Enterprise Resource Planning (ERP) SAP ECC 6.0— which is internationally accepted—is in force to enable Bangchak to leverage comprehensive corporate data for efficient analytical and operating purposes. It deployed the Security and Safety Management System and e-Budget System for greater business efficiency. Also, this year Bangchak developed an IT Digital Roadmap for 2017-2021, which encompasses all corporate IT projects (both Marketing IT, Refinery IT) and affiliates. IT Operating Models were structured for efficient IT administration and accommodation of corporate needs. Improvements were made to business processes like the Loyalty Card and CRM (Sales & Marketing) while extending the successes of SAP Enterprise Resource Planning (ERP), SAP ECC 6.0, infrastructure, and penetration test.

In these development efforts, Bangchak adhered to the COBIT Framework under the corporate IT security policy and information system deployment standard while remaining committed to Corporate Governance.

5. Monitoring and assessment

The Company commands a performance tracking system by having a committee regularly compare performance results against goals, so that factors potentially impacting performance can lead to strategic plan adjustment and goal achievement. An internal audit unit, reporting to the Audit Committee, reviews compliance with the company's formulated internal control system.



Head of Internal Control Office

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 Control Office. Since Mr. Pichit has over 22 years' experience in auditing with SGV-NA Thalang Office Co.,Ltd. and Yontrakit Group.

The Audit Committee considers, appoints, transfers, and assesses the performance of the head of Internal Control Office. Please see information of the head of Internal Control Office 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 Janrayapes as Company Secretary, effective from July 1, 2009. In 2015, due to the Company's management restructuring, the Company instituted a Compliance Division under Corporate Compliance Department, and appointed Ms. Pakawadee Janrayapes as Senior Vice President of Corporate Compliance. Please see information of the head of the Compliance Department in Attachment 4.



12. Connected Transactions

1.1 Connected transactions between shareholders

For the years ended 31 December 2016 and 2015, connected transactions with the shareholders were as follows:

Company	Relationship	Connected transaction	Jan.-Apr. 2015 Baht (million)	Jan-Dec. 2016* Baht (million)
PTT Plc	Major shareholder until April 30, 2016*	• Value of sale of refined products to PTT	4,965.28	-
		• Other revenues	44.55	-
		• Trade debtors as of the end of the period	-	-
		• Value of purchase of refined products from PTT	26,167.28	-
		• Trade creditors as of the end of the period	-	-
		• Creditor to others	-	-
		• Finance lease liabilities	-	-
		• Service fee for the use of PTT's Si Racha Terminal	102.88	-
		• Expenses on natural gas, steam and electricity	1,006.33	-
		• Interest expenses	18.45	-
		• Other expenses	0.86	-
		• Advance payments for utilities	-	-

* PTT Public Company Limited was the major shareholder until April 30, 2015, resulting in

- 2016 transactions: No transaction was reported since there was no connection
- 2015 transactions:
 - List of revenue and expenses shown for January 1 – April 30, 2015
 - List of assets and liabilities as of December 31, 2015, no detail is shown since there was no connection.

1.2 Connected transactions with subsidiaries, jointly-controlled businesses, associated companies and related companies during 2015 and 2016 consisted of the following:

1.2.1 Sale of Product and Services: These items are sold and services performed by the Company to subsidiaries, jointly-controlled businesses, associated companies and related companies.



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Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	27,495.08	28,114.99	- BCP holds 49% shares	- BCP delegates its representatives as directors
BCP Trading Pte. Ltd.	-	304.45	- BCP holds 100% shares	- BCP delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao)	-	2.09	- BCP holds 85% shares	- BCP delegates its representatives as directors
<u>Associated companies</u>				
Ubon Bio Ethanol Co., Ltd.	14.18	13.94	- BCP holds 21.28% shares	- BCP delegates its representatives as directors
Ubon Agricultural Energy Co., Ltd.	24.57	6.87	- Ubon Bio-Ethanol Co., Ltd. (associated company) holds 100% shares	- BCP delegates its representative as director

Related company	Jan-Apr 2015* Baht (million)	Jan-Dec 2016* Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>PTT Group conducted related businesses until April 30, 2015</u>				
PTT International Trading Co., Ltd.	434.27	-	- PTT Plc holds shares in this company	-
PTTEP Siam Co., Ltd.	1.66	-	- PTT Plc holds shares in this company	-
IRPC Plc	715.76	-	- PTT Plc holds shares in this company	-



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1.2.2 Purchase of product and services: These items have to do with the Company's purchase of products and/or services from subsidiaries, jointly-controlled businesses, associated companies and related companies.

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	1.01	0.41	- BCP holds 49% shares	- BCP delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	4,352.62	4,982.10	- BCP holds 70% shares	- BCP delegates its representatives as directors
BCP Trading Pte, Ltd.	-	575.13	- BCP holds 100% shares	- BCP delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao)	-	263.13	- BCP holds 85% shares	- BCP delegates its representatives as directors
<u>Associated companies</u>				
Ubon Bio Ethanol Co., Ltd.	1,300.68	1,373.74	- BCP holds 21.28% shares	- BCP delegates its representatives as directors
<u>Other related businesses</u>				
Fuel Pipeline Transportation Co., Ltd.	390.16	430.55	- BCP holds 4.95% shares	- BCP delegates its representative as director

Related company	Jan-Apr 2015* Baht (million)	Jan-Dec 2016* Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>PTT Group conducted related businesses until April 30, 2015</u>				
IRPC Plc	721.75	-	- PTT Plc holds shares in this company	-
PTT International Trading Co., Ltd.	0.06	-	- PTT Plc holds shares in this company	-
PTT Global Chemical Plc	152.15	-	- PTT Plc holds shares in this company	-
Thai Oil Plc	878.45	-	- PTT Plc holds shares in this company	-



Related company	Jan-Apr 2015* Baht (million)	Jan-Dec 2016* Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
Thai Lube Base Plc	54.48	-	-	Connected through PTT Plc
IRPC Oil Co., Ltd.	27.35	-	-	Connected through PTT Plc

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

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	34.21	11.41	- BCP holds 49% shares	- BCP delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	202.68	128.43	- BCP holds 70% shares	- BCP delegates its representatives as directors
Bangchak Solar Energy Co., Ltd.	1,413.39	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Solar Energy (Prachinburi) Co., Ltd.	185.21	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Solar Energy (Chaiyaphum1) Co., Ltd.	95.06	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Solar Energy (Buriram) Co., Ltd.	91.41	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Solar Energy (Buriram 1) Co., Ltd.	90.81	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors



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Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
Bangchak Solar Energy (Nakhonratchasima) Co., Ltd.	92.13	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
NIDO Petroleum Limited	188.33	226.82	- Indirect Subsidiary through BCP Energy International Pte. Ltd. which BCP holds 100% shares	- BCP delegates its representatives as directors
BCP Innovation Pte, Ltd.	1.65	0.95	- BCP holds 100% shares	- BCP delegates its representatives as directors
BCPG Plc.	197.39	929.58	- BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	-	0.16	- BCP holds 85% shares	- BCP delegates its representatives as directors
<u>Associated companies</u> Ubon Bio Ethanol Co., Ltd.	0.02	-	- BCP holds 21.28% shares	- BCP delegates its representatives as directors

1.2.4 Other expenses paid by the Company to subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Other related businesses</u> Fuel Pipeline Transportation Co., Ltd.	7.74	8.45	- BCP holds 4.95% shares	- BCP delegates its representative as director



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

Related company	Jan-Dec 2015* Baht (million)	Jan-Apr 2016* Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>PTT Group conducted related businesses until April 30, 2015</u> PTTEP Siam Co., Ltd.	0.09	-	PTT Plc holds shares in this company	-

1.2.6 Interest expenses paid by the Company to subsidiaries for loan guarantees under grant of operating rights.

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> Bangchak Green Net Co., Ltd.	0.39	0.32	- BCP holds 49% shares	- BCP delegates its representatives as directors

1.2.7 Other expenses paid by the Company to subsidiaries, jointly-controlled businesses, associated companies and related companies.

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> Bangchak Green Net Co., Ltd.	16.46	26.66	- BCP holds 49% shares	- BCP delegates its representatives as directors
Bangchak Solar Energy Co., Ltd.	4.07	-	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
BCPG Plc.	-	0.38	- BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Retail Co., Ltd.	-	12.25	- BCP holds 100% shares	- BCP delegates its representatives as directors
NIDO Petroleum Limited	-	4.16	- Indirect Subsidiary through BCP Energy International Pte. Ltd. which BCP	- BCP delegates its representatives as directors



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Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
			holds 100% shares	

1.2.8 Other expenses paid by the Company to subsidiaries, jointly-controlled businesses, associated companies and related companies

Related company	Jan-Dec 2015* Baht (million)	Jan-Apr 2016* Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>PTT Group conducted related businesses until April 30, 2015</u>				
NPC Safety and Environmental Services Co., Ltd.	1.28	-	- Connected through PTT Plc	-
Energy Complex Co., Ltd.	7.21	-	- PTT Plc holds shares in this company	-
PTT ICT Solutions Co., Ltd.	0.03	-	- PTT Plc holds shares in this company	-
PTT Energy Solutions Co., Ltd.	1.79	-	- PTT Plc holds shares in this company	
PTT Global Chemical Plc	0.03	-	- PTT Plc holds shares in this company	

1.2.9 Debtors, advance payments and short-term loans to related businesses

1.2.9.1 Trade debtors

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> Bangchak Green Net Co., Ltd.	842.97	1,094.76	BCP holds 49% shares	- BCP delegates its representatives as directors



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Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
Bangchak Biofuel Co., Ltd.	0.99	2.49	- BCP holds 70% shares	- BCP delegates its representatives as directors
Bangchak Retail Co., Ltd.	-	5.08	- BCP holds 100% shares	- BCP delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	-	0.68	- BCP holds 85% shares	- BCP delegates its representatives as directors
<u>Associated companies</u>				
Ubon Bio Ethanol Co., Ltd.	1.57	1.08	- Ubon Bio-Ethanol Co., Ltd. holds 21.28% shares	- BCP delegates its representatives as directors
Ubon Agricultural Energy Co., Ltd.	0.02	0.92	- Ubon Bio-Ethanol Co., Ltd. (associated company) holds 100% shares	- BCP delegates its representative as director
<u>Other related businesses</u>				
Fuel Pipeline Transportation Co., Ltd.	0.33	0.33	- BCP holds 4.95% shares	- BCP delegates its representative as director

1.2.10 Debtors and loans to related businesses

1.2.10.1 Loans

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u>				
NIDO Petroleum Limited	3,168.44	2,788.52	- Indirect Subsidiary through BCP Energy International Pte. Ltd. which BCP holds 100% shares	- BCP delegates its representatives as directors



Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
BCP Innovation Pte, Ltd.	179.62	-	- BCP holds 100% shares	- BCP delegates its representatives as directors
BCPG Plc.	6,288.00	-	- BCP holds 70.35% shares	- BCP delegates its representatives as directors
<u>Other related businesses</u> Fuel Pipeline Transportation Co., Ltd.	20.73	17.32	- BCP holds 4.95% shares	- BCP delegates its representative as director

1.2.10.2 Other debtors

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> Bangchak Solar Energy Co., Ltd.	0.39	0.39	- Indirect Subsidiary through BCPG which BCP holds 70.35% shares	- BCP delegates its representatives as directors
NIDO Petroleum Limited	87.12	-	- Indirect Subsidiary through BCP Energy International Pte. Ltd. which BCP holds 100% shares	- BCP delegates its representatives as directors
BCP Innovation Pte, Ltd.	1.65	-	- BCP holds 100% shares	- BCP delegates its representatives as directors
BCPG Plc.	38.07	213.88	- BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	-	0.03	- BCP holds 85% shares	- BCP delegates its representatives as directors



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1.2.11 Creditors of related businesses

1.2.11.1 Trader creditors

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	2.89	2.41	- BCP holds 49% shares	- BCP delegates its representatives as directors
Bangchak Biofuel Co., Ltd.	241.50	243.12	- BCP holds 70% shares	- BCP delegates its representatives as directors
BCP Trading Pte, Ltd.	-	306.71	- BCP holds 100% shares	- BCP delegates its representatives as directors
Bangchak Bioethanol (Chachoengsao) Co., Ltd.	-	84.69	- BCP holds 85% shares	- BCP delegates its representatives as directors
<u>Associated companies</u>				
Ubon Bio Ethanol Co., Ltd.	113.29	128.06	Ubon Bio-Ethanol Co., Ltd. holds 21.28% shares	- BCP delegates its representatives as directors

1.2.11.2 Other creditors

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u>				
Bangchak Green Net Co., Ltd.	0.36	0.56	- BCP holds 49% shares	- BCP delegates its representatives as directors
BCPG Plc.	-	0.03	- BCP holds 70.35% shares	- BCP delegates its representatives as directors
Bangchak Retail Co., Ltd.	-	17.32	- BCP holds 100% shares	- BCP delegates its representatives as directors



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Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Other related businesses</u> Fuel Pipeline Transportation Co., Ltd.	30.08	41.02	- BCP holds 4.95% shares	- BCP delegates its representative as director

1.3 Other non- current assets.

Related company	Jan-Dec 2015 Baht (million)	Jan-Apr 2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> NIDO Petroleum Limited	-	176.74	- Indirect Subsidiary through BCP Energy International Pte. Ltd. which BCP holds 100% shares	- BCP delegates its representatives as directors

1.4 Other current liabilities: These items are the Company's demanded guarantee payment for operating contracts with subsidiaries companies.

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> Bangchak Green Net Co., Ltd.	29.40	29.72	- BCP holds 49% shares	- BCP delegates its representatives as directors
BCPG Plc.	0.23	6.00	- BCP holds 70.35% shares	- BCP delegates its representatives as directors

1.5 Other non-current liabilities: These items are the Company's revenue received in advance for land lease from related companies.

Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Subsidiaries</u> BCPG Plc.	5.45	-	- BCP holds 70.35% shares	- BCP delegates its representatives as directors



Related company	2015 Baht (million)	2016 Baht (million)	Relationship for the year ended 31 December 2016	
			Shareholding	Management
<u>Other related businesses</u> Fuel Pipeline Transportation Co., Ltd.	3.45	2.97	- BCP holds 4.95% shares	- BCP delegates its representative as director

1. Connected transactions with PTT Plc (PTT Plc was the major shareholder until April 30, 2015)

Orders for crude oil supplies between BCP and PTT, which is BCP's crude oil supplier for sale to industrial operators under the terms of feedstock supply agreements, are designed to enhance BCP's capability for sourcing feedstock for its processes. As for the sale of refined products, PTT notifies BCP six months in advance of its orders. A meeting is held each month to confirm orders, for which pricing follows market prices.

BCP entered into a 10-year contract with PTT, starting on August 3, 2009, for natural gas purchase to feed BCP's processes. Pricing was agreed in the contract with the terms and conditions considered normal business practice.

BCP entered into a contract with PTT for the use of PTT's Si Racha petroleum and gas terminal service. The 15-year contract, which started on January 1, 2009, involves receipt, storage and distribution of oil products. The service charge was agreed in the contract with the terms and conditions considered normal business practice.

BCP entered into an agreement with PTT to operate NGV fueling stations. The Company earned income from land use and station operation at the rates agreed in the contract, with the terms and conditions considered normal business practice.

BCP entered into an agreement with PTT on February 25, 2008, for the sale/purchase of electricity and steam. Under the contract, PTT is the investor in the construction of a plant with a capacity to produce 90 tons per hour of steam and 19.7 megawatts of electricity, while BCP is the sole buyer of all products at the prices agreed in the contract with the terms and conditions considered normal business practice. Commercial production started in June 2010.

2. 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 practices, relied on market prices and followed the details stated in the operating right agreements.

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

A subsidiary company, Bangchak Biofuel was set up to produce and sell biodiesel. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.

4. Connected transactions with Bangchak Solar Energy Co., Ltd.

Bangchak Solar Energy Co., Ltd. (an indirect subsidiary through BCPG Plc.) was formed to run the solar-farm business known as "Sunny Bangchak" Phase 1 with a 38-MW capacity located at Amphoe Bang Pa-In, Phra Nakhon Si Ayutthaya. The service fees were at arm's length and market prices, detailed as stated in the operating agreement.



- 5.** Connected transactions with Bangchak Solar Energy (Prachinburi) Co., Ltd.
A subsidiary company of BCPG Plc., operated a solar power plant to produce electricity from solar cell, at Amphoe Kabin Buri, Prachin Buri. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 6.** Connected transactions with Bangchak Solar Energy (Chaiyaphum1) Co., Ltd.
A subsidiary company of BCPG Plc., operated a power plant to produce electricity from solar cell, at Amphoe Bamnet Narong, Chaiyaphum. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 7.** Connected transactions with Bangchak Solar Energy (Buriram) Co., Ltd.
A subsidiary company of BCPG Plc., operated a power plant to produce electricity from solar cell, at Amphoe Prakhon Chai, Buri Ram. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 8.** Connected transactions with Bangchak Solar Energy (Buriram 1) Co., Ltd.
A subsidiary company of BCPG Plc., operated a power plant to produce electricity from solar cell, at Amphoe Nong Ki, Buri Ram. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 9.** Connected transactions with Bangchak Solar Energy (Nakhonratchasima) Co., Ltd.
A subsidiary company of BCPG Plc., operated a power plant to produce electricity from solar cell, at Amphoe Dan Khun Thot, Nakhon Ratchasima. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 10.** Connected transactions with BCP Energy International Pte, Ltd.
A subsidiary company in Singapore, BCP Energy International Pte, Ltd. was set up to engage in businesses concerning energy, petrochemical, and natural resource abroad. These connected transactions followed normal business practices, relied on market prices.
- 11.** Connected transactions with BCP Innovation Pte., Ltd.
A subsidiary company in Singapore, BCP Innovation Pte., Ltd. was set up to engage in businesses concerning innovation. These connected transactions followed normal business practices, relied on market prices.
- 12.** Connected transactions with BCP Trading Pte., Ltd.
A subsidiary company in Singapore, BCP Trading Pte., Ltd. was set up to trade commodities which include crude oil, petroleum products, petrochemicals and other related chemicals and to conduct other businesses that would benefit the company including but not limited to hedging, chartering, storage and distribution. These connected transactions followed normal business practices, relied on market prices.
- 13.** Connected transactions with Nido Petroleum Limited
Nido Petroleum Limited (an indirect subsidiary in Australia) was formed to run the petroleum exploration and production business. These connected transactions followed normal business practices, relied on market prices.
- 14.** Connected transactions with BCPG Plc.
A subsidiary company of BCPG Plc. was set up to operate a power plant to produce electricity from solar cell. These connected transactions followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 15.** Connected transactions with Bangchak Retail Co., Ltd
The Company's associated company, is engaged in franchise businesses and intellectual property. The transaction with this company followed normal business practices, relied on market prices and followed details stated in the operation contracts.



- 16.** Connected transactions with Bangchak Bioethanol (Chachoengsao) Co., Ltd.
The Company's associated company, is engaged in cassava-based ethanol production. The plant can run on fresh cassava and cassava chips. The ethanol was used in the production of gasohol. The transaction with this company followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 17.** Connected transactions with Ubon Bio Ethanol Co., Ltd.
The Company's associated company, is engaged in cassava-based ethanol production. The plant can run on fresh cassava and cassava chips. The ethanol was used in the production of BCP's gasohol and most was exported to China. The transaction with this company followed normal business practices, relied on market prices and followed details stated in the operation contracts.
- 18.** Connected transactions with Ubon Agricultural Energy Co., Ltd.
Transactions with Ubon Agricultural Energy Co., Ltd, a connected company as a result of Ubon Bio-Ethanol Co., Ltd. (BCP's associated company), holding shares in this company, followed normal business practices and market prices.
- 19.** Connected transactions with Fuel Pipeline Transportation Co., Ltd.
BCP entered into contracts with this company to take its oil products from Bangchak Depot to its Bang Pa-in Depot and sell them to its customers in the Central, North and Northeast under normal business conditions and market prices.
- 20.** Connected transactions with Thai Oil Plc (Connected transactions until April 30, 2016)
Transactions with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices
- 21.** Connected transactions with Thai Lube Base Plc (Connected transactions until April 30, 2016)
Transactions with this company, a connected company through PTT, followed normal business practices and market prices.
- 22.** Connected transactions with PTT Global Chemical Plc (Connected transactions until April 30, 2016)
(a company founded through the amalgamation of PTT Aromatics and Refining Plc and PTT Chemical Plc)
Transactions with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices.
- 23.** Connected transactions with IRPC Plc (Connected transactions until April 30, 2016)
Transactions with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices.
- 24.** Connected transactions with NPC Safety and Environmental Services Co., Ltd. (Connected transactions until April 30, 2016)
Service fees with this company, a connected company through PTT, followed normal business practices and market prices.
- 25.** Connected transactions with PTT International Trading Co., Ltd. (Connected transactions until April 30, 2016)
Transactions with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices
- 26.** Connected transactions with PTT ICT Solutions Co., Ltd. (Connected transactions until April 30, 2016)
Payment for the rights to use Microsoft software from this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices.
- 27.** Connected transactions with PTTEP Siam Co., Ltd. (Connected transactions until April 30, 2016)
Other services fees with this company, a connected company through PTT, followed normal business practices and market prices.



- 28.** Connected transactions with Energy Complex Co., Ltd. (Connected transactions until April 30, 2016)
The deposit payments, office rents and office service fees with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices.
- 29.** Connected transactions with PTT International Trading DMCC Co., Ltd. (Connected transactions until April 30, 2016)
Transactions with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices.
- 30.** Connected transactions with IRPC Oil Co., Ltd. (Connected transactions until April 30, 2016)
Transactions with this company, a connected company through PTT, followed normal business practices and market prices.
- 31.** Connected transactions with Star Petroleum Refining Co., Ltd. (Connected transactions until April 30, 2016)
Transactions with this company, a connected company as a result of shared relationship through PTT, followed normal business practices and market prices.
- 32.** Connected transactions with ThaiOil Energy Service Co., Ltd. (Connected transactions until April 30, 2016)
The services fees with this company, a connected company through PTT, followed normal business practices and market prices.
- 33.** Connected transactions with PTT Energy Solutions Co., Ltd. (Connected transactions until April 30, 2016)
Other services fees with this company, a connected company through PTT, followed normal business practices and market prices.
- 34.** Connected transactions with PTT Exploration and Production Plc (Connected transactions until April 30, 2016)
Other services fees with this company, a connected company through PTT, followed normal business practices and market prices.

These transactions were undertaken in the normal course of business, with none taken as extraordinary transactions. No siphoning of interests occurred among BCP, subsidiary companies, connected companies and shareholders. Approvals were scrutinized by the President, who duly approved them as authorized by Company regulations.

Disclosure of connected transactions follow the rules of the Office of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET), as well as the accounting standards concerning the disclosure of information concerning connected parties and businesses, as defined by the Federation of Accounting Profession of Thailand.

Policy for future connected transactions

In undertaking future connected transactions, BCP 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 follow market practices and/or the details stipulated in commercial contracts. However, in such cooperation, BCP takes into consideration its best interests. The Audit Committee and the Internal Audit Office are to supervise and review BCP's business to ensure its conformance to securities and SET laws, as well as the requirements, announcements, or regulations of SET. In addition, for whichever transactions involving BCP 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
2016	Mr. Natthaphong Tantichatanon Certified Public Accountants, Registration Number 8829	KPMG Phoomchai Audit Co., Ltd. (KPMG)
2015	Mr. Winid Silamongkol Certified Public Accountants, Registration Number 3378	
2014	Mr. Vairoj Jindamaneepitak Certified Public Accountants, Registration Number 3565	

KPMG have audited the consolidated and separate financial statements of The Bangchak Petroleum Public Company Limited and its subsidiaries (the “Group”) and of The Bangchak Petroleum Public Company Limited (the “Company”), respectively, which comprise the consolidated and separate statements of financial position as of 31 December 2016, 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 2016 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 an 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 under the Royal Patronage of His Majesty the King 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.

Business acquisition	
Refer to Notes 3 (a) and 4 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
During 2016, the Group completed the acquisition of Solar business in Japan. The Group engaged independent appraiser to provide valuation of the fair value of the assets and liabilities acquired. The fair value assessment of intangible assets are based on estimates and significant assumptions. In addition, the Group has additional contingent consideration, the estimation of additional contingent consideration required judgment by the management and is inherently uncertain, therefore, this is focus area in an audit.	The Auditor's procedures included evaluating the independent appraiser independence & qualification. The Auditor challenged the significant assumptions. The Auditor engaged KPMG valuation specialist to assist in verifying the methodology adopted in determining fair value and testing the mathematical accuracy. The Auditor assessed the appropriateness of additional contingent consideration estimated by the management. The Auditor considered the adequacy of the group's disclosures in respect of the business acquisition.

Calculation of recoverable amount of oil exploration & production assets	
Refer to Notes 3 (I) and 9 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
The outlook for oil market continues to be challenging due to excess of crude oil supply against a backdrop of reduced demand growth. As a result, future oil prices are still continuing to fluctuate. The recoverable amount calculated is based on value in use. The value in use is derived from discounted cash flow projections which reflect a number of assumptions and estimates by the management, therefore, this is focus area in an audit.	The Auditor's procedures included testing of the calculation of recoverable amount prepared by the management. The Auditor assessed the key assumptions estimated by the management with reference to internally and externally derived sources after taking into account the historical forecasting accuracy. The Auditor consulted with KPMG valuation specialists when considering the appropriateness of the discount rate. The Auditor performed sensitivity analysis around the key assumption. The Auditor considered the adequacy of the disclosures.



Valuation of inventories	
Refer to Notes 3(g) and 10 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
Inventories are measured at the lower of cost and net realizable value. As a result of fluctuation in crude oil and oil products price which may cause the net realizable value to be lower than cost.	The Auditor verified the appropriateness of the net realizable value calculation. The Auditor checked the selling prices of finished goods with the reference market price. The Auditor considered the adequacy of the disclosure of inventories.

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, 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.

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 remain 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 I identify during my 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, 2016

Statement of financial position

(Unit: Baht Million)

	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Current assets						
Cash and cash equivalents	19,287	18.9	7,872	9.6	7,954	10.3
Current investments	1,719	1.7	4,519	5.5	623	0.8
Trade accounts receivable	6,022	5.9	5,234	6.4	5,835	7.6
Other receivables	1,191	1.2	742	0.9	1,260	1.6
Inventories	14,560	14.3	13,945	17.0	14,059	18.3
Oil fuel fund subsidies receivable	894	0.9	825	1.0	1,215	1.6
Other current assets	477	0.5	489	0.6	1,350	1.8
Asset classified as held for sale	-	-	173	0.2	-	-
Total current assets	44,150	43.4	33,800	41.2	32,294	42.0
Non-current assets						
Investments in associate and joint ventures	840	0.8	774	0.9	762	1.0
Other long-term investments	739	0.7	328	0.4	323	0.4
Investment properties	360	0.4	459	0.6	459	0.6
Property, plant and equipment	46,462	45.6	40,044	48.9	38,136	49.5
Leasehold rights	1,939	1.9	1,644	2.0	1,396	1.8
Intangible assets	5,013	4.9	2,779	3.4	1,648	2.1
Deferred tax assets	547	0.5	560	0.7	658	0.9
Other non-current assets	1,734	1.7	1,555	1.9	1,289	1.7
Total non-current assets	57,632	56.6	48,143	58.8	44,671	58.0
Total assets	101,783	100.0	81,942	100.0	76,966	100.0
Liabilities						
Current liabilities						
Short-term loan from financial institutions	7,444	7.3	-	-	-	-
Trade accounts payable	8,766	8.6	4,994	6.1	5,774	7.5
Other payables	3,093	3.0	2,755	3.4	2,359	3.1
Current portion of long-term loans from financial institutions	1,697	1.7	1,026	1.3	1,312	1.7
Current portion of debenture	2,000	2.0	-	-	-	-
Excise tax and oil fuel fund payable	1,069	1.1	778	0.9	933	1.2
Income tax payable	493	0.5	78	0.1	4	0.0
Liabilities on long-term lease	-	-	-	-	85	0.1
Short-term provisions	502	0.5	-	-	-	-
Other current liabilities	1,012	1.0	858	1.0	842	1.1
Total current liabilities	26,076	25.6	10,489	12.8	11,309	14.7
Non-current liabilities						
Long-term loans from financial institutions	14,458	14.2	16,648	20.3	15,901	20.7
Debentures	13,988	13.7	15,984	19.5	12,985	16.9
Finance lease liabilities	-	-	-	-	919	1.2
Deferred tax liabilities	601	0.6	280	0.3	150	0.2
Liabilities on long-term lease	38	0.0	43	0.1	27	0.0
Employee benefit obligations	1,770	1.7	1,571	1.9	1,189	1.5
Provision for the decommissioning cost	870	0.9	848	1.0	443	0.6
Other non-current liabilities	75	0.1	95	0.1	76	0.1
Total non-current liabilities	31,798	31.2	35,470	43.3	31,690	41.2
Total liabilities	57,874	56.9	45,959	56.1	43,000	55.9
Equity						
Issued and paid-up share capital	1,377	1.4	1,377	1.7	1,377	1.8
Additional paid-in capital	12,960	12.7	11,366	13.9	11,366	14.8
Retained earnings	25,085	24.6	22,859	27.9	20,820	27.1
Other components of equity	121	0.1	(121)	(0.1)	(254)	(0.3)
Non-controlling interests	4,366	4.3	502	0.6	657	0.9
Non-controlling interests	43,909	43.1	35,983	43.9	33,966	44.1
Total liabilities and equity	101,783	100.0	81,942	100.0	76,966	100.0



Statement of income

(Unit: Baht Million)

Statement of Income	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Revenue from sale of goods and rendering of services	144,705	100.0	151,140	100.0	183,016	100.0
Cost of sale of goods and rendering of services	(132,809)	(91.8)	(139,686)	(92.4)	(178,453)	(97.5)
Gross Profit	11,896	8.2	11,454	7.6	4,563	2.5
Investment income	191	0.1	248	0.2	167	0.1
Other income	337	0.2	294	0.2	1,030	0.6
Selling expenses	(3,786)	(2.6)	(3,215)	(2.1)	(2,817)	(1.5)
Administrative expenses	(2,403)	(1.7)	(1,960)	(1.3)	(1,663)	(0.9)
Gain (loss) from crude and product oil price hedging contract	107	0.07	(407)	(0.3)	499	0.3
Gain (loss) from foreign currencies forward contract	39	0.03	(155)	(0.1)	84	0.0
Gain on foreign exchange	237	0.2	178	0.1	674	0.4
Reversal of allowance for loss (loss) from impairment of assets	37	0.0	(65)	0.0	(1,157)	-0.6
Share of profit of associate and joint ventures	21	0.0	12	0.0	5	0.0
Gain on bargain purchase	227	0.2	-	0.0	-	0.0
Profit before finance costs and income tax expense	6,902	4.8	6,385	4.2	1,365	0.7
Finance costs	(1,484)	(1.0)	(1,615)	(1.1)	(1,427)	(0.8)
Profit before income tax expense	5,418	3.7	4,770	3.2	(61)	0.0
Income tax expense	(689)	(0.5)	(673)	(0.4)	691	0.4
Profit for the year	4,729	3.3	4,097	2.7	629	0.3
Profit (loss) attributable to:						
Owners of the Company	4,773	3.3	4,151	2.7	696	0.4
Non-controlling interests	(44)	0.0	(53)	0.0	(67)	0.0
Profit for the year	4,729	3.3	4,097	2.7	629	0.3
Earnings per share						
Basic earnings per share	3.47		3.01		0.51	



Statement of cash flows

(Unit: Baht Million)

	2016	2015	2014
Cash flows from operating activities			
Profit for the year	4,729	4,097	629
<i>Adjustments for</i>			
Depreciation	4,461	4,466	3,120
Amortisation	273	243	193
(Reversal of) allowance for bad and doubtful debts expense	(2.09)	(0.27)	(4.44)
Unrealised loss on foreign exchange	90	270	(269)
Reversal of allowance for loss on decline in value of inventories	(98)	(882)	999
(Reversal of) allowance for loss from impairment of assets	(37)	65	1,157
(Gain) loss on disposal of property, plant and equipment	(8)	75	(7)
Investment income	(191)	(248)	(167)
Gain on disposal of other investment	(29)	-	-
Gain on bargain purchase	(227)	-	-
Provision for employee benefit	145	145	118
Deferred revenue	(5)	(2)	(1)
Provision for customer loyalty programmes	32	23	24
Share of profit of associate and joint ventures, net of income tax expense	(21)	(12)	(5)
Finance costs	1,484	1,615	1,427
Income tax expense	689	673	(691)
	11,286	10,526	6,523
Changes in operating assets and liabilities			
Trade accounts receivable	(797)	807	3,057
Other receivables	(189)	652	(429)
Inventories	(515)	1,287	2,114
Other current assets	107	1,412	741
Other non-current assets	(373)	(64)	(57)
Trade accounts payable	3,775	(1,007)	(5,863)
Other payables	87	(403)	141
Other current liabilities	354	(416)	837
Employee benefit obligations	(31)	(29)	(33)
Other non-current liabilities	(0)	(56)	(207)
Cash generated from operating activities	13,704	12,710	6,823
Income tax paid	(416)	(677)	(755)
Net cash from operating activities	13,288	12,033	6,068
Cash flows from investing activities			
Interest received	209	212	166
(Increase) decrease in current investments	2,799	(3,896)	109
(Increase) decrease in long-term investments	(168)	(165)	(58)
Net cash outflow from subsidiary's share capital	-	-	-
Net cash outflow for investment in joint ventures	(44)	-	-
Net cash outflow on acquisition of subsidiary	(963)	(2,407)	(2,480)
Dividend received	3	2	-
Cash inflow from disposal of other investment	203	-	-
Purchase of property, plant and equipment	(9,370)	(4,645)	(7,350)
Sale of property, plant and equipment	120	53	12
Increase in leasehold right	(451)	(390)	(344)
Purchase of intangible assets	(492)	(107)	(99)
Net cash from (used in) investing activities	(8,154)	(11,343)	(10,042)
Cash flows from financing activities			
Financial cost paid	(1,641)	(1,615)	(1,439)
Increase in long term loans from financial institutions	7,362	-	-
Proceeds from issuance of subsidiary's share capital	75	-	-
Proceeds from long - term loans	9,611	1,122	-
Repayment of long - term loans	(12,032)	(1,356)	(1,254)
Proceeds from issuance of debentures	-	2,996	9,987
Dividend paid	(2,754)	(2,039)	(1,946)
Net proceeds from subsidiaries' shares issuance without change in control	5,771	-	-
Net cash from (used in) financing activities	6,391	(893)	5,348
Net increase (decrease) in cash and cash equivalents	11,524	(202)	1,374
Cash and cash equivalents as at 1 January	7,872	7,954	6,527
Effect of exchange rate changes on balances held in foreign currencies	(110)	120	53
Cash and cash equivalents as at 31 December	19,287	7,872	7,954



(3) Financial Ratios

Management Discussion and Analysis on Financial Ratios of 2016 and 2015 ^{1/}

Statement of income / Return Ratios		2016	2015	2014
Revenue from sale of goods and rendering of services	Million Baht	144,705	151,140	183,016
Net profit	Million Baht	4,729	4,097	629
Net earnings per share ^{1/}	Baht/share	3.47	3.01	0.51
Net profit / sales and service revenue	%	3.27	2.71	0.41
Rate of return on shareholders'equity ^{2/}	ร้อยละ	12.73	12.07	2.09
Rate of return on assets ^{3/}	ร้อยละ	7.51	8.04	2.29

Statement of financial position / Financial Ratios		2016	2015	2014
Total assets	Million Baht	101,783	81,942	76,966
Total liabilities	Million Baht	57,874	45,959	43,000
Shareholders'equity	Million Baht	43,909	35,983	33,966
Current Ratio	times	1.69	3.22	2.86
DSCR (Principle Interest)	times	1.76	3.73	1.93
Debt with interest payable to equity	times	0.86	0.94	0.92
Book value per share ^{4/}	Baht/share	28.72	25.77	24.19

Note: financial reports of the company and subsidiaries in 2014 were restated, due to changes of accounting policies which financial report standard of the company revised and became effective from Jan.1, 2014.

^{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 result for the year ended 31st December 2016.

In 2016, the consolidated financial statement recorded revenue from sale of goods and rendering of services of Baht 144,705 million which was Net Profit attributable to owners of the Company of Baht 4,773 million, or earning per share of 3.47 Baht, increased 15% from previous year.

EBITDA Structure of the Company and its subsidiaries.						Unit: Million Baht		
	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Total Revenue	35,136	36,686	40,481	15%	10%	151,140	144,705	-4%
Total EBITDA	1,401	2,798	3,287	135%	17%	11,081	11,363	3%
<i>EBITDA Refinery^{1/}</i>	130	1,503	2,367	N/A	57%	5,097	5,756	13%
<i>EBITDA Marketing^{2/}</i>	549	607	(3)	-101%	-101%	2,497	2,527	1%
<i>EBITDA Power Plant^{3/}</i>	865	612	795	-8%	30%	3,005	2,559	-15%
<i>EBITDA Biofuel^{4/}</i>	113	(65)	131	16%	303%	355	326	-8%
<i>EBITDA Exploration and Production^{5/}</i>	(26)	171	71	371%	-59%	472	323	-32%
<i>EBITDA Others^{6/}</i>	(56)	(31)	(73)	-29%	-137%	(171)	(129)	25%
Profit attributable to owners of the Company	(112)	1,178	1,131	N/A	-4%	4,151	4,773	15%
Basic earnings per share (Baht)	(0.08)	0.86	0.82			3.01	3.47	15%

1/ EBITDA from Refinery Business of the Company, BCP Trading Pte. Ltd. and Bongkot Marine Services Co., Ltd.

2/ EBITDA from Marketing Business of The Company, Bangchak Greenet Co., Ltd., and Bangchak Retail Co., Ltd.

3/ EBITDA from Power Plant Business of BCPG Plc. and its subsidiaries

4/ EBITDA from Bangchak Biofuel Co., Ltd., Bangchak Bioethanol (Chachoengsao) Co., Ltd., and Ubon Bio Ethanol Co, Ltd.

5/ EBITDA from Nido Petroleum Limited

6/ EBITDA from BCP Energy International Pte, Ltd., BCP Innovation Pte. Ltd., and others

In 2016, Bangchak refinery's average crude run was decreased compared to 2015, from the annual turnaround maintenance started from 8th February to 23rd March totaling 45 days. However, total sales volume was increased by 5% YoY, especially in sales volume through retail market (service stations), since the company had reserved its oil products to sell during refinery's maintenance period. This was according to the company's strategy to serve the retail market as its main priority, in



response to the boosted domestic demand due to the declining retail oil product prices, the economic recovery and the consecutive tourism growth from 2015. Consequently, total marketing margin was slightly increased compare to previous year.

Average Dubai crude oil price in 2016, compared to 2015, was decreased by 19% (average Dubai crude oil price in 2016 and 2015 was 41.43 and 50.84 \$/BBL respectively), due to the lower oil demand from China earlier this year. In addition, OPEC's crude oil production continuously hit its highest production record in 2016. However, the crude oil price during the end of the year was supported by the supply-reduction deal of The Organization of the Petroleum Exporting Countries (OPEC) and 12 non-OPEC countries. Consequently, the company recorded an inventory gain of Baht 590 million and its subsidiaries recorded an inventory loss of Baht 102 million, resulted in an inventory gain of Baht 488 million as a group.

In 2016, the Company and its subsidiaries recorded a gain from crude and product oil price hedging contract of Baht 107 million, a gain from foreign currency forward contracts of Baht 39 million, and a gain on foreign exchange of Baht 237 million, from Bath appreciation. While the company's strategy focusing on business expansion lead to non-recurring higher cost of selling and administrative expenses related to acquisition and establishing subsidiaries company activities, resulting in a decline in some business performance. However, the consolidated performance of the company and its subsidiaries was superior to previous year. As a result, in 2016, the Company and its subsidiaries recorded a total EBITDA of Baht 11,363 million, increased 3% YoY.

The summary of business performance by sector were as follows:

Bangchak refinery's average crude run was recorded at 101.39 KBD, decreased from the annual turnaround maintenance (TAM). However, crude run was steadily higher than the target of 96 KBD afterwards. Market GRM was recorded at 5.99 \$/BBL, reduced from last year, since Dated Brent/Dubai crack spread (DTD/DB) expanded while most of the products crack spreads dropped, especially in Gas Oil/Dubai crack spread (GO/DB), which was the majority of Bangchak's refining products, was decreased by 21% YoY. Despite the spread issue, Market GRM had been driven by cost reduction from quality improvement project and Co-generation system that saves cost of electricity with thermal energy. In addition, the crude oil prices was increased at the end of the year, resulted in an inventory gain of Baht 590 million refinery business, and a gain from crude and product oil price hedging contract of Baht 112 million. EBITDA was increased by 13% YoY.

Marketing business sales volume was 5,789 million liters, increased by 7% YoY, from the rise in domestic oil demand in both retail and industrial markets, supported by the declining retail oil product prices and a growth in tourism sector. The company's retail market share remained in the 2nd rank at 15.1%, as the company prioritizes its selling of finished products through service stations and opening new and quality service stations. Total marketing margin was 0.79 baht per liter, increased by 3% YoY. In 2016, marketing business incurred in a higher cost of selling and administrative expenses, resulting from the sales volume oriented strategy and business expansion, by establishing Bangchak Retail Co., Ltd. to



operate non-oil business. Consequently, EBITDA was slightly increased from the previous year.

Solar Power business which is currently operated by BCPG Plc., a subsidiary of the company, recorded an increase in total revenue by 2%YoY. Its solar power business in Japan had the total electricity sales of 19.50 million kWh from the operating projects, and two of agricultural cooperatives solar farms have started the commercial operation with PPA of 7 MW. However, solar power business in Thailand recorded a lower total electricity sales by 8.93 kWh (-3%YoY), mainly from decreasing in irradiation hours of all the 3 phases and the lower average electric price (exclude adder). Solar Power business recorded a higher selling, general and administrative expenses comparing to the previous year, due to the cost of acquiring SunEdison (Japan), preparing project under construction and development, and its initial public offering (IPO) which lead to diminishing EBITDA by 15% YoY.

Biofuel business recorded a revenue of Baht 7,093 million, increased by 31% YoY, due to Bangchak Biofuel. Co., Ltd.'s 2nd biodiesel plant and Bangchak Bioethanol (Chachoengsao) Co., Ltd.'s ethanol plant commencement. B100 sales volume grew in response to the new biodiesel Plant. However, in order to cope with the rising crude palm oil price earlier this year, the government announced a reduction in B100 mixing portion with diesel since July (B100 portion in with diesel: 25 July reduced from 7% to 5%, 25 August reduced from 5% to 3%, and 25 November increased from 3% to 5%). As a result, Biodiesel business was unable to reach its target production, and recorded the average daily production rate at 406 thousands liters. Moreover, the volatility of the crude palm oil prices resulted in the Baht 143 million inventory loss for the year (including allowance for loss on decline in value of inventories (LCM) of Baht 7 million). Consequently, biodiesel business EBITDA was decreased by 23% YoY. However, ethanol business recorded an additional EBITDA from Bangchak Bioethanol (Chachoengsao) Co., Ltd, and a higher share of profit from Ubon Bio Ethanol Co., LTD. As a result, biofuel business record an EBITDA of Baht 326 million, decreased by 8% YoY.

Exploration and Production Business recorded a revenue of Baht 1,503 million, with the total sales volume of 995,880 barrels. The decline in revenue followed the fact that the average selling price per cargo dropped as the market price was lower and the sale volume decreased as the production volume declined in accordance with the Natural-Divide Production Curve. However, Nido Petroleum is still focusing on its cost saving program on both the expenses in production and selling, general and administrative responding to the low crude oil price environment. In 2016, The Board of Directors of the company approved to inject AUD 25.94 million into BCP Energy International Pte., Ltd. (BCPE) for taking all the entitlement right under Nido Petroleum Limited's entitlement offer of new ordinary shares. The proceeds will be used to finance Nido's participates interest share of the cost of drilling the Galoc appraisal well. BCPE's stake in Nido was increased from 81.25% to 96.98%.



Consolidated Statement of Income						Unit: Million Baht		
	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Revenue from sale of goods and rendering of services	35,136	36,686	40,481	15%	10%	151,140	144,705	-4%
Cost of sale of goods and rendering of services	(33,097)	(33,774)	(36,721)	11%	9%	(139,686)	(132,809)	-5%
Gross Profit	2,039	2,912	3,759	84%	29%	11,454	11,896	4%
Investment income and other income	99	113	404	309%	258%	543	754	39%
Selling and administrative expenses	(1,672)	(1,473)	(2,071)	24%	41%	(5,175)	(6,189)	20%
Gain (loss) from crude and product oil price hedging contract	(312)	11.0	(66)	79%	-703%	(407)	107	126%
Gain (loss) from foreign currency forward contracts	24	13	(32)	-230%	-341%	(155)	39	125%
Gain (loss) on foreign exchange	92	156	(253)	-375%	-263%	178	237	33%
Reversal of allowance for gain/(loss) from impairment of assets	(70)	3	31	145%	802%	(65)	37	157%
Share of profit (loss) of associate	4	(1)	16	318%	N/A	12	21	69%
Profit before finance costs and income tax expense	203	1,734	1,788	778%	3%	6,385	6,902	8%
Finance costs	(412)	(369)	(415)	1%	13%	(1,615)	(1,484)	-8%
Profit/(loss) before income tax expense	(208)	1,365	1,372	759%	1%	4,770	5,418	14%
Income tax (expense) credit	17	(233)	(164)	N/A	-30%	(673)	(689)	2%
Profit for the period	(191)	1,132	1,209	733%	7%	4,097	4,729	15%
Owners of the Company	(112)	1,178	1,131	N/A	-4%	4,151	4,773	15%
Non-controlling interests	(79)	(47)	77	198%	266%	(53)	(44)	18%
Earnings per share (Baht per Share)	(0.09)	0.86	0.82	N/A	-4%	3.01	3.47	15%

In 2016, the company and its subsidiaries recorded a Net Profit attributable to owners of the Company of Baht 4,773 million, an increase of Baht 623 million (15% YoY) when compared to 2015, with details as follows:

- 1) Total revenue from sale of goods and rendering of services of Baht 144,705 million, a decrease of 4% YoY, mainly from the reduction in finished oil product sales volume from the previous year. However, total sales volume increased by 5% YoY, and expanded in every sales channels of the company.
- 2) Gross Profit was recorded at Baht 11,896 million, increased 4% YoY. Even Market GRM was 5.99 \$/BBL, decreased by 3.06 \$/BBL, compared to 2015. However, Gross Profit of biodiesel Business was decreased due to the higher average the crude palm oil (CPO) price, which is the raw material for B100 production. In 2016, the Company and its subsidiaries recorded an Inventory Gain of Baht 488 million, while in 2015, there was an Inventory Loss totaling of Baht 4,434 million.



- 3) Investment income and other income was recorded at Baht 754 million, an increase of Baht 221 million (+39% YoY). As in Q4/2016, there was a profit from bargain purchase of Baht 227 million, from the acquisition of Solar Power business of SunEdison in Japan.
- 4) Selling and administrative expense was recorded at Baht 6,189 million, an increase of 20% YoY, mainly due to the increased expense of BCPG Plc. of Baht 555 million and Bangchak Retail Co., Ltd of Baht 136 million. Mainly from the Baht 385 million increment of expense related to human resources, as the number of employee increased, advertising expense and other expense for the company's strategy focusing on increase of sale volume and business expansion. Moreover, there was an increase of depreciation and amortization in 2016.
- 5) Gain from crude and product oil price hedging contract of Baht 107 million from the gain from oil product hedging, while in 2015, the Company recorded loss from crude and product oil price hedging contract of Baht 407 million.
- 6) Gain on foreign currency forward contracts at Baht 39 million, an increase of 125% YoY, from the appreciation of Thai Baht against US Dollar compared to the previous year, while in 2015, the Company recorded loss on foreign currency forward contracts of Baht 155 million.
- 7) Gain on foreign exchange was recorded at Baht 237 million, an increase of 33% YoY from the appreciation of Thai Baht against US Dollar compared the previous year. However, the weakening of Japanese Yen resulting in a loss on foreign exchange of business in Japan of Baht 86 million.
- 8) The company and its subsidiaries recorded a gain on reversal of an impairment loss of Baht 37 million, from the increment of Contingent Resource estimates in Exploration and Production Business, while in 2015 recorded impairment loss of Baht 65 million.
- 9) Finance costs was recorded at Baht 1,484 million, a decrease of 4% YoY, due to the partial prepayment of long-term loan from financial institutions.
- 10) In 2016, BCP Innovation Pte. Ltd., a subsidiary of the company, recorded a gain from a change in fair value of asset available for sale, LAC (Lithium Americas Corp.), of Baht 235 million, which will be recorded in other comprehensive income.



Performance of each company details are as follows:

Statement of Income of the company and its subsidiaries

Unit: Baht Million

2016	Revenue from sale of goods and rendering of services	Net Profit
The Bangchak Petroleum Plc.	137,064	4,502
Bangchak Green Net Co., Ltd.	29,286	82
Bangchak Biofuel Co.,Ltd.	6,830	117
BCPG Plc. Group	3,084	1,541
Bangchak Retail Co., Ltd.	31	(89)
Bangchak Bioethanol (Chachoengsao) Co.,Ltd.	263	22
Nido Petroleum Ltd.	1,503	(568)
Other ^{1/}	876	35

Note: 1/ BCP Energy International Pte. Ltd., BCP Innovation Pte. Ltd., BCP Trading Pte. Ltd.,

Summary of events in 2016

- **January 2016** BCPG Plc., a subsidiary of The Company, has signed Purchase and Sale Agreement to purchase the entire solar power plant business of Sun Edison in Japan with total Power Purchase Agreement (PPA) of 164 Megawatts (MW) (installed capacity of 198 MW), within the Budget of JPY 9,626 million (equivalent to THB 2,915 million).
- **February 2016** Company has set up two new subsidiaries in accordance with the Company's Board of Directors Meeting as follows:
 - BCPG investment Holdings Pte., Ltd. and BSE Energy Holdings Private Pte., Ltd., which were established in Singapore with the objectives of investment holdings.
 - Bangchak Retail Co., Ltd., which was established in Thailand with the objectives to engage in businesses related to food, beverages, consumer product, wholesale and retail sale, transportation, education, and warehouse.
- **February 2016** There was an Annual Turnaround Maintenance of Bangchak refinery, totaling 45 days (started from 8th February to 23rd March 2016).
- **April 2016**
 - BCPG Plc., a subsidiary of The Company, has purchased the entire solar power plant business of Huang Ming Japan Co., Ltd., for 2 solar power plant projects in Japan with total Power Purchase Agreement (PPA) of 30 Megawatts (MW) (installed capacity of 36 MW).
 - The Company's Annual General Meeting of Shareholders of the Company resolved to approve the profit allocation from retained earnings for dividend



- payment for the second-half-year operations of 2015 at the rate of Baht 1.00 per share.
- The Company has reported to the Stock Exchange of Thailand, on the change of investment scheme of BCP Bioethanol Co., Ltd., from ordinary shares purchase to be joint venture investment with SIMA Inter Product Co., Ltd. The new company will be renamed from “BCP Bioethanol Co., Ltd.” to “Bangchak Bioethanol (Chachoengsao) Co., Ltd.” The Company hold 85% shares in the joint venture company.
- **May 2016**
 - The Company has reported to the Stock Exchange of Thailand on the establishment of a new subsidiary company in Singapore “BCP Trading Pte. Ltd. (BCPT)” in Singapore, with the objectives to trade commodities which include crude oil, petroleum products, petrochemicals and other related chemical and to conduct other business. The Company hold 100% shares in BCPT.
 - The Company has reported to the Stock Exchange of Thailand on the establishment of the joint venture company “Bongkot Marine Services Co., Ltd.” with the objectives to engage in businesses related to floating storage unit (FSU). The Company hold 30% shares and Prima Marine Co., Ltd. hold 70% shares in the joint venture company
 - **July 2016** Bangchak Biofuel Co., Ltd. started the new 2nd Biodiesel Plant commercial production and sales, with an average production capacity of 450 thousands liters per day.
 - **August 2016**
 - The Company launched the new technology “Green S Revolution” for all of its gasohol products. The technology is an innovation for new gasoline engines using direct injection gasoline engine (DIG) system, and will help enhance engines efficiency
 - The Company’s Board of Directors meeting resolved to approve on profit allocation of the unappropriated retained earnings for interim dividend payment for Company’s shareholders at Baht 0.80 per share.
 - **September 2016**
 - BCPG Plc., a subsidiary of the company has finished the initial public offering (IPO) process of its ordinary shares which are listed in the Stock Exchange of Thailand. Newly issued shares of 590 million shares were offered at Baht 10 per share (Par value = Baht 5 per share) . The IPO resulted in the Company's shareholding in BCPG Plc. to be 70.35%.
 - The Company has reported to the Stock Exchange of Thailand on the establishment of a new associated company “Oam Suk Social enterprise Co., Ltd.” with the objectives to engage in business related to the procurement of agricultural products, rice, and other organic crops for processing, marketing, distribution, and research and development. The Company hold 40% shares and Buddhist Economic Foundation holds 60% shares in the associated company.
 - **October 2016** The Company has reported to the Stock Exchange of Thailand on the equity injection into BCP Energy International Pte., Ltd. (BCPE), for BCPE to



take up all of its pro rata entitlement under the Nido Petroleum Limited's entitlement offer representing AUD 25.94 million in proceeds, to fund appraisal wells program in the Mid-Galoc area of Galoc oil field in Philippines, which NIDO and other stakes of Galoc field will use for further development of the field. After the capital increase completed BCPE's shareholding in Nido increased from 81.25% to 96.98%.

- **November 2016** Bangchak Retail Co., Ltd., which is a subsidiary of The Company, launched the SPAR Supermarket from the Netherlands at Bangchak Ratchapruek Service Station, Bangkok for the first time. The supermarket will operate under the concept "SPAR FRESH & EASY FOOD MARKET", to provide customers with a distinct advantage, such as excellent fresh food, and promote the community by developing and selling products under the brand SPAR.

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

1) Refinery Business

Crude Oil Price								Unit: \$/BBL		
	Q4/2015	Q3/2016	Q4/2016			YoY	QoQ	2015	2016	YoY
	AVG	AVG	MAX	MIN	AVG	%	%			
Dubai (DB)	40.68	43.19	54.20	41.90	48.25	19%	12%	50.84	41.43	-19%
Dated Brent (DTD)	43.76	45.86	55.41	41.91	49.33	13%	8%	52.39	43.73	-17%
DTD/DB	3.09	2.67	4.98	-0.91	1.08	-65%	-60%	1.55	2.30	48%

Crude Oil Price Situation

Average Dubai crude oil price in 2016, compared to 2015, was decreased by 9.14 \$/BBL due to lower oil demand as China's economic growth was slowdown. Meanwhile, the western countries sanction on Iran had been lifted in January which put more pressure on crude oil price as more supply from Iran could potentially flow into the market. OPEC's crude oil production also continued hitting highest output record in 2016 as OPEC countries wanted to increase their market share before supply-reduction deal in December. Furthermore, the U.S. dollar had continued to strengthen as expectation that the U.S. economy under president-election Donald Trump will expand at a faster pace and the FED raises interest rates in December. All these factors are bearish sentiments to crude oil prices.

In Q4/2016, average Dubai crude oil price was 48.25\$/BBL, increased by 5.06 \$/BBL from the average price in the previous quarter. The oil price was supported by the supply-reduction deal of The Organization of the Petroleum Exporting Countries (OPEC) in November. OPEC agreed to curb production for the first time since 2008 by 1.2 million barrels per day, which produced around 33.7 million barrels per day, to 32.5 million barrels per day. Moreover, 12 non-OPEC countries also made commitments to cut output by 0.56 million barrels per day in December, led by Russia, Oman and Mexico excluded the U.S. Thus, the overall reduction deal between OPEC and other producers would cut almost 1.76 million barrels per day in oil output starting from January 2017 for six months. In addition, the national oil



companies of both OPEC and non-OPEC, including top producer in Saudi Arabia, Kuwait, UAE and Russia, had notified customers in Asia that they would reduce volume for crude delivery in order to comply with the agreement in mid-December. Market also expected other producers would have preliminary cut crude output from January 2017 onwards as well.

However, there are some pressures for crude oil price as OPEC's output hit a record high in November, rising to 33.87 million barrels per day. Moreover, a hike in the U.S. interest rate in December has made flow of money away from commodities into the U.S. dollar that hovered near a 14-year peak against a basket of major currencies. Furthermore, production at the major Libyan oilfield of Sharara and El Feel had gradually resumed after the lifting of a two-year pipeline blockade. Lastly, Crude oil price was also pressured on prospect of rising US shale production as working oil production rigs had increased from the lowest level 316 rigs in May to more 529 rigs in the last week of 2016.

For comparing of Dated Brent/Dubai crack spread in 2016 and 2015, the spread was increased by 0.75\$/BBL in 2016. The spread was supported by lower light crude supply due to the U.S. oil production decline in the early year. In addition, Nigeria's oil supply was lower as strike problems. While Chinese demand decreased due to slowdown economic growth also supported crack.

However, the average Dated Brent/Dubai spread in Q4/2016 was 1.08 \$/BBL, decreased by 1.59 \$/BBL compared to previous quarter. The spread was pressured by higher light crude oil supply from Libyan and shale oil productions in the U.S. have recovered to continue rising from the middle year. Meanwhile, heavy crude oil was supported as OPEC and non-OPEC agreed to curb production for 6 months starting in January 2017.

Crack Spreads								Unit: \$/BBL		
	Q4/2015	Q3/2016	Q4/2016			YoY	QoQ	2015	2016	YoY
	AVG	AVG	MAX	MIN	AVG	%	%			
UNL95/DB	18.72	11.59	17.86	11.98	14.59	-22%	26%	18.33	14.83	-19%
IK/DB	14.04	11.11	13.78	10.82	12.27	-13%	10%	13.85	11.56	-17%
GO/DB	13.71	10.93	14.78	9.48	12.04	-12%	10%	13.63	10.80	-21%
FO/DB	-6.56	-4.27	1.05	-5.92	-1.63	75%	62%	-5.03	-4.97	-1%

Crack Spreads Analysis

- ❖ An average Mogas/Dubai crack spread in 2016 decreased by 3.50 \$/BBL, compared to 2015, driven by lower gasoline import from Indonesia, according to the start of new Residue Fluid Catalytic Cracker in the fourth quarter of 2015. Indian gasoline demand was also slowdown for the first time in almost two and a half years due to severe flooding. Moreover, the higher retail price in Korea led to lower gasoline demand. In addition, the first round of Chinese product export quotas for 2016 were higher than the previous year as the



government allowed independent refineries to export oil product for the first time.

An average Mogas/Dubai crack spread in the Q4/2016 was 14.59 \$/BBL, compared to the average of 11.59\$/BBL in Q3/2016. The spread had been supported by gasoline demand growth in China due to 50% tax break on vehicle with 1.6 liter or smaller engines which expired in last December. In India, 500 and 1,000 rupee demonetization led to a temporary surge in gasoline sales, as the government allowed the use of these scrapped notes for payments at fuel stations until mid-December. Moreover, summer season in Africa region also supported gasoline demand. On the supply side, the crack spread was supported by the peak of refineries maintenance of the year in October that led to one-year lowest level of light distillates stock in Singapore. The major refinery in India had fire incident during the maintenance period that caused the delay in startup. Lastly, Colonial pipeline Line 1 in the U.S., which carries gasoline capacity 1.37 million barrels per day from the Gulf coast to Far East and North, shut down because of explosion and leak for one week in November.

- ❖ An average of Jet (Kerosene)/Dubai crack spread was decreased by 2.29 \$/BBL in 2016, compared to 2015. This was due to warmer winter in 2016 compared to previous year in Asia, led to lower demand for heating. Moreover, kerosene demand in India declined 10.6% compared to the previous year as LPG demand remained record highs which displacing the kerosene demand.

An average of Jet (Kerosene)/Dubai crack spread in Q4/2016 was 12.27 \$/BBL, compared to the average of 11.11\$/BBL in Q3/2016. The spread had been supported by the increasing demand for heating compare to the previous quarter as winter began.

- ❖ An average of Gasoil/Dubai crack spread in 2016 decreased by 2.83 \$/BBL, compared to 2015. This was due to the overall demand weakened as a result of warmer than usual winter in many regions which led to decreasing heating oil demand compare to the previous year. Furthermore, Chinese oil demand also decreased as slowdown growth of industry sector. According to China's environmental problems, the government cut working hours for coal miners that led to lower diesel demand about 6% in 2016 compare to the previous year. Moreover, the market still remained oversupplied with plenty of diesel.

An average of Gasoil/Dubai crack spread in Q4/2016 was 12.04 \$/BBL, compared to the average of 10.93 \$/BBL in the previous quarter. The spread had been driven by strong diesel demand in China from uptick in coal mining activities for power, and tighter scrutiny on truck overloading has also leading to higher freight mileage for diesel trucks. Moreover, Indian's diesel demand was increased after the monsoon has passed in November 2016 and Indian economic plan to boost country's GDP from 16% to 25% by 2025, implied to upcoming higher diesel demand. On the supply-side, supply also declined from refineries maintenances in both Saudi Arabia and India in Q4/2016.

- ❖ The average of Fuel Oil/Dubai crack spread slightly increased by 0.06 \$/barrel in 2016, compared to 2015. This was because the overall bunker demand



increased. It is also driven by demand from South Korea and Japan for electricity generation in the late 2016. While, the fuel oil arbitrage inflow from Europe to Asia was slowdown due to higher Russian fuel oil export tax effective in 2017.

The average of Fuel Oil/Dubai crack spread in Q4/2016 was -1.63 \$/BBL, compared to an average of -4.27 \$/BBL in Q3/2016. The spread had been stronger because the higher demand in fuel oil in power generation as nuclear power plant in Japan shut down for routine maintenance in December. In addition, the nuclear situation in South Korea was also supportive for fuel oil demand as the five nuclear units were taken offline in September following the earthquake and by that time it was unclear when these units would be able to come back until it restarted again in December. Meanwhile, the other four nuclear units in South Korea also shut down for scheduled maintenance in October. Moreover, the tight fuel oil market was partly due to strong demand from Pakistan which suffered from a hydroelectric power shortage because some dams was unable to operate due to low water levels. There was also an increase in bunker demand in the last quarter due to higher shipping activities before year end. On the supply-side, crack remained strong due to lower arbitrage inflows from Russia as higher fuel oil export tax starting in 2017 that forced the refineries to upgrade their units for high valued products throughput.

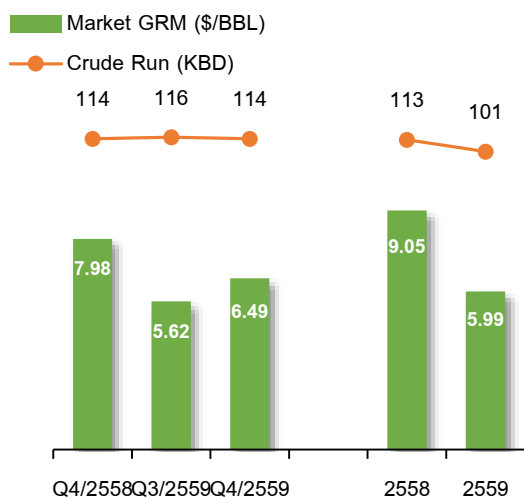


Refinery Business Performance

Refinery Business Performance						2015	2016	YoY
	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ			
Average Crude Run (KBD)	114.37	115.59	113.82	0%	-2%	112.94	101.39	-10%
Utilization Rate (%)	95%	96%	95%	0%	-1%	94%	84%	-10%
Average FX (THB/USD)	36.00	35.01	35.57	-1%	2%	34.40	35.47	3%
						(Unit: Million Baht)		
Market GRM	3,023	2,092	2,416	-20%	15%	12,838	7,887	-39%
GRM Hedging	(339)	11	(74)	78%	-774%	(472)	39	124%
Inventory Gain/ (Loss) ^{1/}	(1,631)	120	907	156%	658%	(4,354)	590	114%
Total GRM	1,053	2,223	3,250	209%	46%	8,012	8,516	7%
EBITDA	130	1,503	2,367	N/A	57%	5,097	5,756	13%

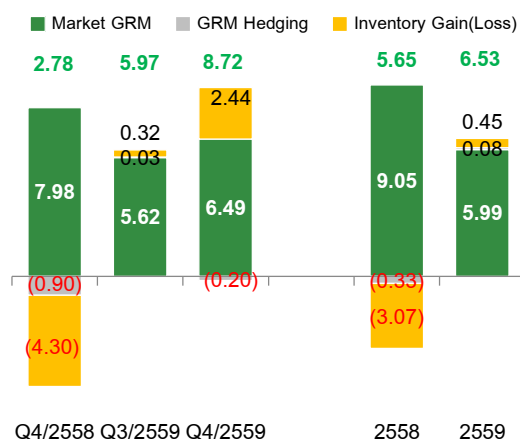
Note: ^{1/} Inventory Gain/ (Loss) in Q3/2016 was included a reversal of LCM.

Market GRM and Crude Run



Total GRM

Unit: \$/BBL





Total Sales Volume in each market category of the Company

Unit: Million Liter

Marketing Business	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Retail	851	879	921	8%	5%	3,285	3,609	10%
Industrial	538	503	570	6%	13%	2,124	2,180	3%
Total	1,390	1,382	1,492	7%	8%	5,410	5,789	7%
Wholesale Business								
Petroleum traders in accordance with section 7	154	260	258	68%	-1%	653	807	24%
Export	278	259	247	-11%	-5%	1,084	934	-14%
Total	432	519	505	17%	-3%	1,738	1,741	0%
Total Sales Volume	1,822	1,902	1,997	10%	5%	7,148	7,530	5%

Note: Total sales volume figures excluding the swap amount between petroleum traders in accordance with section 7 and the sales volume of crude

For the year 2016, Bangchak refinery's average crude run was 101.39 KBD compared to 112.94 KBD in 2015, as a result of the annual turnaround maintenance (TAM) started from 8th February to 23rd March, totaling of 45 days. However, after the annual turnaround maintenance, the refinery's average crude run was steadily higher than 110 KBD. The consistently high crude run was a result of the well-planned production process, refining logistics system management, together with the YES-R projects which enabled a consistent and smooth production process.

Market GRM was decreased to Baht 4,952 Million (-39%) when compared to last year, from the expansion in Dated Brent/Dubai crack spread in 2016 to be at an average of 2.30 \$/BBL, compared to 1.55 \$/BBL in 2015, as a result of lower light crude supply earlier this year. Moreover, most products crack spreads were diminished, especially Gas Oil/Dubai crack spread (GO/DB), Bangchak refinery's major products, which was pressured down from a weaker demand and the market oversupply situation of diesel product. Gasoline/Dubai crack spread (UNL95/DB) was driven down by the lower gasoline imports from Indonesia and increased supply from China. Jet (Kerosene)/Dubai crack spread (IK/DB) was narrower from the lower demand for heating oil. However, Fuel Oil/Dubai crack spread slightly increased from the higher demand in fuel oil. All these factors put more pressure on market GRM. In 2016, Bangchak refinery's cost of production was decreased from quality improvement projects and the Co-generation power plant which help reduce of the cost of electricity with thermal energy.

The continuity of upward trend in crude oil prices, especially during Q4/2016, resulted in an inventory gain of Baht 590 million in 2016 (including a reversal of allowance for loss on decline in value of inventories (LCM) of Baht 105 million). Refinery business recorded a gain from crude and product oil price hedging contract of Baht 112 million. As a result, in 2016, total GRM was recorded at Baht 8,588 million (+7%), and refinery business EBITDA was recorded at Baht 5,756 million (+13% YoY)



In Q4/2016, an average crude run was 113.82 KBD or 95% utilization rate. Market GRM was increased by Baht 324 million (+15% QoQ), due to the contraction of Dated Brent/Dubai crack spread in Q4/2016 to be at 1.08 \$/BBL, compared to 2.67 \$/BBL in the last quarter, from higher light crude oil supply from Libya and the recovered shale oil productions in the U.S. Moreover, most of petroleum products crack spread was increased when compared to the previous quarter, from a significant increase in Gasoline/Dubai crack spread (UNL95/DB) which was driven up by the demand increased from China, India and Africa. On the supply side, Gasoline crack spread was supported by the supply reduction, as many refineries enter their maintenance period of the year. Moreover, Gas Oil/Dubai crack spread (GO/DB) and Jet (Kerosene)/Dubai (IK/DB) crack spread was improved by an increase of oil demand. Fuel Oil/Dubai crack spread (FO/DB) had been stronger because the higher fuel oil demand for power generation in Japan, South Korea and Pakistan. On the supply-side, Fuel Oil crack remained strong due to lower arbitrage inflows from Russia. By these factors, market GRM was increased. As a result, in Q4/2016, Refinery business recorded a total GRM at Baht 3,250 million (+46% QoQ) Moreover, by the higher of crude oil price in this quarter, inventory gain was recorded at Baht 907 million. However, there was a loss from crude and product oil price hedging contract of Baht 74 million. Consequently, Q4/2016 refinery business EBITDA was recorded at Baht 2,367 million (+57% QoQ).



2) Marketing Business

Marketing Business						Unit: Million Liter		
Sales Volume (Million Liter)	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Retail (Service Stations)	851	879	921	8%	5%	3,285	3,609	10%
Industrial	538	503	570	6%	13%	2,124	2,180	3%
Total	1,390	1,382	1,492	7%	8%	5,410	5,789	7%
Sales volume in each product category (Million Liter)								
LPG	30	12	14	-53%	19%	78	73	-7%
Gasoline	6	11	11	87%	5%	37	42	13%
Gasohol	398	423	416	4%	-2%	1,513	1,650	9%
Jet Fuel	181	187	225	24%	20%	678	822	21%
Diesel	727	694	771	6%	11%	2,914	2,992	3%
Fuel Oil and Others	48	56	55	14%	-2%	190	211	11%
Total	1,390	1,382	1,492	7%	8%	5,410	5,789	7%
Total Marketing Margin (Baht / Liter)	0.90	0.80	0.56	-38%	-31%	0.76	0.79	3%
EBITDA (Million Baht)	549	607	(3)	-101%	-101%	2,497	2,527	1%

Note: Marketing Margin figure was the attributable to the Company only.

In 2016, marketing business continued to expand its sales volume. The sales volume was 5,789 million liters, an increase of 379 million liters (+7%) compared to the previous year. The sales volume was higher both in the retail and industrial market, as the declining retail oil product prices and a growth in tourism had boosted domestic oil demand.

The number of service stations at the end of 2016 was 1,075 stations. There were 55 newly opened service stations during the year and the company closes down some stations with less than target sales volume. Most of newly service stations were standard stations with modern image and include other non-oil businesses such as Inthanin coffee shops, minimarts, commercial partner of leading brands etc., in order to better meet with customers' need. The company also improves quality and appearance of existing service stations to expand the thruput per service station. Moreover, in November, the company launched "Bangchak Greenovative Experience", the new model of service stations to meet the lifestyles of modern people in Thailand, with engaging environmental conservation, and launched the SPAR Supermarket from the Netherlands which is one of the world's largest retailer and wholesaler. Bangchak is the sole master licensee in Thailand. SPAR Thailand will operate under the concept "SPAR FRESH & EASY FOOD MARKET" to provide customers with a distinct advantage from the quality of fresh food and service. Moreover, there are community products under the brand SPAR according to Bangchak's policy, to increase its competitive advantage in retail market.



Sales volume through retail market (service stations) was increased by 324 million liters (+10%), as the decline in retail oil product prices helped spur domestic oil demand, especially in the gasohol 95 sales volume which was increased by 31% YoY, as a result of the retail price dropped stimulating consumption. Moreover, the company continued to maintain its 2nd rank of market share in retail sales volume, its market share from January to December 2016 was at 15.1%.

Sales volume through industrial market was increased by 56 million liters (+3%), from the economic recovery and the continuous growth in tourism sector, resulting in an expansion in the tourism-related industrial transportation. The decline in oil prices also helped inducing industrial factories to switch from other sources of energy to oil products. Moreover, there were temporary shutdown of some refineries during the year, enable the company to expand its sales volume in such period.

Total marketing margin in 2016 was at 0.79 Baht per liter, increased by 3%, as the lower crude oil price affected production cost, while oil product prices adjusted slower to the changing cost, but at the end of the year, marketing margin was decreased from a higher crude oil price. In 2016, marketing business had higher cost of selling and administrative expenses resulting from the company's sales volume oriented strategy and business expansion. Also from the establishment of Bangchak Retail Co., Ltd. to operate non-oil businesses. Consequently, marketing business recorded an EBITDA of Baht 2,527 million, slightly increased compared the previous year.

In Q4/2016, when compared to Q3/2016, Total sales volume increased by 110 million liters (+8%) from the previous quarter. The higher sales volume both in retail and industrial market was due to the travelling season and year-end long holiday, resulted in the rise of oil demand.

Sales volume through retail market (service stations) increased by 42 million liters (+5%), resulted in an expansion of diesel sales volume from the previous quarter. However sales volume of gasohol product was slightly decreased, as the flooding in Thailand's southern region at the end of November 2016 affected service stations in this area.

Sales volume through industrial market increased by 67 million liters (+13%), especially in Jet fuel and diesel products. from the seasonal factor in year-end travelling season and sugar cane harvesting time of the sugar industrial customers, supported the increase in diesel sales volume.

Total marketing margin in Q4/2016 was at 0.56 Baht per liter (-31%). Retail margin decreased from the unchanged retail oil product prices in October and from the company's policy to fix oil price in December, to support the consumers during the travelling season, while increasing crude oil prices in the quarter increased the company's crude oil cost. Industrial margin decreased as the market oversupply situation of finished products led to the higher competition. In Q4/2016, marketing business incurred in a higher cost of selling and administrative expenses related human resources, sales promotion, and service stations maintenance. As a result, in Q4/2016, marketing business recorded an EBITDA of Baht -3 million.



3) Power Plant Business

Power Plant Business Performance						Unit: Million kWh		
	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Revenue (Million Baht)	766	785	757	-1%	-4%	3,024	3,084	2%
Electricity Sales (Million kWh)								
Solar Power Business – Thailand (PPA of 118 MW)	66.40	61.01	63.02	-5%	3%	263.32	254.40	-3%
Solar Power Business – Japan (PPA of 11 MW)	N/A	8.07	4.90	N/A	-39%	N/A	19.50	N/A
Total Electricity Sales	66.40	69.07	67.93	2%	-2%	263.32	273.90	4%
EBITDA (Million Baht)	865	612	795	-8%	30%	3,005	2,559	-15%

In 2016, Power Plant business recorded, compared to 2015, an increase in total revenue by Baht 60 million (+2%), mainly from the additional revenue recognized from the acquisition of Solar Power business in Japan, which currently has an operation plant with a PPA of 20 MW.

For the year 2016, Solar Power business in Thailand (PPA of 125 MW) recorded a lower total electricity sales by 8.93 kWh (-3% YoY), primarily as a result of a decrease in irradiation hours of all the 3 phases, from the higher amount of rainfall this year, while last year experienced a draught from the El Niño phenomenon. Also, the reduction in revenue was partly due to the decreased average electric price (exclude adder). Nevertheless, in December 2016, the solar farms for Agricultural Cooperatives which BCPG Plc. supports have started the commercial operation for 2 plants (PPA of 7 MW), from the total of 3 plants (total PPA of 12 MW). The Agricultural Cooperatives solar farm which is situated in Bang Pa-In district, Ayutthaya province was effected by the water penetration in the construction site, thus has to delay its construction process, but there was no other damage, and the plant is expected to start the commercial operation within 1H2017. For Solar Power business in Japan (operating plant with PPA of 20 MW), total electricity sales from the operating projects was 19.50 million kWh during the year.

In 2016, Power Plant business recorded an increase in selling, general and administrative expenses when compared to the previous year, due to the expenses incurred from the acquisition of the entire solar power business of SunEdison in Japan, the expenses from preparation of other projects under construction and development, and the expenses incurred from the initial public offering (IPO) of newly issued ordinary shares. As a result, Solar Power business recorded an EBITDA of Baht 2,559 million (-15% YoY)

In Q4/2016 when compared to Q3/2016, Solar Power business recorded a decline in total revenue by Baht 28 million (-4% QoQ). Solar Power business in Thailand (PPA of 125 MW) recorded a higher total electricity sales by 2.01 MW (+3%), mainly due to the increment in electricity sales of Phase 2 and 3 by about 5%, even though the solar irradiation hours was lower due to the shorter daylight hours in winter season, but the cool temperature during the quarter led to the superior production efficiency. Moreover, there was an additional electricity sales from the



commercial operation start of 2 Agricultural Cooperatives solar farms in December. The electricity sales from solar power plant phase 1, however, was reduced by 3%, due to the solar irradiation hours in the area which dropped more than the other phases. For Solar Power business in Japan, total electricity sales declined by 3.17 kWh (-39%), as a result of the lower solar irradiation hours of all phases, especially in Nikaho project (PPA of 8.8 MW), and from the shorter daylight hours and the snow during winter season in Japan.

For Q4/2016, selling, general and administrative expense increased from the previous quarter, which resulted from the expenses related to human resources which normally rise during the end of the year. Moreover, there was a loss on foreign exchange of Baht 219 million, from the rapid depreciation of the Japanese Yen during the quarter. As a result, in Q4/2016, power plant business recorded an EBITDA of Baht 795 million (-8% YoY) and (+30% QoQ).

4) Biofuel Business

In 2016, Biofuel business recorded an EBITDA of Baht 326 million, which comprised of EBITDA from Bangchak Biofuel Co., Ltd. of Baht 262 million, EBITDA from Bangchak Bioethanol (Chachoengsao) Co., Ltd. of Baht 42 million, and a share of profit from Ubon Bio Ethanol Co, Ltd of Baht 21 million.

In Q4/2016, Biofuel business recorded an EBITDA of Baht 131 million, which comprised of EBITDA from Bangchak Biofuel Co., Ltd. of Baht 70 million, EBITDA from Bangchak Bioethanol (Chachoengsao) Co., Ltd. of Baht 46 million, and a share of profit from Ubon Bio Ethanol Co., Ltd. of Baht 16 million.

Biodiesel business performance by Bangchak Biofuel. Co., Ltd

	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Revenue (Million Baht)	1,423	1,553	1,189	-16%	-23%	5,414	6,830	26%
Utilization Rate (%)	102%	56%	49%	-52%	-12%	101%	80%	-21%
Average Daily Production Rate (Thousands of liters per day)	367	452	398	9%	-12%	365	406	11%
B100 Sales Volume (Million liter)	57	44	39	-31%	-11%	199	215	8%
EBITDA (Million Baht)	109	(60)	70	-36%	N/A	342	262	-23%

Average Sales Price (Source: Department of Energy Business, Ministry of Energy)

B100 (Baht / Liter)	28.26	37.62	33.58	19%	-11%	30.93	35.11	14%
Crude Palm Oil (CPO) (Baht / Kg.)	24.97	33.96	30.13	21%	-11%	27.27	31.95	17%

In 2016, when compared to 2015, Biodiesel business recorded a revenue increment of Baht 1,416 million (+26%), partly as a result of the growth in B100 sales volume by 16 million liters (+8%), due to the expansion of its customer base in preparation for the new 2nd Biodiesel Plant which started its commercial operation in July 2016. (2nd plant has an average production capacity of 450 thousands liters per



day , resulting in the total production capacity of Biodiesel business to be 810 thousands liters per day). The increment in revenue was also due to the higher B100 average price which rose as the crude palm oil (CPO) price elevated, as the draught caused oil palm supply to drop from last year. However, in order to handle with the rising crude palm oil price earlier this year, the government announced a reduction in B100 mixing portion with diesel from July onwards. As a result, Biodiesel business was unable to utilize its production capacity according to plan, and recorded an 80% utilization rate, or an average daily production rate of 406 thousands liters.

In 2016, Biodiesel business recorded a decline of Gross Margin when compared to last year, primarily due to the Baht 143 million Inventory Loss for the year (including allowance for loss on decline in value of inventories (LCM) of Baht 7 million), as the government reduced the portion of B100 mixing with diesel, leading to CPO and B100 average price contraction during the time. While in 2015, Inventory Loss was recorded at Baht 19 million. Nevertheless, Biodiesel business recorded a Baht 17 million income from the delayed construction penalty fee of the 2nd Biodiesel Plant. From the reasons mentioned, Biodiesel business recorded an EBITDA of Baht 262 million (-23%) YoY.

In Q4/2016, when compared to Q3/2016, Biodiesel business recorded a revenue decline of Baht 364 million (-23%), partly due to the reduction in B100 sales volume by 5 million liters (-11%), as the government changed the B100 mixing portion with diesel, led to the decrease in B100 demand when compared to the previous quarter. (B100 mixing portion with diesel: 25th July reduced from 7% to 5%, 25th August reduced from 5% to 3%, and 25th November increased from 3% to 5%). The decrease in revenue was also due to the 11% drop in B100 price, as the crude palm oil (CPO) price declined.

For Q4/2016, Biodiesel business recorded an Inventory Loss of Baht 28 million (including a reversal of allowance for loss on decline in value of inventories (LCM) of Baht 54 million), while in Q3/2016 Inventory Loss was recorded at Baht 153 million (including allowance for loss on decline in value of inventories (LCM) of Baht 61 million). As a result, in Q4/2016, Biodiesel business recorded an EBITDA of Baht 70 million (-36%) YoY.

Fuel Ethanol business performance by Bangchak Bioethanol (Chachoengsao) Co., Ltd.			
	Q3/2016	Q4/2016	2016
Revenue (Million Baht)	0	263	263
Utilization Rate (%)	N/A	83%	83%
Average Daily Production Rate (Thousands of liters per day)	N/A	125	125
Ethanol Sales Volume (Million liter)	N/A	11	11
EBITDA (Million Baht)	(3)	46	42
Average Sales Price (Source: Department of Energy Business, Ministry of Energy)			
Ethanol (Baht / Liter)	23.14	23.11	23.12



For Fuel Ethanol business, on September 21st, 2016, Ethanol plant (production capacity of 150 thousands liters per day) of Bangchak Bioethanol (Chachoengsao) Co., Ltd., a subsidiary of the company, has started its commercial operation, and started selling its Ethanol product in October 2016. The Average Daily Production Rate in Q4/2016 was recorded at 125 thousands of liters per day, or 83% utilization rate. As a result, in the year 2016, Fuel Ethanol business recorded an EBITDA of Baht 42 million.

5) Exploration and Production Business

Exploration and Production Business Performance								
	Q4/2015	Q3/2016	Q4/2016	YoY	QoQ	2015	2016	YoY
Production Volume ^{1/} (barrels per day net to Nido)	3,189	2,838	2,631	-17%	-7%	3,172	2,860	-10%
Sales Volume (barrels net to Nido)	411,008	196,474	203,903	-50%	4%	1,285,969	995,885	-23%
Revenue (Million Baht)	620	644	327	-47%	-49%	2,344	1,503	-36%
EBITDA (Million Baht)	(26)	171	71	226%	-59%	472	323	-32%

Note: 1/ production volume of Galoc oil field only

In 2016, Exploration and Production business recorded a revenue of Baht 1,503 million, a decrease of Baht 841 million, compared to 2015, partly due to the average selling price per cargo which dropped from the previous year, as global crude oil price decreased by 19% YoY (average Dubai crude oil price in 2016 and 2015 was 41.43 and 50.84 \$/BBL respectively). The decline in revenue was also due to a reduction in sales volume, corresponding to the production volume which was lower according to the Natural-Divide Production Curve. For the year 2016, Galoc oil field recorded a total production volume of 1,873,150 barrels (1,046,707 barrels net to Nido), and Nido & Matinloc oil field recorded a total production volume of 126,365 barrels (32,632 barrels net to Nido). Total sales volume for the year was 995,885 barrels (net to Nido).

In Q4/2016 when compared to Q3/2016, Exploration and Production business recorded a revenue decline of Baht 317 million, as in the quarter, Nido has realized revenue of 1 cargo of oil sold which was the cargo sold in November 2016, while in the previous quarter, Nido has realized revenue of 2 cargoes of oil sold. The selling price per cargo in Q4/2016 was slightly lower than the previous quarter, which was consistent to the global crude oil price which declined in November, the month which Nido recorded sales.

In Q4/2016, Galoc oil field recorded an Uptime of 99.95%, and a production volume of 4,709 barrels per day (2,631 barrels per day net to Nido). The details of crude oil selling during the quarter, as disclosed by the Nido Petroleum Limited (NIDO) in the Australian Securities Exchange (ASX) were as follows:

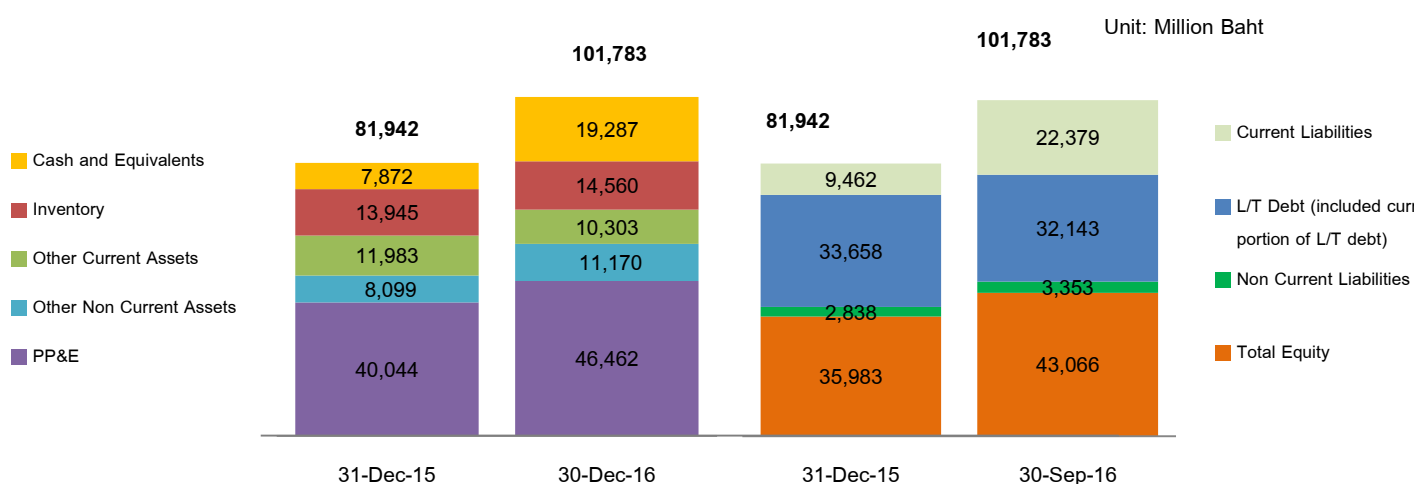
- Galoc oil field in November sold 1 cargo totaling of 347,977 barrels (194,448 barrels net to Nido) with FOB price of 44.62 \$/BBL.
- Nido & Matinloc oil field totaling 35,875 barrels (9,455 barrels net to Nido).



Further, Nido still focus on its cost saving program on both the expenses related to production and selling, general and administrative expenses, in response to the low crude oil price environment. As a result, in 2016, the selling, general and administrative expenses was decreased by 26% YoY. From the reasons mentioned, in 2016, Exploration and Production business recorded an EBITDA of Baht 323 million (-32% YoY), and in Q4/2016 recorded an EBITDA of Baht 71 million (+226% YoY), and (-59% QoQ).

Moreover, in 2016, the Board of the Directors of the company resolved to inject equity into BCP Energy International Pte. Ltd. (BCPE) for BCPE to take up all of its pro rata entitlement under the Nido Petroleum Limited's entitlement offer representing AUD 25.94 million in proceeds, to fund appraisal wells program in the Mid-Galoc area of Galoc oil field in Philippines, which NIDO and other stakes of Galoc field will use for further development of the field. As a result, BCPE's shares in Nido has increased from 81.25% to 96.98%.

Financial Position of the Company and its subsidiaries (Consolidated)



Assets

As of December 31, 2016, Total Assets of the Company and its subsidiaries were Baht 101,783 million, an increase of Baht 19,841 million when compared to the end of 2015. The changes in assets were mainly from:

- Cash and cash equivalents were increased by Baht 11,415 million. Details are stated under Analysis of the Cash Flow Statement.
- Current Investment was decreased by Baht 2,800 million from the withdrawal of the company's short term fixed deposits in financial institutions of Baht 3,500 million, but for BCPG Plc. increased by Baht 700 million.
- Trade Accounts Receivable were increased by Baht 788 million, due to a higher total sales volume and selling price per unit in December 2016, compared to December 2015. Meanwhile, Trade Accounts Receivable of Nido Petroleum Ltd. was declined.



- Other Accounts Receivable was increased by Baht 449 million, mainly from an increase in prepaid expense of the Company and BCPG Plc., for the solar power plant preparation.
- Inventory was increased by Baht 615 million, mainly due to the price per unit of finished oil which was increased from higher crude oil prices in the end of the year. However, volume of finished oil inventory was slightly decreased. In addition, inventory of Bangchak Biofuel Co, Ltd., and Nido Petroleum Ltd. was increased, compared to the previous year.
- Investment in subsidiaries increased by Baht 5,494 million, primarily from the capital increase in BCPG Plc. of Baht 3,300 million, BCP Innovation Pte. Ltd. of Baht 181 million, Bangchak Retail Co., Ltd. of 800 million, Bangchak Bioethanol (Chachoengsao) Co., Ltd. of Baht 425 million, BCP Trading Pte. Ltd. of Baht 35 million, and BCP Energy International Pte. Ltd. of Baht 702 million. Moreover, the Company recorded gain on reversal of an impairment loss of Nido Petroleum Ltd. of Baht 51 million. However, the elimination of related parties transaction resulted in the consolidated financial statement showing total investment in subsidiaries of Baht 0.
- Investment in associates increased from Bongkot Marine Services Co., Ltd. (The Company hold 30% shares) and Oam Suk Social enterprise Co., Ltd. (The Company hold 40% shares)
- Property, plant and equipment were increased by Baht 6,418 million, primarily from Baht 3,780 million investment in refinery machinery and equipment of the company and of Bangchak Biofuel Co, Ltd., Marketing and office equipment of Baht 1,415 million. For BCPG Plc., the increment was from an acquisition of solar power business of Baht 1,530 million, and construction work in progress of Baht 3,053 million. An increase from Bangchak Bioethanol (Chachoengsao) Co., Ltd. of Baht 855 million, and others of Baht 143 million. Meanwhile, depreciation for the year was recorded at Baht 4,491 million.
- Intangible Assets increased by Baht 2,234 million, mainly from the company's investment in SAP license, the acquisition of solar power business in Japan, and the right to sell electricity of the Solar Power Plant in Japan of BCPG Plc.
- Other non-current assets were increased by Baht 872 million, mainly from leasehold right improvement, other long-term investments of BCP Innovation Pte. Ltd (from an investment in LAC), and maintenance fee of the Solar Power Plant in Japan of BCPG Plc.

Liabilities

As of December 31, 2016, Total Liabilities of the Company and its subsidiaries was Baht 57,875 million, an increase of Baht 11,916 million, mainly from:

- Short-term loans from financial institutions of the Company and its subsidiaries was Baht 7,444 million.
- Trade Accounts Payable were increased by Baht 3,772 million, from the higher value of crude oil purchase in December 2016 than in December 2015. Also, there were higher finished oil imported.



- Other payables were increased by Baht 338 million, from payables of construction work in progress in solar power plant of BCPG Plc. of Baht 176 million, Cash Dividends Payable of Baht 90 million and other payable from subsidiaries, but decreased from the hedging contracts liabilities of Baht 160 million.
- Other liabilities were increased by Baht 656 million, mainly from the Contingent Liability of BCPG Plc.
- Long-term loans from financial institutions (including current portion of long-term loans) were decreased by Baht 1,516 million, primarily due to company's long-term loan prepayment, but increased partly from the loan draw down of the company's subsidiaries.
- Other non-current liabilities were increased by Baht 516 million, mostly from an increase in employee benefit obligations by Baht 198 million, and deferred tax expense of Baht 320 million.

Equities

As of December 31, 2016, Total Equity of the Company and its subsidiaries was Baht 39,542 million, an increase of Baht 4,062 million. The Consolidated book value was Baht 28.72 per share. The changes in equity were mainly from:

- Retained Earnings were increased by Baht 2,225 million, from Net Profit for the year of Baht 4,773 million, dividend payment of Baht 2,478 million, and an actuarial loss of Baht 70 million.
- Paid in Capital in Excess of Par Value was increased by Baht 1,594 million, from newly issued ordinary shares of BCPG Plc. and Nido Petroleum Ltd.
- Other component of equity were increased by Baht 242 million, which gained from foreign currency translation differences for foreign operations of Baht 7 million, and change in fair value of available for sale assets of Baht 235 million.

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

In 2016, the Company and its subsidiaries had net cash received from operating activities of Baht 13,288 million, net cash used in investing activities of Baht 8,154 million, net cash received in financing activities of Baht 6,391 million. As a result, the Company and its subsidiaries had an increase in Cash and cash equivalents of Baht 11,525 million, as there was Cash and cash equivalents of Baht 7,872 million on January 1, 2016 and an effect of exchange rate changes on balances held in foreign currencies of Baht -110 million, resulting in Cash and cash equivalents as of December 31, 2016 at Baht 19,287 million.



Details of cash received and used are as follows:

Cash Flows		Unit: Million Baht	
Cash Flows	31-Dec-15	31-Dec-16	
Net cash received (used in) operating activities	12,032	13,288	
Net cash received (used in) investing activities	(11,342)	(8,154)	
Net cash received (used in) financing activities	(892)	6,391	
Net increase (decrease) in cash and cash equivalents	(202)	11,525	
Cash and cash equivalents as of 1 January	7,954	7,872	
Effect of exchange rate changes on balances held in foreign currencies	120	(110)	
Cash and cash equivalents as of 30 September	7,872	19,287	

1) The Company and its subsidiaries had net cash received from operating activities of Baht 13,288 million, mainly from

- Net cash received from operating activities of Baht 11,286 million which was from Net Profit of Baht 4,729 million added back Non-Cash Expenses of Baht 4,384 million, Finance Costs and Income Tax credit of Baht 2,173 million.
- Cash used in the operating assets decreased by Baht 1,767 million, consisting of increased from Inventory of Baht 515 million, Trade Accounts Receivable increase of Baht 797 million, Other Receivables increase of Baht 189 million, and Other Assets increase of Baht 266 million.
- Cash from operating liabilities increased by Baht 4,185 million, consisting of increased from in Trade Accounts Payable of Baht 3,775 million, Other Payables of Baht 87 million, and other liabilities of Baht 323 million.
- Income Tax Paid of Baht 416 million.

2) Net Cash used in investing activities of Baht 8,154 million, mainly from

- Investment in property, plant and equipment of Baht 9,250 million, an investment in refinery machinery and equipment, marketing and office equipment of the company of Baht 4,791 million, an investment in Biodiesel plant machinery and equipment of Baht 404 million, construction work in progress in solar power plant of BCPG Plc. of Baht 3,053 million, from Bangchak Bioethanol (Chachoengsao) Co., Ltd. of Baht 855 million, and from Bangchak Retail Co., Ltd. of Baht 272 million.
- Other long-term investments increased by Baht 168 million, and current investment decreased by Baht 2,799 million.
- Net cash outflow on acquisition of subsidiary of Baht 963 million, from the acquisition of solar power business of SunEdison in Japan and purchase of shares in joint venture of Baht 44 million.



- Leasehold right of service stations increased by Baht 451 million, and purchase of intangible assets increased by Baht 492 million.
- Received cash from the disposal of other investment in ASEAN Potash Chaiyaphum Public Company Limited of Baht 203 million.
- Received cash from interest received of Baht 209 million, and dividend received of Baht 3 million.

3) Net cash used in financing activities of Baht 6,391 million, mainly from

- Received cash from short-term loan from financial institution of Baht 7,362 million, from the company of Baht 7,190 million, Bangchak Biofuel Co, Ltd., of Baht 120 million, BCPG Plc. of Baht 7 million, and Ubon bio Ethanol Co, Ltd., of Baht 45 million.
- Received cash from long-term loan from financial institution of the company and its subsidiaries of Baht 9,611 million. (Bangchak Biofuel Co, Ltd., of Baht 617 million, BCPG Plc. of Baht 8,569 million, and Bangchak Bioethanol (Chachoengsao) Co., Ltd. of Baht 425 million.)
- BCPG Plc. received cash from selling of equity of Baht 5,711 million.
- Long-term loan from financial institution repayment of Baht 12,032 million, from the company of Baht 11,230 million, and BCPG Plc. of Baht 802 million.
- Dividend payment of 2,753 million and financial costs of Baht 1,641 million.



Financial Ratios (Consolidated)

Profitability Ratios (%)					
	Q4/2015	Q3/2016	Q4/2016	2015	2016
EBITDA Margin	3.99%	7.63%	7.56%	7.33%	7.70%
Profit Margin	-0.54%	3.08%	2.99%	2.71%	3.27%
Return on Equity (ROE) ^{1/}	12.07%	9.52%	12.73%		
Return on Assets (ROA)	8.04%	5.99%	7.51%		

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

Liquidity and Financial Policy Ratios (times)			
	31-Dec-15	30-Sep-16	31-Dec-16
Liquidity Ratios			
Current Ratio	3.22	2.80	1.69
Quick Ratio	1.89	1.94	1.13
Financial Policy Ratios			
Interest bearing Debt to Equity	0.94	0.91	0.86
Net Interest bearing Debt to Equity	0.59	0.45	0.38
	Q4/2015	Q3/2016	Q4/2016
DSCR	3.73	1.56	1.76



Financial Ratios Calculation

- EBITDA Margin (%) = $\frac{\text{EBITDA}}{\text{Revenue from sale of goods and rendering of services}}$
- Profit Margin (%) = $\frac{\text{Profit attributable to owners of the Company}}{\text{Revenue from sale of goods and rendering of services}}$
- Return on Equity (%) = $\frac{\text{Profit attributable to owners of the Company (Yearly)}}{\text{Total Equity attributable to owners of the Company (Average)}}$
- Return on Assets (%) = $\frac{\text{EBIT (Yearly)}}{\text{Total Asset (Average)}}$
- Current Ratio (times) = $\frac{\text{Current Asset}}{\text{Current Liabilities}}$
- Quick Ratio (times) = $\frac{(\text{Current Asset} - \text{Inventory})}{\text{Current Liabilities}}$
- DSCR = $\frac{\text{EBITDA (Yearly)}}{(\text{Paid for long-term debt} + \text{Finance cost})}$
- Interest bearing Debt to Equity (times) = $\frac{\text{Interest bearing Debt}}{\text{Total equity}}$
- Net Interest bearing Debt to Equity = $\frac{(\text{Interest bearing Debt} - \text{Cash and cash equivalents} - \text{Current investments})}{\text{Total equity}}$

Note:

1/ Average Total Equity attributable to owners of the Company

- Yearly = $\frac{(\text{Total Equity attributable to owners of the Company of the year before} + \text{Total Equity attributable to owners of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Total Equity attributable to owners of the Company of the quarter of the year before} + \text{Total Equity attributable to owners of the Company the quarter this year})}{2}$

2/ Average Total Assets

- Yearly = $\frac{(\text{Total Assets of the year before} + \text{Total Assets of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Total Assets of the Company of the quarter of the year before} + \text{Total Assets of the Company the quarter this year})}{2}$

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 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 Center.

Environment Management Accounting: EMA		Unit: Million Baht		
	2015	2016	Δ	
Material Costs of Product Outputs				
: Consist of crude oil, ethanol, biodiesel, chemical, energy and utilities in production	93,032	73,360	(19,672)	
Material Costs of Non-Product Outputs				
: Consist of slop and sludge oil, waste water, chemical surplus	42	77	35	
Waste and Emission Control Costs				
: Consist of maintenance cost of environmental control equipment and depreciation and other fees	398	315	(83)	
Prevention and Other Environmental Management Costs				
: Consist of monitoring and measurement cost, environmental management system expenses	12	25	13	
Total Expenses	93,484	73,777	(19,707)	
Benefit from by-product and waste recycling	(17)	(16)	2	

In 2016, total expenses related to environment decreased by Baht 19,707 million (-21%) when compared to last year. The main reason was due to a decrease in the Material Costs of Product Outputs which was reduced by Baht 19,672 million, from the global oil price which dropped by 19% from the previous year, and from the refinery's turn around annual maintenance which led to the lower crude run from 112.94 KBD in 2015 to 101.39 KBD this year. This was in accord with the Material Costs of Non-Product Outputs which was increased by Baht 35 million, from the higher slop and sludge oil. Meanwhile, Waste and Emission Control Costs was decreased by Baht 83 million (-21%), primarily from the reduction in depreciation of emission control equipment by Baht 109 million. Prevention and Other Environmental Management Costs was slightly increased.

Benefit from by-product and waste recycling decreased by Baht 2 million (-10%) during the year, as liquid sulfur and glycerin value was lower by Baht 3.3 million, and the sellable residue metal scrap value were reduced by Baht 1.7 million.



Executive management's prospects to tendencies and strategies in 2017

Economic outlook

According to IMF World Economic Outlook, 2017 global economic activity is projected to accelerate, but volatile, following the 3 main factors. Firstly, the political situation of the United Kingdom (UK) after the referendum to secede from EU (Brexit), which would post a huge effect on European economic and monetary situation, especially in the UK. Secondly, the recovery of the US economy after the downturn in 2016. Lastly, the slowdown growth in emerging and developing countries, which was mainly due to the changing Chinese economic policy which aim to focus on domestic consumption instead of imports and exports. As a result, Central banks in many countries are expected to maintain their policy interest rates at a low level, in order to support the country's Gross Domestic Product.

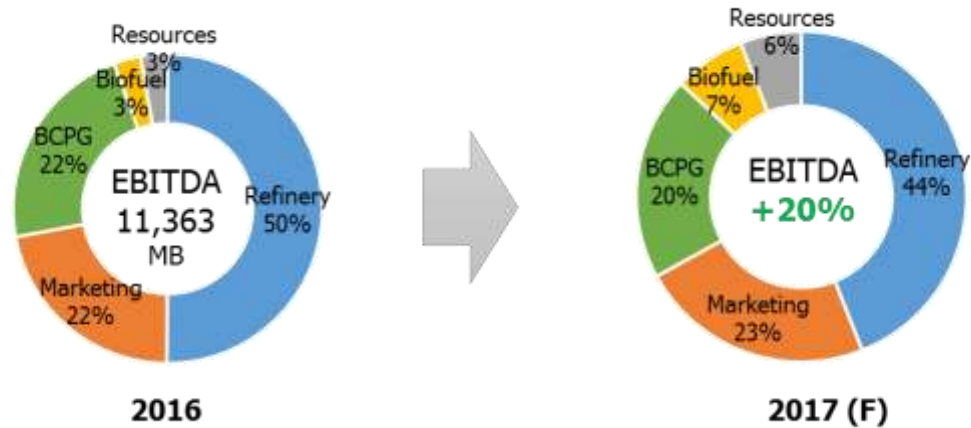
For Thai economy in 2017, the Bank of Thailand forecasted a further improvement from the previous year, leading by domestic factors. Household purchasing power tend to expand after the depletion of first-car scheme leasing debt, the personal income tax restructuring and the increase of minimum wage. Private investment sector is likely to be recovered due to the prospective growth in service sector and positive externality of Thai government mega infrastructure projects. Export sector is expected to slightly recover from the positive factors in some trading partners, and economic stimulus policies in the neighboring countries.

Oil market situation outlook

Due to the oil production cut agreement of both OPEC and non-OPEC group, crude oil price is expected to increase to around 50-55 \$/BBL, resulting in the increment of Shale oil rig counts. However, crude oil price is expected to be more steady at around 50 – 60 \$/BBL, as other oil producers tends to resume their production if crude oil price rise to a higher level. Moreover, the oil market may face demand risk from the slowdown economic situation, notably in China, the uncertainty in the Eurozone political situation, and the increment of political interest rate in the US which would result in the appreciation of the USD and the adverse effect on the commodity products, including oil prices. The Bangchak Petroleum Plc. expects average Dubai crude oil price in 2017 to stay between 50 – 60 \$/BBL, while average Dated Brent/Dubai crack spread (DTD/DB) is forecasted to be narrower than in 2016, and stay between 0.8 – 1.8 \$/BBL, pressured by the inclination of the US Shale oil (of which characteristic is light grade) production return, while OPEC oil production cut agreement helped limiting heavy grade crude oil supply. For crack spread situation, Gross Refinery Margin on Dubai crude oil for the Hydrocracking refineries in Singapore is expected to slightly decline from 2016, due to the new commercial operation start of a number Asian refineries. On the other hand, finished oil product demand tends to decelerate, as the effect of the lower oil price which support demand is limited, and the possibility of the Asian economy to be effected by the change of US trading policy, after the new President is elected.



The Bangchak Petroleum Group’s Business outlook in 2017



In the year 2017, the company’s managements expect the company and its subsidiaries’ business performance to be superior to 2016, as the group’s EBITDA is planned to expand around 20% YoY. This is achievable as several of the company’s business units’ performances are believed to improve, especially the Refinery business, of which utilization rate is expected to increase from the plan to run at full capacity, as there is no Annual Turnaround Maintenance (TAM) this year. Biodiesel and Fuel Ethanol business also plan to boost its utilization rates. Likewise, marketing business will be using a more solid marketing strategies, both in service stations and Non-oil business, to push forward the company’s market share continuously. Moreover, the crude oil price which projected to be at a level higher than 50 \$/BBL, is beneficial to the Resources businesses performance to improve. Important factors for each business are as follows:

Business	Substantial Estimation
Refinery	<ul style="list-style-type: none"> Plans a higher crude run at an average of 111 KBD (93% Utilization) Gross Refinery Margin (GRM) is expected at 6 – 7 \$/BBL Refinery Improvement programs are continued, in order to expand GRM.
Marketing	<ul style="list-style-type: none"> Sales volume are expected at 530 million liters per month, and the portion of retail market would be increased from 62% to 65%. Marketing Margin (MKM) is anticipated at 0.75 – 0.80 Baht/Liter Plans to open 100 new service stations, focusing main roads and strategic locations, with modern image and include other non-oil businesses in order to meet with customers’ need. The quality and appearance of existing service stations will also be improved. Plans to expand Inthanin coffee shop by an additional of 120 branches, and SPAR supermarket by an additional of 55 branches, to increase an ability to

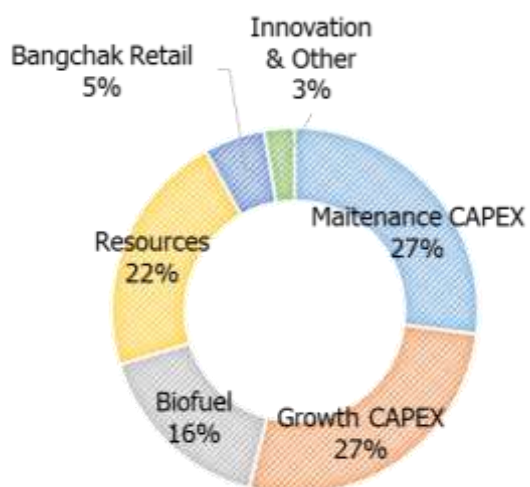


	<p>compete in retail business.</p>
Biofuel	<ul style="list-style-type: none">● Biodiesel business estimated a 20% expansion in sales volume, as the company expects the government to maintain B100 mixing portion in diesel at 5%. Production rate is planned at 710,000 Liters / Day.● Fuel Ethanol business will realize full year performance, and production rate is planned at 130,000 Liters / Day.● The possibility of business restructuring is being considered in response to Thailand 4.0 policy in Biotech.
Resources	<ul style="list-style-type: none">● E&P business is expected to record a performance improvement from the higher crude oil price. Galoc oil field production is estimated at 2,000 barrels per day. E&P business is open for new investment opportunities.● Nido still focus on its cost saving program on both the expense related to production and Selling, General and Administrative expenses.● The additional investment in 50 million newly issued common shares of Lithium Americas Corp., at the price of CAD 0.85 per share, investment value totaling of CAD 42.50 million, is expected to be completed in April 2017. The proceeds will be utilized for development of Lithium mining projects of Minera Exar S.A. (Cauchari Olaroz Project) in Argentina, which is expected to start production in 2019.



Capital Expenditure Plan in 2017

In the year 2017, the company and its subsidiaries projects its Capital Expenditure to be Baht 18,500 million (excluded BCPG Plc.) Details for the Capital Expenditure as follows:



Unit: THB Million	Capital Expenditure Projection
Maintenance CAPEX	5,000
Growth CAPEX	5,000
Biofuel	3,000
Resources	4,000
Bangchak Retail	1,000
Innovation & Other	500
Total	18,500

Research & Development and Innovation

In 2016, the Company worked on research & development and innovation concerning new additive cold flow properties for oil product, rubber absorbent materials and its application, and product development, which total costs was approximately Baht 3.8 million.



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, 2016, 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 Nintira Abhisinha 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 Nintira Abhisinha	Senior Vice President Corporate Strategy and Business Portfolio	(Signed) Nintira Abhisinha _____



Attachment 1 Profiles of Directors, Executives, Controllers, and Company Secretary

Board of Directors

Mr. Pichai Chunhavajira

Chairman and Director with Authorized Signature (Started on April 24, 2012)

- Age 68
- Education / Training
 - B.A. (Accounting), Thammasat University
 - M.B.A. (Business Administration), Indiana University of Pennsylvania, USA
 - 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
- Experience (5 years past experiences)
 - 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 Airway 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 Member of Board, Bank of Thailand
 - o President, Thailand Boxing Association
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Prof. Dr. Chai-Anan Samudavanija

Vice Chairman (Independent Director) and Director with Authorized Signature (Started on April 24, 2003)

Chairman of the Nomination and Remuneration Committee

- Age 72
- Education / Training
 - Doctorate degree, University of Wisconsin (Madison)
 - Master's degree, University of Wisconsin (Madison)
 - Bachelor's degree, Victoria University of Wellington, New Zealand
 - Certificate, Social Planning, United Nations Asian Institute
 - Honorary doctorate (development administration), National Institute of Development Administration
 - Honorary doctorate, Edgewood University
 - Honorary doctorate and outstanding alumnus, University of Wisconsin (Madison)
 - Honorary degree, National Defence College
 - Honorary doctorate, Chiang Mai University
 - Director Certification Program (DAP82/2010), Thai Institute of Directors (IOD)
 - Role of the Compensation Committee (RCC11/2010), Thai Institute of Directors (IOD)
 - Advanced Security Management Program (ASMP 5), The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King.
- Experience (5 years past experiences)
 - 2014 - 2015 : Member, the National Reform Council
 - 2006 – 2008 : Member, National Legislative Assembly
 - : Chairman, Standing Committee of Education and Sport
 - : Chairman, Office of the Basic Education Commission
 - : Director, College of Management, Mahidol University
 - 2005 – 2009 : President, The Royal Institute
 - : Chairman, Electricity Generating Authority of Thailand
 - : Chairman, Electricity Generating Public Company Limited
 - : Chairman of Audit Committee, Krungthai Bank Public Company Limited
 - : Director, State Enterprise Policy Committee
 - : Executive Director, National Research Council
 - : Director, Office of the Public Sector Development Commission (OPDC)
- Other directorship positions / other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - o Chairman, Institute of Public Policy Studies
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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 (Independent Director) and Director with Authorized Signature (Started on April 8, 2010)

Chairman of the Corporate Governance Committee

- Age 69
- Education / Training
 - LL.M., Chulalongkorn University
 - LL.B., Ramkhamhaeng University
 - B.Ed., 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
- Experience (5 years past experiences)
 - 2006–retirement : Secretary General, Social Security Office
 - 2005 : Deputy Permanent Secretary, Ministry of Labor, Office of the Permanent Secretary for Ministry of Labor
- Other directorship positions / other positions at present
 - Other listed companies
 - o Senior Consultant, Amata Corporation Public Company Limited
 - Non-listed companies
 - o Member, National Reform Steering Assembly
 - o Consultant, National Broadcasting and Telecommunication Commission
 - o Director and Vice President, Bangkok Suvanabhumi University Council
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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)

- Age 68
- Education / Training
 - Master of Business Administration, University of Wisconsin, U.S.A.
 - Bachelor of Business Administration, University of Wisconsin, U.S.A.
 - Director Accreditation Program (DAP48/2005), Thai Institute of Directors (IOD)
- Experience (5 years past experiences) (5 years past Experience (5 years past experiences)s)
 - 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
 - 2009 – 2011 : Director, Board of Investment 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 Director, Asia Kangnam Company Limited
 - o Chairman of management committee, KT ZMICO Securities Company Limited
 - o Director, New Corp Company Limited
 - o Director, Buntudthong Pattana Company Limited
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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 64
- Education / Training
 - M.Pol.Sc, Eastern New Mexico University, United States of America
 - B.Pol.Sc, Thammasat University
 - Top Executive program, Capital Market Academy, class 15
 - 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 Class 7, Thailand Energy Academy
- 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 Secretary General, Thailand Boxing Association
 - Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Lt.Gen.Apirat Kongsompong

Independent Director and Director with Authorized Signature (Started on September 26, 2014)

- Age 56
- Education / Training
 - Master Degree, Master of Business Administration (MBA), Southeastern University, USA
 - Bachelor Degree, Chulachomklao Royal Military Academy, Year 1985
 - Army Command and General Staff College, Course 47, Year 2006
 - Army Command and General Staff College, Course 73, Year 1995
 - Army Aviation Cadet Course Class 25, Year 1991
 - Infantry Officer Advance Course, FT.Benning, USA , Year 1989
 - American Language Course, Lackland, USAF BASE, USA, Year 1988
- Experience (5 years past experiences)
 - 2016- Present : 1st Army Area Commander
 - 2015 : 1st Corps Commander
 - 2014 : 1st Army Area Deputy Commander
 - : Commanding General, The 1st Division, The King's Guard
 - 2013 : Commanding General, 15th Military Circle
 - 2012 : Commanding General, 11th Infantry Division
 - 2011 : Deputy Commanding General, The 1st Division, The King's Guard
- Other directorship positions / other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o 1st Army Area Commander
 - o Members for the National Legislative Assembly
 - o Chairman, the Government Lottery Office
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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 60
- 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)
- Experience (5 years past experiences)
 - 2016- Present : Commander-in-Chief, RTF 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
 - None -
 - Non-listed companies
 - o Commander-in-Chief, RTF Royal Thai Fleet
 - o Member of the National Legislative Assembly
 - o Director, The Bangkok Dock Company Limited
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Krisada Chinavicharana

Independent Director (Started on November 23, 2015)

- Age 53
- Education / Training
 - Master of Business Administration, M.B.A., USA
 - LL.B., Chulalongkorn University
 - Diploma, National Defence College class 54
 - Director Certification Program (DCP186/2014) Thai Institute of Directors (IOD)
 - Senior Executive Development Program, Year 2010, Office of the Civil Service Commission (OCSC)
 - Civil Service Executive Program (Class 56), Office of the Civil Service Commission (OCSC)
 - Financial Instrument and Markets 2004, Harvard Business School
- Experience (5 years past experiences)
 - 2012 - 2014 : Financial Policy Advisor, Fiscal Policy Office, Ministry of Finance
 - 2009 - 2012 : Deputy Director-General, Fiscal Policy Office, Ministry of Finance
 - Board of Directors, Krungthai Bank Public Company Limited
 - Board of Directors, of Electricity Generating Authority of Thailand (EGAT)
 - Board of Directors, Aeronautical Radio of Thailand LTD,.
 - Board of Directors, Bangkok Commercial Asset Management Company Limited
 - Board of Directors, Islamic Bank of Thailand
- Other directorship positions / other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Director General, Fiscal Policy Office
 - o Board Member, The Bank of Thailand
 - o Member of National Reform Steering Assembly
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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 62
- Education / Training
 - M.B.A. Tarleton State University, U.S.A.
 - BBA. Chulalongkorn University
 - BBA. (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, Capital Market Academy
 - PTT Executive Leadership Development, GE Crotonville, USA
 - Financial and Fiscal Management Program for Senior Executive, Class 1
- Experience (5 years past experiences)
 - 2015-2016 : Chairman, TOP Maritime Service Company Limited
 - 2014-2015 : Executive Vice President, Finance and Accounting, Thai Oil Public Company Limited
 - 2009-2011 : Executive Vice President, Corporate Accounting, PTT Public Company Limited
- Other directorship positions / other positions at present
 - Other listed companies
 - o Director, Dhipaya Insurance Public Company Limited
 - Non-listed companies
 - o Director, Siam Solar Power Company Limited
 - o Director, TOA Paint (Thailand) Co., Ltd.
 - o Director and Chairman of Managerial-Accounting Committee, Federation of Accounting Professions under the Royal Patronage of His Majesty the King
 - o Member in 10th Workmen's Compensation Fund Committee
 - o Director, Thai Credit Guarantee Corporation
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

General Vitch Devahasdin

Independent Director (Started on April 5, 2016)

- Age 66
- Education / Training
 - Bachelor of Business Administration Major Management Sripatum University
 - Chulachomklao Royal Military Academy, Class 22
 - Armed Forces Academies Preparatory School, Class 11
 - Vajiravudh College
- Experience (5 years past experiences)
 - 2014 - Present : Member, the National Legislative Assembly
 - 2010 - Present : Honorary Secretary, Royal Turf Club of Thailand under the Royal Patronage
 - : Director, Five Provinces Bordering Forest Preservation Foundation
 - 2015 : Petroleum Committee, Department of Mineral Fuels, Ministry of Energy
 - 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 Member, the National Legislative Assembly
 - o Honorary Secretary, Royal Turf Club of Thailand under the Royal Patronage
 - o Director, Five Provinces Bordering Forest Preservation Foundation
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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 Enterprisewide Risk Management Committee

- Age 57
- 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
 - Leader Program (Class 2), Energy Academy, Thailand Energy Academy
 - Diploma, National Defence Course (Class 52/2009), National Defence College
- Experience (5 years past experiences)
 - 2014-Present : Director General, Revenue Department
 - 2011-2014 : Director General, State Enterprise Policy Office
 - 2010-2011 : Director General, Thailand Customs Department
- Other directorship positions / other positions at present
 - Other listed companies
 - o Chairman, Airports of Thailand PLC
 - Non-listed companies
 - o Director General, Revenue Department
 - o Member of University council, Mahasarakham University
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

Mr. Visit Vongruamlarp

Director and Director with Authorized Signature (Started on April 8, 2015)

- Age 68
- Education / Training
 - Bachelor of Accounting, Thammasat University
 - Corporate Governance Program for Director and Senior Management of State Enterprises and Public Organizations (Class 1), King Prajadhipok's Institute
 - Directors Accreditation Program (DAP14/2004) Thai Institute of Directors (IOD)
 - Directors Certification Program (DCP44/2004) Thai Institute of Directors (IOD)
 - Improving the Quality of Financial Reporting (QFR1/2006) Thai Institute of Directors (IOD)
 - Executive Development Program, Canada
 - Implementation of Small and Medium Industrial Promotion Programs, Philippines
 - Project Implementation and Supervision program, Malaysia
 - Workshop on Implementation Finance, Philippines
- Experience (5 years past experiences)
 - 2014-2015 : Director Audit Committee, Thammasat University Hospital
 - 2008-2016 : Committee, The Property Management Office, Thammasat University
 - 2007-2015 : Audit Committee, D.T.C. Industries Public Company Limited
- Other directorship positions / other positions at present
 - Other listed companies
 - o Director, AIRA Factoring PLC.
 - Non-listed companies
 - o Director, Don Muang Tollway Public Company Limited
- Shareholding in the Company: 10,000 shares or 0.000726% directly held (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Board of Directors

M.L. Puntrik Smiti

Director (Started on October 27, 2015)

- Age 59
- Education / Training
 - Doctor of Public Administration, Chaiyaphum Rajabhat University
 - Master of Public Administration, National Institute of Development Administration
 - Diploma, National Defence College, The National Defence Course Class 53
 - Diploma, National Defence College, The Joint State - Private Sector Course Class 23
 - Senior Administrator Program (Class 50), Prince Damrong Rajanuphab Institute of Research and Development, Ministry of Interior
 - Skill development program (Class 3)
 - Strategic Leadership for GMS Cooperation program, People's Republic of China
 - ILO/SKILLS AP/Japan Regional Workshop and Study on Workplace Training, Japan
- Experience (5 years past experiences)
 - 2015-Present : Permanent Secretary, Ministry of Labour
 - 2014 : Director-General, Department of Skill Development
 - 2013 : Deputy Permanent Secretary, Ministry of Labour
Inspectors-General, Ministry of Labour
- Other directorship positions / other positions at present
 - 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, 2016)
- 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 51
- Education / Training
 - Bachelor of Engineering (Civil), Chulalongkorn University
 - Master of Energy Engineering ,George Washington University
 - Doctor of Philosophy (Ph.D.) in Energy Management and Policy ,University of Pennsylvania
- Experience (5 years past experiences)
 - 2014- Present : Deputy Director General ,Energy Policy and Planning Office, Ministry of Energy
 - 2013 : Director, International Energy Cooperation Office, Ministry of Energy
 - 2009 : Director, Planning Division, Department of Alternative Energy Development and Efficiency, Ministry of Energy
- Other directorship positions / other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Deputy Director General, Energy Policy and Planning Office
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- 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 Chief Executive Officer since January 1, 2015)

- Age 50
- Education / Training
 - M.Eng., Asian Institute of Technology (AIT)
 - M.B.A., 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 (NDC 58), The National Defence College Association of Thailand
- Experience (5 years past experiences)
 - 2015 – Present : President and Chief Executive Officer, The Bangchak Petroleum 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
 - Non-listed companies
 - o Chairman, Bangchak Retail Co.,Ltd.
 - o Director, Nido Petroleum Ltd.
 - o Director, Asia Insurance 1950 Public Company Limited
 - o Director and 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 President, AIT Alumni Association (Thailand)
 - o Director, Prachabodee Social Enterprise Foundation
- Shareholding in the Company: 630,000 or 0.045754% directly held (As of December 31, 2016)
- 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 Chief Executive Officer since January 1, 2015)

- Age 50
- Education / Training
 - M.Eng., Asian Institute of Technology (AIT)
 - M.B.A., 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 (NDC 58), The National Defence College Association of Thailand
- Experience (5 years past experiences)
 - 2015 – Present : President and Chief Executive Officer, The Bangchak Petroleum 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
 - Non-listed companies
 - o Chairman, Bangchak Retail Co.,Ltd.
 - o Director, Nido Petroleum Ltd.
 - o Director, Asia Insurance 1950 Public Company Limited
 - o Director and 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 President, AIT Alumni Association (Thailand)
 - o Director, Prachabodee Social Enterprise Foundation
- Shareholding in the Company: 630,000 or 0.045754% directly held (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Wattana Opanon-amata

Chief Operation Officer and First Senior Executive Vice President, Refinery Business Group

- Age 60
- Education / Training
 - Ph.D. (Leadership in Society, Business and Politics), Rangsit University
 - M.Eng (Chemical Engineering), Chulalongkorn University
 - BS (Chemical Engineering), Chulalongkorn University
 - Mini-MBA (Class 21), Chulalongkorn University
 - Certification of Process Engineer, JCCP, Japan
 - Advanced Certification in public administration and public law, King Prajadhipok's Institute (Por.Ror.Mor.6)
 - Certification of Enterprisewide Risk Management, Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Director Certification Program Refresher Course (RE DCP1/2008), Thai Institute of Directors (IOD)
 - Director Certification Program (DCP36/2003), Thai Institute of Directors (IOD)
 - Audit Committee Program (ACP1/2004), Thai Institute of Directors (IOD)
 - Finance for Non-finance Director Course (FND7/2003), Thai Institute of Directors (IOD)
 - Certificate of Management of Thinking and Cultural Conflicts, Class 2, National Defence College Alumni Think Tank
 - Diploma of Advanced Security Management Program (ASMP 3), The National Defence College Association of Thailand
 - Certificate of Executive Leadership Program (ELP 5), Nida-Wharton, School of University of Pennsylvania, USA
 - Certificate of Senior Executive Program (SEP-24), Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Certificate of Advanced Senior Executive Program (ASEP 6 – Sasin-Kellogg, School of Management of Northwestern University, USA) Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Certificate of Senior Executives Program (CMA 18), Capital Market Academy, Stock Exchange of Thailand
 - Certificate of Power of the Kingdom Program Bhumipalung Phandin Class 4, Chulalongkorn University Executive Program
- Experience
 - 2016 - Present : Chief Operation Officer and First Senior Executive Vice President, Refinery Business Group
 - 2013 - 2016 : First Senior Executive Vice President, Refinery Business Unit
 - 2006 - 2013 : Senior Executive Vice President, Corporate Administration and Information Technology
 - 2004 - 2005 : Senior Consultant, Acting Senior Executive Vice President
 - 2001 - 2004 : Executive Vice President
 - 2000 - 2001 : Senior Vice President, Planning and Supply
 - 1994 - 2000 : Senior Vice President, Marketing and Engineering Service
 - Director, Government Savings Bank (2014 - 2015)
 - Specialized Committee Member on Analysis of Master of Engineering Program in, King Mongkut's Institute of Technology Ladkrabang, 2011
 - Member of the Committee for the Follow-up and Expansion the Reduction of Unequal Distribution of Revenue Project for 2011-2013, The Thai Chamber of Commerce
 - Member of Board of Trustee, ASEAN CSR Network
 - Advisor of Corporate Social Responsibility Institute (CSRI), The Stock Exchange of Thailand
 - Member of the Application of Sufficiency Economy Movement in private sector sub-committee, Research and Development Institute of Sufficiency Economy Philosophy Foundation



- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - Vice Chairman of Chemical Engineering Committee for 2014-2016, The Engineering Institute of Thailand under H.M. the King's Patronage
 - Committee member, Thailand Business Council for Sustainable Development
 - Member of Green Labeling Project Management Committee, Thailand Environment Institute (TEI)
 - Member of Certified GHG Emission Reductions for Building Committee, Thailand Environment Institute (TEI)
 - Chairman of CSR Club, Thai Listed Companies Association, The Stock Exchange of Thailand (2552-2559)
 - Member of the Use and Production Of the Renewable Energy Certification Committee, Thailand Business Council for Sustainable Development (TBCSD) and Thailand Environment Institute Foundation (TEI)
 - Member of Social Enterprise Subcommittee, Pidthong Lang Phra, Royal Initiative Discovery Foundation.
 - Chairman of the Social Enterprise Execution Committee, Capital (Class 18/2014) Market Academy
 - Fundraising committee, Advanced Security Management Program Class 3, National Defence College
 - Member of the Sustainable Development Network Board
 - Chairman of CSR and Academic Affairs of Power of the Kingdom Committee Bhumipalung Phandin Class 4, Chulalongkorn University Executive Program
 - Chairman of Yuwa Bhumipalung Phandin Generation I of the Kingdom Program Bhumipalung Phandin Class 4, Chulalongkorn University Executive Program
 - Director, Fuel Pipeline Transportation Limited
 - Director, Oam Suk Social Enterprise Co.,Ltd.
 - Director, BCP Trading Pte.Ltd.
 - Director, Bongkot Marine Services Co., Ltd.
- Shareholding in the Company: 3,146 shares or 0.000228 % directly held (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Yodphot Wongrukmit

Senior Executive Vice President, Corporate Management and Sustainability Development

- Age 57
- Education / Training
 - MBA, MTSU, USA
 - BA (Economics) (2nd Class Honors), University of the Thai Chamber of Commerce
 - Graduate Diploma National Defence College (NDC 2554)
 - NIDA-Wharton Executive Leadership Program # 6/2010
 - Graduate Diploma in Public Law and Management # 9/2010, King Prajadhipok's Institute
 - Director Certification Program (DCP111/2008), Thai Institute of Directors (IOD)
 - Successful Formulation & Execution of Strategy (SFE13/2011), Thai Institute of Directors (IOD)
 - Anti-Corruption for Executive Program (ACEP6/2013), Thai Institute of Directors (IOD)
 - JCCP "Advanced Marketing" (Japan)
 - The Leadership GRID
- Experience
 - 2016-present : Senior Executive Vice President, Corporate Management and Sustainability Development
 - 2013-2015 : 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
 - 2004 : Senior Vice President, Retail Marketing
 - 2001 : Vice President, Retail Marketing
 - 1998 : Senior Manager, Central District
 - 1994 : Manager, North and Central Districts
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - o Director, Bangchak Green Net Company Limited
 - o Director, Provincial Electricity Authority
- Shareholding in the Company: 44,096 shares or 0.003203% (As of December 31, 2016)
- 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

- Age 52
- 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)
 - Successful Formulation & Execution the Strategy (SFE1/2008), Thai Institute of Directors (IOD)
 - Management in Globalizing Era (Ex-PSM 5), Fiscal Policy Research Institute
 - Advanced Diploma, Public Administration and Public Law (Class of 10th) , King Prajadhipok's Institute
 - Diploma, The joint State-Private Sector Course, National Defence College (Class of 25th)
 - Certificate, Program for Senior Executives Class 20 (CMA 20), Capital Market Academy, Stock Exchange of Thailand
- Experience
 - The Bangchak Petroleum Public Company Limited
 - 2015 – present : Senior Executive Vice President
 - 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 – 2008 : 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, Bangchak Biofuel Company Limited
- Shareholding in the Company: 31,895 shares or 0.002316 % directly held (As of December 31, 2016)
- 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

- Age 54
- 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 (#12) Public Director Institute
 - Diploma, National Defence College, The National Defence Course Class 2013
 - CEDI BABSON Entrepreneurial Leadership Program, Babson College Wellesley, Massachusetts, USA.
 - Graduate Diploma in Capital Market Academy (CMA) # 23/2016
- Experience
 - The Bangchak Petroleum Public Company Limited
 - 2015 – present : Senior Executive Vice President, Accounting and Finance
 - 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- 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
 - 2004 - 2007 : Independent director and audit committee member, Wyncoast Industrial Park Public Company Limited
 - 1998- 2004 : Vice president, Treasury Department, Small and Medium Enterprise Development Bank of Thailand
- Other directorship positions / Other positions at present
 - Other listed companies
 - None-
 - Non-listed companies
 - o Director, Bangchak Biofuel Company Limited
 - o Director, Bangchak Bioethanol (Chachoengsao) Company Limited
 - o Director, BCP Energy International Pte. Ltd.
 - o Director, BCP Innovation Pte.Ltd.
 - o Director, BCP Trading Pte.Ltd
 - o Commissioner of the Arbitration Committee
 - o Commissioner, The Electronic Transactions Commission
- Shareholding in the Company: None (both directly and indirectly held) (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Pongchai Chaichirawiwat

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

- Age 56
- Education / Training
 - MBA, Thammasat University
 - Master's degree in engineering, Asian Institute of Technology (AIT), Thailand
 - Bachelor's degree in engineering, Chulalongkorn University
 - 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
 - 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)
 - 2007 : Acting Senior Vice President, Commercial Marketing and Lubricants
 - 2006 : Vice President, Business
 - 2004 : Vice President, Retail Marketing
 - 2001 : Senior Manager, Marketing Engineering
 - 1998 : Manager, Marketing Engineering
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - o Chairman, Bangchak Biofuel Co.,Ltd.
 - o Director, Bangchak Bioethanol (Chachoengsao) Company Limited
 - o Director, Bangchak Green Net Co.,Ltd.
 - o Director, Bangchak Retail Co.,Ltd.
- Shareholding in the Company: 44,332 shares; spouse 9,000 shares or 0.003873% (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Somchai Tejavanija

Senior Executive Vice President, Natural Resource and Business Development

- Age 54
- Education / Training
 - MBA, Thammasat University
 - B.ENG (Engineering), Kasetsart University
 - Energy Leadership Development for Senior Managers (Class 4), Ministry of Energy
 - Executive Development Program (Session 6), Thai Listed Companies Association
 - Director Certification Program (DCP157/2012), Thai Institute of Directors (IOD)
 - Advanced Certificate Course in Public Administration and Law for Executives , King Prajadhipok' s Institute
 - Thammasat Leadership Program Class 4, Thammasat University
 - Advanced Security Management Program (ASMP6), The National Defence College Association of Thailand
 - Executive Management with Business Development and Investment (IBID3), Institute of Business and Industrial Development
 - Successful Formulation & Execution of Strategy (SFE 28/2016), Thai Institute of Directors
- Experience
 - 2016 : Senior Executive Vice President, Natural Resource 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
 - 2008 : Senior Vice President-Retail Marketing
 - 2006 : Vice President-Retail Marketing Development
 - 2003 : Vice President-Associated Company
 - 2002 : Assistant Vice President, Metropolitan Area
 - 2000 : Senior Manager, Metropolitan Area
 - 1996 : Manager, Metropolitan Area
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - o Director, BCP Energy International Pte. Ltd.
 - o Director, BCP Innovation Pte. Ltd
- Shareholding in the Company: 28,522 shares or 0.002071% directly held (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Kiatchai Maitriwong

Senior Executive Vice President, Bio Based Products Business Unit

- Age 57
- Education / Training
 - MBA, Thammasat University
 - BS (Chemical engineering), Chulalongkorn University
 - Advanced Certificate Course in Public Administration and law for Executives (PLM 11), King Prajadhipok's Institute
 - Director Certification Program (DCP150/2011), IOD
 - Executive Development Program (TLCA EDP 10), Thai Listed Companies Association
 - Executive Development Program (EDP), Fiscal Policy Research Institute Foundation
 - Oil Price Risk Management, Morgan Stanley (USA)
 - The Manager Grid, AIM
 - Fire & Business Interruption, The Chartered Insurance Institute (CII)
 - Energy Leadership Development for Senior Managers (Class 4), Ministry of Energy
 - Executive Development Program Coaching for Result, Mahidol University
 - Anti-Corruption for Executive Program (ACEP6/2013), Thai Institute of Directors (IOD)
 - Management Development Program 2013 (Class 18), Thailand Management Association
 - Leadership Succession Program LSP Class 3, IRDP
 - Strategic CFO in Capital Markets Program (Class 1), Thailand Securities Institute (TSI)
 - Advanced Management Programme AMP Class 105, INSEAD (Fontainebleau, France)
 - Advanced Security Management Program Class 7, The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King
- Experience
 - The Bangchak Petroleum Public Company Limited
 - 2016-present : 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 Consultant
 - 2008 : Consultant
 - 2007 : Senior Vice President, Planning and Supply
 - 2006 : Acting Senior Vice President, Planning and Supply
 - 2004 : Vice President, Planning, Planning and Supply
 - 2002 : Assistant Vice President, Business Strategy Office
 - 2001 : Senior Manager, Planning and Evaluation, Marketing Business
 - 1997 : Senior Manager, Oil Supply
 - Others
 - Group leader, PRISM Market Outlook, PTT Group
 - Course director of BCP Business Supply chain Economic and PTT PRISM Oil Price Risk Management
 - Special instructor for refining and supply businesses, Petroleum Institute of Thailand
 - Special course instructor and consultant to Ministry of Energy involved in the development of Energy Leadership Development training programs for senior, middle, and junior managers
 - Special course instructor of Process Economics, Chulalongkorn University
 - Former Vice chairman and committee member, Petroleum Refining Industrial Group, Federation of Thai Industries
- Other directorship positions / Other positions at present
 - Other listed companies
 - None -
 - Non-listed companies
 - o Vice Chairman, Ubon Bio Ethanol Company Limited



THE BANGCHAK PETROLEUM PUBLIC COMPANY LIMITED

- Vice Chairman, Ubon Agricultural Energy Company Limited
- Vice Chairman, Ubon Bio Gas Company Limited
- Vice Chairman, NP Bio Energy Company Limited
- Managing Director, Bangchak Biofuel Company Limited
- Managing Director, Bangchak Bioethanol (Chachoengsao) Company Limited
- Shareholding in the Company: 11 shares or 0.000001% directly held (As of December 31, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Chalermchai Udomranu

Senior Executive Vice President, Refinery Business Unit

- Age 55
- Education / Training
 - MBA, 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 Certificate Course in Public Administration and Law for Executives, King Prajadhipok's Institute
 - Leadership Succession Program (LSP 6), Institute of Research and Development for Public Enterprises (IRDP)
- Experience
 - 2016-Present: 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
 - None –
- Shareholding in the Company: 1,865 shares or 0.000135% (As of August 31, 2015)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Executives

Mr. Phichet Emwattana

Executive Vice President, Planning and Trading Business

- Age 50
- Education / Training
 - MBA, Chulalongkorn University
 - BS (Engineering), Chulalongkorn University
 - Certificate of Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Director Certification Program (DCP174/2013), Thai Institute of Directors (IOD)
- Experience
 - 2015 – present : Executive Vice President, Planning and Trading Business
 - 2014 : Executive Vice President, Marketing Business
 - 2012 : Senior Vice President, Planning and Logistics, Refinery Business
 - 2009 : Vice President, Planning and Logistics, Refinery Business
 - 2008 : Acting Senior Vice President, Planning and Logistics
 - 2007 : Vice President, Corporate Business Development Office
 - 2006 : Senior Manager, Strategy and Risk Management Office
 - 2004 : Senior Manager, Oil Supply and Wholesale Operations
 - 2000 : Manager, Oil Supply and Wholesale Operations
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - o Director, BCP Trading Pte.Ltd
 - o Director, Bongkot Marine Services Co., Ltd.
- Shareholding in the Company: 80 shares or 0.000006% (As of September 9, 2016)
- 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 Control

- Age 56
- 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
 - 2015 – present : Executive Vice President, Internal Control
 - 2011 : Senior Vice President, Internal Control Office
 - 2005 : Vice President, Internal Control Office
 - 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 September 9, 2016)
- 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, Bioenergy and Energy Crop Business

- Age 57
- Education / Training
 - Master of Science in Chemical Engineering, The University of Southwestern Louisiana
 - 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 Certificate Course in Public Administration and Law for Executives 2015, King Prajadhipok's Institute
- Experience
 - 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
 - 2004 : Vice President, Operations, Refinery Business
 - 2001 : Senior Manager, Refining Operations
 - 2000 : Senior Manager (Technique and Environment)
 - 1997 : Senior Manager (Operations)
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - None –
- Shareholding in the Company: None (As of September 9, 2016)
- 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, Marketing Business and Oil Terminal

- Age 48
- Education / Training
 - MBA, 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
- Experience
 - 2015 – Present : 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
 - 2005 : Senior Manager, Company Secretariat
 - 2004 : Senior Manager, Business Strategy and Enterprise Risk Management Office
 - 2003 : Manager, Marketing Business
 - 2002 : Manager, Business Strategy and Analysis
 - 2000 : Manager, Oil Supply
- Other directorship positions / Other positions at present
 - Other listed companies
 - None –
 - Non-listed companies
 - o Director, Bangchak Green Net Co.,Ltd.
- Shareholding in the Company: None (As of September 9, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Attachment 2 Profiles of subsidiaries' directors

Executives who served directors in the Subsidiaries

Subsidiary		Directors	Bangchak Green Net Co., Ltd.
1	Mr. Mechai	Veeravaidya	X
2	Mr. Somkiat	Thatrithorn	/
3	Mrs. Saruda	Changsiricharoen	/
4	Mr. Yodphot	Wongrukmit	/
5	Mr. Pongchai	Chaichirawiwat	/
6	Mr. Chokchai	Atsawarangsalit	/
7	Ms. Naree	Jiamwattanasuk	//

Note No. 4 through No. 7 of whom are the Company's representatives.

X = Chairman / = Director // = Managing Director

"Subsidiary" means a significant affiliate of Bangchak with more than 10% of the consolidated revenue under Bangchak's latest statements of comprehensive income.



Attachment 3 Report of the Audit Committee

Report of the Audit Committee

To the Shareholders

On April 26, 2016, at Board Meeting No. 5/2016, the Board decided to change the composition of the Audit Committee by replacing members who had completed their terms. The current committee is headed by Mr. Suthep Wongvorazathe, with Mrs. Prisana Praharnkhasuk, Pol.Lt.Gen. Chaiwat Chotima, and Mr. Krisada Chinavicharana as members.

In 2016, the committee reviewed Key Audit Matters of the external auditor's report along with self-assessment for CAC recertification and arranged meetings with Bangchak's legal officers for an update on significant court litigation cases against Bangchak, the outcomes of which could significantly affect its businesses.

Name	Attendance / Total
Mr. Suthep Wongvorazathe	12 / 12
Mrs. Prisana Praharnkhasuk	7 / 9
Pol.Lt.Gen. Chaiwat Chotima	7 / 9
Mr. Krisada Chinavicharana	7 / 9
Mr. Anusorn Tamajai	3 / 3
Mrs. Arunporn Limskul	3 / 3

The committee also held two meeting with the Enterprise-wide Risk Management Committee.

The committee deliberated various matters, summarized below:

1. Reviewed quarterly and annual financial statements, as well as related financial reports, including adequate and timely disclosure of information, compliance with generally accepted accounting principles, accounting standards, and significant changes in accounting policies, together with connected transactions among shareholders and subsidiaries or related companies. This year the committee reviewed Key Audit Matters of the external auditor's report along with self-assessment for CAC recertification and arranged meetings with Bangchak's legal officers for an update on significant court litigation cases against Bangchak, the outcomes of which could significantly affect its businesses.



2. Reviewed to ensure that the Company
 - Had instituted a proper, transparent and efficient internal control and internal audit system by monitoring the performance of the internal control office to ensure independence and efficiency. This included transactions for the purchase and sale, as well as financial instruments, of BCPT, a subsidiary
 - Confirmed the independence of the performance of the external auditor
 - Recognized the need for improved business efficiency while minimizing oil losses in its processes, including a visit to the Samut Sakhon Depot Oil Distribution Center.

This year, recognizing the value of knowledge promotion for corporate governance, the committee staged a seminar on internal control for Marketing Business Group officers.

In addition, it supported Internal Control Office's participation in a project to certify IT service management systems (ISO 20000), a project to assess BCM (ISO 22301), and a project to develop audit program script on the ACL system for greater audit efficiency.

3. Reviewed the Company's compliance with all accounting standards in effect, laws, SET regulations and laws relevant to its business in a complete and accurate manner and in line with corporate governance principles. The committee's emphasis was that the Company would exceed such standards.
4. Selected, nominated and proposed compensation for KPMG Phoomchai Audit Ltd. as the external auditor for 2016 and staged quarterly meetings between the committee and the external auditor to discuss concerns arising from each audit and find prompt solutions to significant ones.
5. Reviewed the adequacy of the company's overall risk management process and audited this process under existing risks. This year the committee held a meeting to share views with the ERM to raise the efficiency and effectiveness of steering the operation of subsidiaries as desired by Bangchak. Below are its recommendations:
 - Systematize linkage between Bangchak's and subsidiaries' accounting data and expand the role of Bangchak's finance and accounting unit for looking after subsidiaries



- Develop an IT Master Plan to encompass data forwarding among Bangchak and subsidiaries, including the sharing of resource usage for the back office
 - Form a taskforce for the supervision of subsidiaries' operation to frame their policies and operation rules on the administration of personnel, finance, information, investment risk management, CSR activities, and assorted regulations for alignment with Bangchak's practices
6. Actively encouraged and ensured compliance with safety standards and stewardship of the refinery surroundings and nearby communities.
 7. Revised the Audit Committee Charter in line with the criteria and terms of the Office of the Securities and Exchange Committee (SEC) and SET and the Corporate Governance Policy to ensure confidence of shareholders, business partners, customers and other stakeholders that the Company's business follows such terms and the code of conduct to maintain an efficient internal control system.
 8. Reviewed the policy and operating manual of the internal control office to cover the roles and responsibilities of the Audit Committee and the internal control office for use as a practical guideline.
 9. Supported the upgrading of internal auditors on a par with international standards.

Having monitored the Company's performance in 2016 under the scope of authority and assigned responsibility, the Audit Committee approved the way the Company had prepared its financial statements, regarding it as accurate in significant details under generally accepted accounting principles. Connected transactions or items of potential conflicts of interest were adequately disclosed. The Company's internal controls and a risk management process are compatible with its business circumstances, with accurate and complete compliance with the law, SET regulations, and relevant laws.

(Signed) *Suthep Wongvorazathe*
(Mr. Suthep Wongvorazathe)
Chairman, Audit Committee
February 9, 2017



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

Head of the Internal Audit Department

Mr. Pichit Wongrujiravanich

Executive Vice President, Internal Control

- Age 56
- 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
 - 2015-present : Executive Vice President, Internal Control
 - 2011 : Senior Vice President, Internal Control Office
 - 2005 : Vice President, Internal Control Office
 - 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 September 9, 2016)
- Familial relationship between directors and executives: None
- Criminal records on violation of securities and futures contract laws: None



Head of the Compliance Department

Ms. Pakawadee Junrayapes

Senior Vice President, Corporate Compliance
and Company Secretary

- Age 55
- 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 (CSP), 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 (ATCP2/2013), Thai Institute of Directors (IOD)
 - Certificate in Thai and ASEAN (Class 4/2013), College of Politics and Governance, King Prajadhipok's Institute

- Experience

The Bangchak Petroleum Public Company Limited

- 2015-present : Senior Vice President, Corporate Compliance, and Company Secretary
- 2011-2015 : Vice President, The Secretary to The Board of the Directors Office, and Company Secretary
- 2009-2011 : Senior Manager, The Secretary to The Board of the Directors Office, and Company Secretary
- 2007-2009 : Senior Manager, Legal Office
- 2004-2007 : Manager, Legal Office
- 2002-2004 : Manager, Litigation Division
- 2002-2002 : 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
 - None –
- Shareholding in the Company: 12,000 shares or 0.000872% (As of September 9, 2016)
- Relationship among Family with other Directors, management, Major Shareholders or Subsidiaries: 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 -