



Annual Report 2019
BCPG Public Company Limited



Energy
Reimagined

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General Information and Other Key Information



Vision

World's Greenergy Icon

Evolving the world through the greener ways



Spirit

Innovative

Proactively strive for innovation excellence whilst maintaining environment-friendly stance towards change.

Integrity

Value integrity as the core attribute in doing business, assuring stakeholders of good governance and transparency.

International

Build a global platform with multi-cultural adaptability and international synergy.



Mission

Create sustainable future for all, enabled by renewable energy and innovative technology



Goals and Operating Strategies

BCPG Group is committed to becoming a prominent renewable energy player in Asia Pacific with sustainable growth by 2025 through:



Growing through smart investments

leveraging the strengths of Bangchak Group and long-term relationships with preferred partners.



Providing energy as a service

connecting consumers and communities through innovative business platform.



Creating values for shareholders

as a leading integrated greenegy company with operational excellence and social and environmental responsibilities.



In developing and generating clean energy, BCPG's clear direction derives from integrated innovation and technologies like Blockchain, AI, Machine Learning, and IoT in tandem with its business execution.

Our common destination:
sustainability of life and our surroundings.

A graphic featuring a network of interconnected nodes and lines, with the text "Digital Energy" overlaid in white. The background is a blue gradient with a pattern of colorful dots (white, blue, green, orange) that forms a large, abstract shape resembling a stylized 'E' or a digital wave. At the bottom, there is a silhouette of a city skyline with solar panels in the foreground.

Digital Energy



ENERGY RESOURCES MANAGEMENT

10101



AI/ML ENERGY EFFICIENCY OPTIMIZATION



ENERGY IOT (INTERNET OF THINGS)



ELECTRIC MOBILITY MANAGEMENT



The Company, established in 2015, has intended to be one of Asia-Pacific's leaders in renewable energy with different types of technologies. Additionally, the Company has sought for an innovation in order to enhance fulfillment of consumers needs, and reduce environmental impacts.



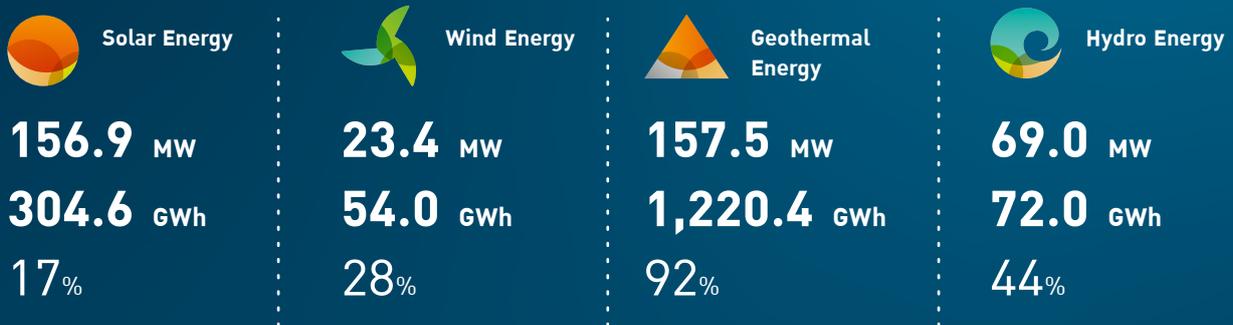
Installed Capacity



Contracted Capacity



Operating Capacity, Production Volume, and Capacity Factor



Revenue & Net profit & Earning Per Share



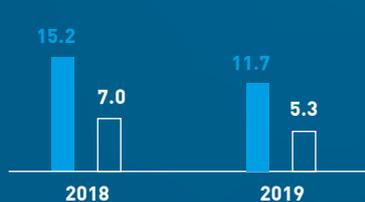
(THB mn)



Return on Equity (ROE) & Return on Asset (ROA)



(%)



Dividend Payment & Dividend Payout Ratio



(THB/share)



● Revenue ● Net Profit ● Earning per Share (THB)

● ROE ● ROA

● Dividend per Share ● Dividend Payout Ratio



Management Structure

4 Directors **8** Independent Directors
7 Executives **113** Employees



55
Hours

Average hours of training to enhance knowledge, skills and proficiency, as well as operating efficiency of employees

- No work-related injury
- No corruption incident
- No information leaked



Awards



Clean energy generated, equivalent to greenhouse gas emissions

1,160,581 Tons **70%**

Ratio of employees using LiFE for BCPG application to manage their 'low-carbon footprint' lifestyles



Contribution to Local Economy

Employment of labor in the vicinity of operation

BCPG's share price information

(as of December 30, 2019)

Market Cap
32,382.1
 (THB mn)

Stock Price
16.2
 THB per share

Paid-up Capital
9,994.5
 THB mn

EPS
0.64
 THB per share

52-week High/Low
21.5/14.8
 THB per share

Free Float (%)
29.7

Dividend Yield (%)
4.0

P/E ratio (x)
19.4

P/BV Ratio (x)
2.1

CG scores
5

Message from the Chairman

Dear Shareholder

A series of far-reaching global crisis has been widely making evident impacts on global society and economy, resulting in impact on each industry, as epitomized in the ongoing Covid-19 epidemic. Under no circumstances are companies allowed to be prepared for unexpected incidents. This issue is highly valued by the BCPG Board of Directors, as well as the focus on business expansion and growth. Prudent and mindful action plans are vital in competing with these challenges. The Enterprise-wide Risk Management Committee, therefore, values the revision of corporate risk management policy and plans, which are regularly steered and monitored, reassuring BCPG's growth according to strategic plan and target.

The Audit Committee are always working over daunting in-depth challenges in ensuring corporate activities transparency and accuracy. Financial report reviews, for instance, must precisely correspond to the Thai Financial Reporting Standards (TFRS), as well as the review of internal controls and internal audit for sustainability and agreement with corporate strategic plans and current circumstances. The Audit Committee also take into account the compliance with the Corporate Governance (CG) policy, SEC's and SET's regulations along with applicable laws. As in risk management, the Committee consider the formulation of efficient risk-based audit plans by incorporating assorted risk factors; the establishment of whistleblowing channels to prevent internal corruptive practice; and the selection of the experienced external auditors with qualified performances.

Nomination and Remuneration Committee is tasked with serious consideration of selecting directors and senior management with expertise, competency, experience, and a proper vision to develop BCPG together. Aiding its tasks is the application of the Board Skill Matrix, where structural analysis enables successful performance by directors equipped with diverse competency, thus raising work efficiency.

The development of CG rules and guidelines in line with the requirements of SEC and SET, and the valuing of the anti-corruption policy and the code of conduct for greater awareness on the part of BCPG personnel of the criticality of corporate governance—these represent the top priorities of the Corporate Governance Committee.

Meanwhile, BCPG advocates employees' social responsibility and environmental care and has drawn up an energy efficiency improvement plan to lower the release of greenhouse gases. This plan has earned an award from the Thailand Greenhouse Gas Management Organization (Public Organization). Also, we were named by Thaipat Institute among the prestigious ESG100 securities group for 2019, citing outstanding performance in Environment, Social, and Governance aspects among listed companies. Finally, we were among the excellent CGR listed performers for the second consecutive year. All these represent each committee's earnest responsibility, which has collectively driven BCPG in a secure and robust manner.

Nevertheless, the Board's grave challenge lies in the recruitment and retention of BCPG's top management with capability, integrity, commitment, and perseverance, who are always eyeing business opportunities despite facing arduous work. The past few years has proved that our President and the workforce have tirelessly devoted themselves to the implementation of key policies.

We are proud to report that this year's performance outcomes were strategically achieved. Relentlessly BCPG grew its investment in solar farms and ventured into the hydropower business in Lao PDR, an addition to the company's investment portfolio. As of the year-end, our commercial projects commanded a combined equity capacity of about 406.8 megawatts (MW) or a combined installed capacity of about 462.5 MW. Our businesses span Thailand, Japan, the Philippines, Indonesia, and Lao PDR with four technologies, solar, wind, geothermal,

and hydropower. Growing power plants with diverse technologies in several countries has also added to the stability of income streams for the entire year.

BCPG posted for the year THB 3,426.6 million in sales and services revenue, THB 2,580.8 million in EBITDA, and THB 1,801.4 million in net profit (THB 0.90 per share in earnings). We regularly pay dividends, this year at THB 0.48 per share for the first nine months, which roughly equals 3.95% in dividend yield (based on the full year).

Besides, BCPG has expanded its business to keep abreast of global transformation by forming a joint venture called Thai Digital Energy Development Co., Ltd., with PEA Encom International Co., Ltd. (a Provincial Electricity Authority affiliate), to apply innovation to energy management for maximum efficiency. Meantime, BCPG still very much values energy conservation and energy saving for the overall benefit of consumers and the nation.

On behalf of the Board of Directors, the management, and the BCPG workforce, may I express my gratitude to the shareholders and stakeholders for their trust as well as confidence in, and excellent support to, our undertaking all along. Pledging to manage with corporate governance and good governance while taking into account all stakeholders and the surroundings, we strive to grow our business and pursue stable returns on investment for future sustainable growth for BCPG and society.



Mr. Pichai Chunhavajira
Chairman



Policy and Business Overview

BCPG was registered on July 17, 2015, with an initial registered capital of THB 20 million. The Company currently has a paid-up capital of THB 9,994.5 billion, consisting of 1,998.9 million common shares at a par value of THB 5.0 per share. Bangchak Corporation Public Company Limited (“BCP”) is its major shareholder, with 70.0% of the paid-up capital (as of December 31, 2019) to conduct a power generation business based on renewable energy (“renewable power”). Today, BCPG Group commands a contractual capacity of 526.9 Megawatt (MW) or installed capacity of 607.5 MW, made up of:



Solar farm projects in Thailand and Japan

with a combined contractual capacity of

247.4 MW

(installed capacity of 327.0 MW)



Wind power projects in Thailand and the Philippines

with a combined contractual capacity of

29.0 MW

(installed capacity of 30.0 MW)



Geothermal power projects in Indonesia

with a combined capacity of

181.5 MW



Hydropower plant project in Lao People’s Democratic Republic

with a combined capacity of

69.0 MW



Power Plant Locations & Contractual Capacities



Thailand  
166.7 MW

In Operation : 151.2 MW
 Under Development : 15.5 MW

Japan 
89.7 MW

In Operation : 14.7 MW
 Under Development : 75.0 MW

Indonesia 
181.5 MW

In Operation : 157.5 MW
 Under Development : 24.0 MW

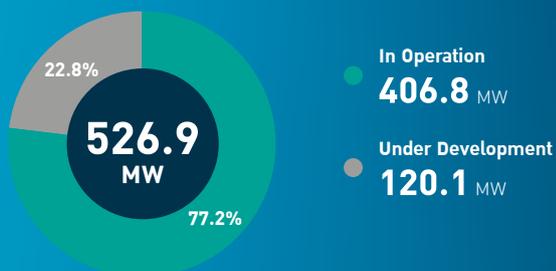
The Philippines 
20.0 MW

In Operation : 14.4 MW
 Under Development : 5.6 MW

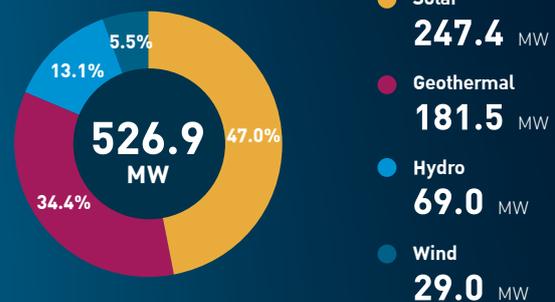
Lao PDR 
69.0 MW

In Operation : 69.0 MW

Capacity by Status



Capacity by Technology



Major Changes and Milestones



January 2016

Acquired 100% shares in a solar farm in Japan.

Through a subsidiary, invested in the total shares of Huang Ming Japan, resulting in BCPG holding the license and land for developing solar farms (Chiba 1 and Chiba 2) with a capacity of 30.0 MW.

September 2016

Was listed on the Stock Exchange of Thailand (SET) under the Energy and Utilities Sector.

2016



2017



2015



July 2015

Was established on July 17, 2015, with an initial registered capital of THB 20.0 million and 99.9% of its shares held by Bangchak Corporation Pcl. ("BCP").

Q3/2015

Acquired solar farms in Bang Pa-In District, Phra Nakhon Si Ayutthaya, and acquired 100% shares in BCP's subsidiary operating solar farms, resulting in a total contractual capacity of 118.0 MW.

January 2017

Divested Suimei Project's land worth JPY 1.6 billion (THB 495 million), generating a profit of THB 61.6 million.

March 2017

Launched three Cooperative solar farm projects at Wiset Chai Chan District, Bang Pa-in District, and Phra Nakhon Si Ayutthaya, with a total of 12.0 MW.

May 2017

Through a subsidiary, invested in a 40.0% share in PetroWind Energy Inc., which operates a wind farm in Nabas, the Philippines, with a capacity of 36.0 MW (equity capacity: 14.4 MW).

July 2017

Invested in 33.3% shares in Star Energy Group Holdings Pte. Ltd. (SEGHPL) as its investment in three geothermal power plants in West Java, Indonesia, with a total generating capacity of 875.0 MW (equity capacity: 157.5 MW).

April 2018

4-MW Gotemba Project began commercially operated.

June 2018

Selected by Chiangmai University to install 12-MW solar rooftop panels and awarded the right for 20-year distribution of power. The project is due for completion in mid-2020.

July 2018

Phase 2 of the solar farm project for government agencies and agricultural cooperatives began commercial operation, giving support to a project in Phra Phutthabat District, Sara Buri, and a project in Tha Muang District, Kanchanaburi, with a total capacity of 8.9 MW.

August 2018

Launched a solar energy trading on rooftop by using blockchain technology at T77. This pilot project achieved by co-operation among strategic partners, and shall be for further development in other projects.

September 2018

Divested Nikaho and Nagi solar farm projects with a capacity of 19.3 MW to an infrastructural fund for JPY 10.39 billion (THB 3.05 billion) and booked a profit from asset sale of THB 793.0 million. BCPG indirect subsidiary also entered into a five-year operation and maintenance contract with the fund.

2018



January 2019

Approved asset purchase and rent under the solar farm project at Bang Pa-in District, Phra Nakhon Si Ayutthaya, worth THB 51.7 million, consisting of purchase of facilities and assets, and rent of land (8-1-38 rai) for renovation into a hub for operating renewable energy in Thailand and a renewable energy learning center.

Decreased the capital in BSE-BRM, BSE-BRM 1, BSE-CPM 1, and BSE-NMA, resulting in THB 492.5 million increase in cash flow for investing activities.

March 2019

Co-founded Impact Energy Asia Development Limited in Hong Kong, China, at 45% of the registered capital to engage in renewable power projects.

April 2019

Commercial operation began at the 9.0-MW Lom Ligor wind power plant in Nakhon Si Thammarat for distribution to the Provincial Electricity of Thailand (PEA).

September 2019

Through a subsidiary, acquired shares in the Nam San 3A hydropower project in Chiang Kwang, Lao PDR, with a capacity of 69.0 MW.

October 2019

Through a subsidiary, invested jointly with PPA Encom International Co., Ltd., a PEA affiliate, in Thai Digital Energy Development Co., Ltd. (TDED), at a ratio of 75:25, to develop a digital energy platform and renewable-energy businesses and manage related energy matters.

November 2019

Commercially operate 2.1 MW of private solar floating at Phra Nakhon Si Ayutthaya.

December 2019

Decreased the capital in SEGHPL, a partner in the Wayang Windu Project, and invested USD 10 million (about THB 303.31 million) in Star Energy Geothermal Holding (SEGHPL), thus giving SEGHPL additional cash flow for shareholders dividends.

2019





Lom Ligor Wind Power Plant Project, Nakhon Si Thammarat, with a contractual capacity of 9.0 MW.

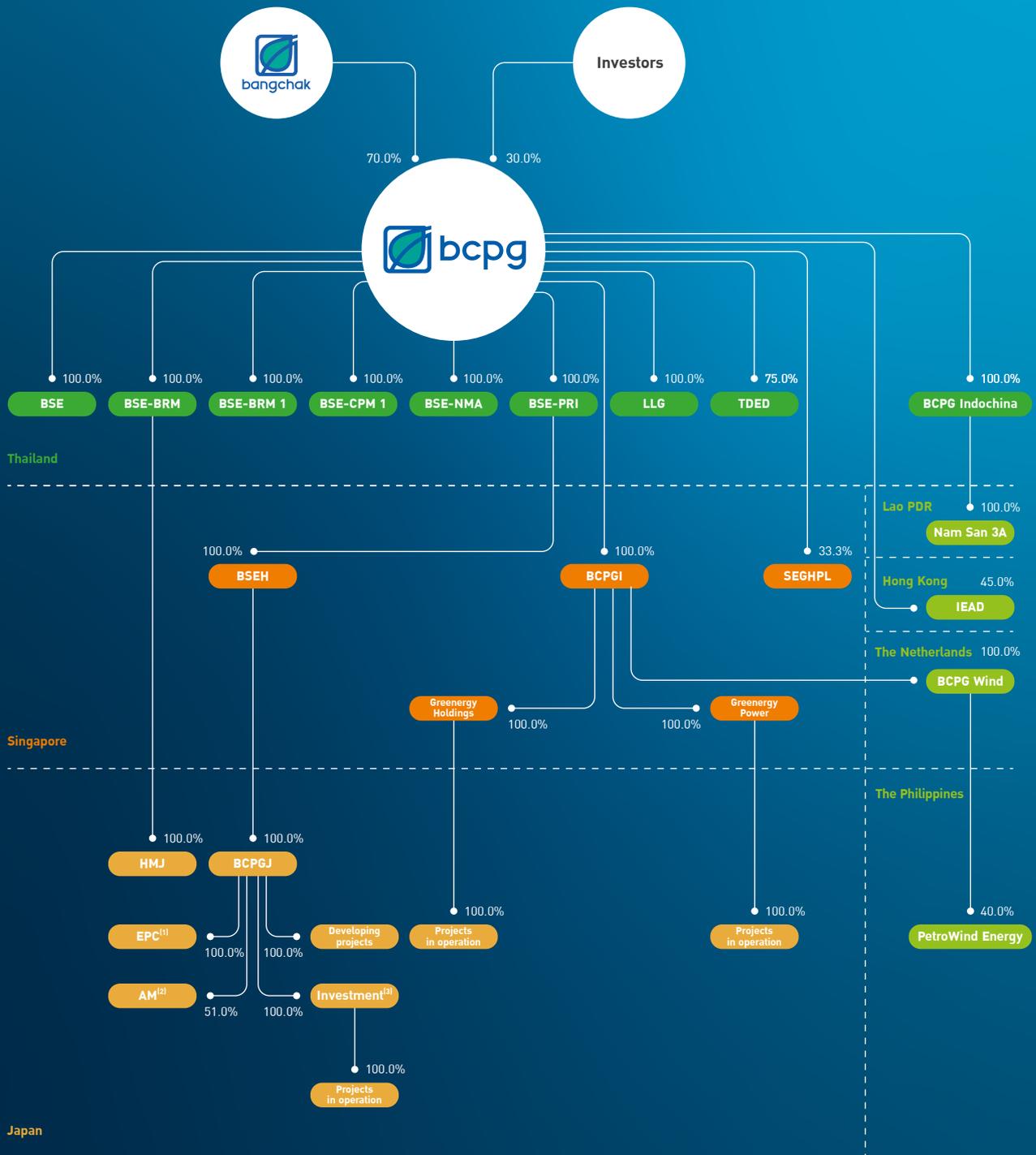
In addition, the Company considered applying energy trading through the internet in order to reach a wider group of individual customers to expand the retail business. Toward the end of 2017, the Company joined Sansiri Public Company Limited, a business partner, in the Sansiri Town Sukhumvit 77 (T77 Project) to run a pilot smart green city project by leveraging the Blockchain technology as a energy trading platform. Implemented in August 2018, the project was recognized as a milestone change in the power business, a role model for future development in other projects. In 2019, the Company signed power purchase agreements (PPAs) with public and private companies for the installation of solar rooftop panels with the total capacity of 16.7 MW. The Company also secured the power distribution right for 20-25 years.

In August 2019, the Energy Regulatory Commission (ERC) announced a list of winning projects to participate in ERC Sandbox, an experimental innovation project involving technological support to energy services. BCPG was represented in four of these:

- (1) T77 Energy Management Project: BCPG in cooperation with Sansiri Pcl designed this prototype for peer-to-peer power trading, leveraging the Blockchain technology
- (2) Smart City Project: BCPG in cooperation with Chiangmai University and partners designed this development of the university as a prototype Smart City for clean energy
- (3) Sun Share Smart Green Energy Community: BCPG in cooperation with SC Asset Corporation Pcl designed this Smart Grid development model on some 200 rai of land as a Smart Green Energy Community
- (4) Lom Ligor Project: Lom Ligor Co., Ltd., a BCPG subsidiary, conducted research with the National Scientific and Technology Development Agency (NSTDA), Ministry of Science and Technology, in pursuit of an Energy Management System model featuring energy storage system application to a wind power project to offset the fluctuation in turbine-generated wind power.

These projects represented cooperation with ERC in mapping out action plans of up to three years each. Should they become successful, power management efficiency would rise, the public sector would incur less infrastructure investment burden, and distributed generation (DG) would materialize, thus easing Thailand's future dependence on centralized power generation.

BCPG Group Structure



Remarks :

⁽¹⁾ EPC means either an EPC contractor or O&M company of solar farms in Japan

⁽²⁾ AM means a company engaging in the management and maintenance of solar farms in Japan as the asset management company of the Tarumizu Project and the remaining share of 49.0%, held by unrelated juristic persons under the announcement of the Capital Market Supervisory Board No. Thaw Jaw 21/2551 (Rules for Related-Party Transactions)

⁽³⁾ Investment means a company that invests in solar farms in Japan as a turnkey (TK) investor

Detail of the Company's Subsidiaries and Associates

No.	Company Name	Nature of Business	Country of Registration	Paid-up Capital	% Shares ⁽¹⁾
Subsidiaries in Thailand					
1	Bangchak Solar Energy Co., Ltd. ("BSE")	Operates solar farms in Bamnet Narong District, Chaiyaphum, and the other in Bang Pahan District, Phra Nakhon Si Ayutthaya	Thailand	THB 1.8 billion	100.0
2	Bangchak Solar Energy (Buriram) Co., Ltd. ("BSE-BRM")	Operates a solar farm in Prakhon Chai District, Buriram	Thailand	THB 626.7 million	100.0
3	Bangchak Solar Energy (Buriram 1) Co., Ltd. ("BSE-BRM1")	Operates a solar farm in Nong Ki District, Buriram	Thailand	THB 635.0 million	100.0
4	Bangchak Solar Energy (Chaiyaphum 1) Co., Ltd. ("BSE-CPM 1")	Operates a solar farm in Bamnet Narong District, Chaiyaphum	Thailand	THB 585.0 million	100.0
5	Bangchak Solar Energy (Nakhon Ratchasima) Co., Ltd. ("BSE-NMA")	Operates a solar farm in Dan Khun Thot District, Nakhon Ratchasima	Thailand	THB 570.0 million	100.0
6	Bangchak Solar Energy (Prachinburi) Co., Ltd. ("BSE-PR")	Operates a solar farm in Kabin Buri District, Prachin Buri, and three solar power projects for state agencies and agricultural cooperatives	Thailand	THB 1.4 billion	100.0
7	Thai Digital Energy Development Co., Ltd. ("TDED")	Supports BCPG Group's future expansion	Thailand	THB 200.0 million	75.0
8	BCPG Indochina Co., Ltd. ("BIC")	Investment company in renewable energy	Thailand	THB 5.0 million	100.0
9	Lom Ligor Co., Ltd., ("LLG")	Operates a wind farm in Pak Panang District, Nakhon Si Thammarat	Thailand	THB 250.0 million	100.0
Subsidiaries and Associates in Japan					
10	BCPG Japan Corporation ("BCPGJ")	Develops, constructs, and operates power projects and manages investment in power projects in Japan	Japan	JPY 250.0 million	100.0
11	Tarumizu Solar Solutions Godo Kaisha ("TSS")	Provides solar farm operation and maintenance service as an asset management company	Japan	JPY 1.0 million	51.0 ⁽²⁾
12	Nakatsugawa PV Godo Kaisha ("Nakatsugawa")	Operates Project 1 solar farm in Kagoshima, Japan	Japan	JPY 1.0 (BCPGJ holds preferred shares worth JPY 2.0 million) ⁽³⁾	- ⁽³⁾
13	Godo Kaisha Inti	Supports BCPG Group's future expansion	Japan	JPY 1.00	100.0
14	Takamori PV Godo Kaisha ("Takamori")	Operates a solar farm in Kumamoto, Japan	Japan	JPY 1.0 (BCPGJ holds preferred shares worth JPY 3.0 million) ⁽³⁾	- ⁽³⁾
15	Nojiri PV Godo Kaisha ("Nojiri")	Operates a solar farm in Kumamoto, Japan	Japan	JPY 1.0 (BCPGJ holds preferred shares worth JPY 3.0 million) ⁽³⁾	- ⁽³⁾

No.	Company Name	Nature of Business	Country of Registration	Paid-up Capital	% Shares ⁽¹⁾
16	Godo Kaisha Aten	Operates a solar farm project in Japan, now under development	Japan	JPY 1.0	100.0
17	Nikaho PV Godo Kaisha ("Nikaho PV")	Supports BCPG Group's future expansion	Japan	JPY 21.0 million	100.0
18	Gotenba 2 PV Godo Kaisha	Operates a solar farm project in Japan, now under development	Japan	JPY 1.0	100.0
19	Kichisawa PV Godo Kaisha	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
20	Yabuki PV Godo Kaisha	Operates a solar farm project in Japan, now under development	Japan	JPY 1.0	100.0
21	Komagane PV Godo Kaisha	Operates a solar farm project in Japan, now under development	Japan	JPY 1.0	100.0
22	Godo Kaisha Helios	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
23	Godo Kaisha Lugh	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
24	Godo Kaisha Phoenix	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
25	Gotenba 1 PV Godo Kaisha	Operates a solar farm project in Japan, now under development	Japan	JPY 1.0	100.0
26	Komagane Land Lease Godo Kaisha	Holds land property for solar farms in Japan, now under development	Japan	JPY 1.0	100.0
27	Nagi PV Godo Kaisha ("Nagi")	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
28	Godo Kaisha Natosi	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
29	Godo Kaisha Amaterasu	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
30	Godo Kaisha Mithra	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
31	Godo Kaisha Sol	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
32	Godo Kaisha Saule	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
33	Godo Kaisha Shamash	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
34	Godo Kaisha Pusan	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
35	Godo Kaisha Apolo	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
36	Godo Kaisha Surya	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
37	Nagi Land Lease Godo Kaisha ("Nagi Land")	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
38	Godo Kaisha Rangi	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
39	Godo Kaisha Dazbog	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
40	Godo Kaisha Narang	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
41	Godo Kaisha Malina	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0

No.	Company Name	Nature of Business	Country of Registration	Paid-up Capital	% Shares ⁽¹⁾
42	Godo Kaisha Legba	Supports BCPG Group's future expansion	Japan	JPY 1.0	100.0
43	J2 Investor Godo Kaisha	Invests in solar farms in Japan as a TK investor	Japan	JPY 1.0	100.0
44	J1 Investor Godo Kaisha ("J1")	Invests in solar farms in Japan as a TK investor	Japan	JPY 107.0 million	100.0
45	BCPG Engineering Company ("BCPGE")	Serves as a turnkey EPC contractor and provides operation and maintenance (O&M) service for solar farms	Japan	JPY 40.0 million	100.0
46	Godo Kaisha Tarumizutakatouge	Operates Project 4 solar farm in Kagoshima, Japan	Japan	JPY 1.0 (BCPGJ holds preferred shares worth JPY 19.0 million) ⁽³⁾	_(⁽³⁾)
47	Huang Ming Japan Co., Ltd. ("HMJ")	Operates a solar farm project in Japan, now under development	Japan	JPY 0.1 million	100.0

Subsidiaries and Associates in Singapore and Other Countries

48	BCPG Investment Holdings Pte. Ltd. ("BCPGI")	Holds shares in other overseas companies	Singapore	SGD 1.0	100.0
49	BSE Energy Holdings Pte. Ltd. ("BSEH")	Holds shares in other overseas companies	Singapore	SGD 1.0	100.0
50	Greenery Holdings Pte. Ltd. ("Greenery Holdings")	Invests in solar farms in Japan as a TK investor	Singapore	SGD 2.0 and USD 2.0 million	100.0
51	Greenery Power Pte. Ltd. ("Greenery Power")	Invests in solar farms in Japan as a TK investor	Singapore	SGD 2.0 and USD 6.0 million	100.0
52	Star Energy Group Holdings Pte. Ltd.	Investment	Singapore	USD 840.0 million	33.33
53	BCPG Wind Cooperatief U.A.	Investment	The Netherlands	USD 14.0 million	100.0
54	PetroWind Energy Inc.	Operates wind power business	The Philippines	PHP 1.9 billion	40.0
55	Impact Energy Asia Development Ltd. ("IEAD")	Investment	Hong Kong	HKD 200	45.0
56	Nam San 3A Power Sole Co., Ltd.	Operates a hydropower plant in Chiang Kwang	Lao PDR	LAK 232 billion	100.0

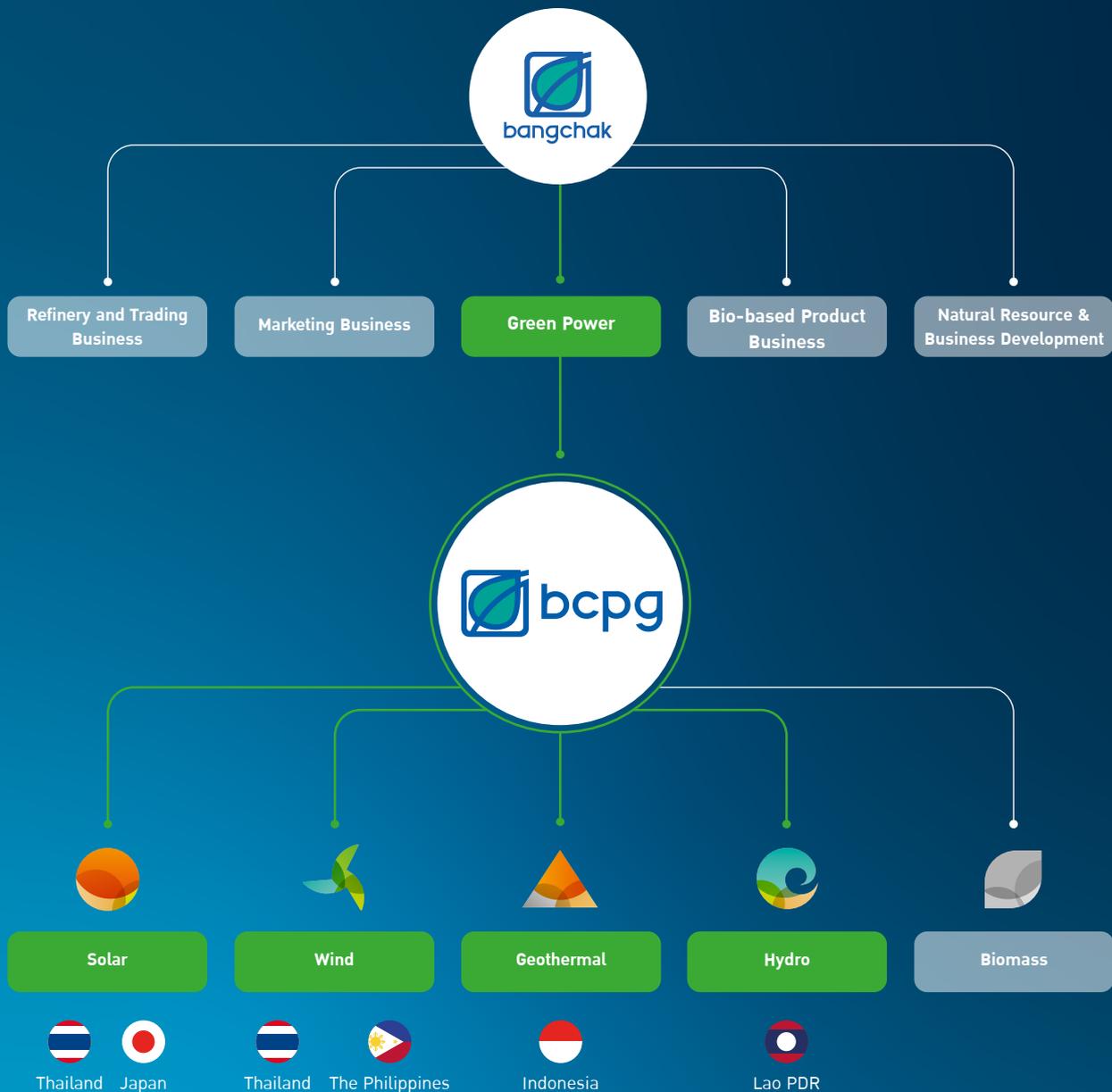
Remarks :

⁽¹⁾ % shares include direct and indirect holding.

⁽²⁾ The remaining 49.0% of the shares are held by an unrelated juristic person under the announcement of the Capital Market Supervisory Board No. Thaw Jaw 21/2551 (Rules for Related-Party Transactions).

⁽³⁾ Preferred shares in the registered capital represent the amount invested in GK Company without voting right.

Relationship with the Major Shareholder



Source: www.bangchak.co.th, data as of December 31, 2019, and BCPG

As of December 31, 2019, Bangchak Corporation Pcl (BCP) held 70.0% of BCPG's total paid-up capital common shares. A clear distinction exists on the natures of businesses and primary resource consumption between the BCPG Group of Companies and BCP. BCPG Group operates commercial power generation from renewable energy sources locally and internationally including solar, wind, geothermal, and hydropower. Nevertheless, there are multiple connected transactions supporting mutual businesses between BCPG Group and BCP, including corporate image, in line with the guidelines for managing BCP Group's joint ventures and BCPG's corporate governance. These transactions are reported under the Section of Connected Transactions.

Awards of 2019



1

2

3

4

5

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1 **1st runner up for 2019**
Best Diary - General Category
from the 39th Suriyasasithorn
Award held by the Public
Relations Society of Thailand

2 **Most Innovative Renewable
Energy Company**
from UK's leading financial
magazine - International
Investor Magazine

3 **Best Renewable Energy Company
South East Asia 2019**
from UAE's leading business
magazine - International
Business Magazine

4 **Innovative Power Technology
of the Year - Thailand**
from Asian Power Awards 2019
by Asian Power, a leading energy
magazine in Asia

5 **Most Innovative Renewable Energy
Company - South East Asia 2019**
from UAE's leading business
magazine - International
Business Magazine

6 **Best Managed Company
Energy Sector**
from UK's leading financial
magazine - International
Investor Magazine

7 **Selected to be included in
Environmental, Social and
Governance ESG100, 2019**
by Thaipat Institute

Nature of Business

BCPG Group engages in the administration of and investments in local and international renewable-energy businesses, as detailed below.

1. Power business in Thailand

1.1. Solar farms in Thailand with a total contractual power generating capacity of 141.0 MW out of a total installation capacity of 193.0 MW:

- BCPG-operated solar farms with a total contractual generating capacity of 38.0 MW under a 25-year Power Purchase Agreement (PPA). Their power tariff consists of base tariff + Ft + adder of 8.0/kWh for a period of 10 years.
- Solar farms operated by subsidiaries, in which BCPG holds 99.9%, namely BSE, BSE-BRM, BSE-BRM 1, BSE-CPM 1, BSE-NMA and BSE-PRI, with a total contractual capacity of 80.0 MW under 25-year PPAs. Their power tariff consists of base tariff + Ft + adder of 8.0 THB/kWh for a period of 10 years.
- Solar farms supporting the development of ground-mounted solar farms for agricultural cooperatives, operated through BSE-PRI (a 99.9%-owned BCPG subsidiary) totaling three projects, whose total contractual capacity amount to 12.0 MW under a 25-year PPA. Their tariff is 5.66 THB/kWh in Feed-in-Tariff (FiT).
- Ground-mounted solar farms for government agencies and agricultural cooperatives, phase 2, in support of a project with the War Veterans Organization of Thailand under the Royal Patronage (WVO). Two projects under this group command contractual capacities totaling 8.9 MW under a 25-year PPA. Their tariff is 4.12 THB/kWh in FiT.
- Private solar floating with the capacity of 2.1 MW is operated by the Company. Its tariff structure is base tariff + ft with discount for the period of 25 years.



- 1.2. Wind power plants at Pak Phanang District, Nakhon Si Thammarat, with a contractual capacity of 9.0 MW (installed capacity, 10.0 MW) under a 25-year PPA at a base tariff + Ft + adder of the Baht 3.5/unit for a period of 10 years.
- 1.3. The Solar Rooftop Project, for which BCPG signed a PPA with the public and private sectors for a period of 20-25 years. The total installed capacity is 16.7 MW. The tariff consists of base tariff + Ft with a discount.
2. Nine solar farms in Japan with a total contractual capacity of 89.7 MW (installed capacity, 117.5 MW). These projects are under 20-year PPA terms with FIT of 32-40 JPY/kWh, made up of:
- Five operating projects with a total contractual capacity of 14.7 MW (Takamori, Nakatsugawa, Nojiri, Tarumizu, and Gotemba).
 - Four projects currently under development, with a total contractual capacity of 75.0 MW (Komagane, Yubuki, Chiba 1, and Chiba 2).
3. Hydropower business: One project in Lao PDR with a contractual capacity of 69.0 MW with 27-year PPA from the first meter-reading date and an average tariff of 0.065 USD/kWh.

In 2019, 96.7% of the Group's revenues came from the renewable power business as shown below:

Revenue	2017		2018		2019	
	THB million	%	THB million	%	THB million	%
1. Revenue from sale and service						
Base tariff	770.6	21.2	794.4	18.8	857.0	24.2
Adder	1,972.9	54.2	1,950.6	46.1	2,039.4	57.6
FIT	579.0	15.9	568.8	13.4	504.6	14.0
Service revenue	-	-	6.5	0.2	25.6	0.7
Total revenue from sale and service	3,322.5	91.3	3,320.3	78.5	3,426.6	96.7
2. Investment income ⁽¹⁾	40.9	1.1	4.8	0.1	6.0	0.2
3. Gain from asset sale to IFF	-	-	793.0	18.8	-	-
4. Other income ⁽²⁾	276.5	7.6	111.8	2.6	109.5	3.1
Total Revenue	3,639.9	100.0	4,229.8	100.0	3,542.1	100.0

Remarks:

⁽¹⁾ Revenue from receivable interest income and dividends.

⁽²⁾ Other income includes gain from asset sales, forex gain, and claim from insurance.

Renewable Power Business in Thailand



5.0 MW ground mounted solar farms for state agencies and agricultural cooperative projects, Wiset Chai Chan Agricultural Cooperatives Limited of Ang Thong.

Nature of Power Business in Thailand

The Group operates and distributes electricity generated from solar energy under 12 PPAs: (1) an agreement with the Electricity Generating Authority of Thailand (EGAT) on currently one SPP (Small Power Producer) agreement with a contractual capacity of 30.0 MW, and (2) PPAs with the Provincial Electricity Authority (PEA), currently totaling 11 VSPP (Very Small Power Producer) agreements with the contractual capacity of 8.0 MW under each agreement, for a total of 88.0 MW. Both are non-firm PPAs with a five-year term, with renewals for another five-year term and eligible for an adder incentive to renewable-energy producers at 8.0 THB/kWh for a 10-year period, effective from the COD. The Group's policy is to renew all agreements every five years until project termination, which is generally 25 years.

In the first quarter of 2017, the Group entered three PPAs with PEA for ground-mounted solar farms for state agencies and agricultural cooperative projects, with a total combined contractual capacity of 12.0 MW. Wiset Chai Chan Agricultural Cooperatives Limited of Ang Thong (5.0 MW), Bang Pa-in Agricultural Cooperatives Limited of Phra Nakhon Si Ayutthaya (2.0 MW), and Phra Nakhon Si Ayutthaya Agricultural Cooperatives of the same province (5.0 MW). All come under 25-year PPA term agreements with FiT of 5.66 THB/kWh through the contract period.

In the third quarter of 2018, the Group entered two PPAs with WVO, which was related to these ground-mounted solar farm agreements specified power sales to state agencies and agricultural cooperatives phase II. The projects had contractual and installed capacities total 8.9 MW. First, a 5.0-MW project, jointly operated with WVO-Lop Buri in Phra Phutthabat District, Sara Buri, and a 3.9-MW project, jointly operated with WVO-Suphan Buri in Tha Muang District, Kanchanaburi. Both agreements were signed with PEA for a 25-year contract term with an FiT of 4.12 THB/kWh.

In June 2018, BCPG wholly invested in Lom Ligor Co., Ltd., which operates a wind farm with with a total contractual capacity of 9.0 MW (installed capacity, 10.0 MW) at Pak Phanang District, Nakhon Si Thammarat. It entered into a non-firm, 5-year PPA with PEA with a renewable option for 5 years each time. The 25-year project qualified for 3.50 THB/kWh adder for renewable power generation for 10 years from the COD. Its COD was in Q2/2019.

In 2019, 2.1 MW private solar floating is operated by the Company at Phra Nakhon Si Ayutthaya. This plant is operated and sold to a related company in BCP Group. The tariff is base tariff + ft with discount for 5-year term with renewable option for 5 years each time. The total term is not exceed 25 years.



Project locations under BCPG Group in Thailand



1
Chaiyaphum

Bamnet Narong-1
8.0 MW_{PPA}

Bamnet Narong
16.0 MW_{PPA}

2
Nokorn Ratchasima

Dan Khun Thot
8.0 MW_{PPA}

3
Buriram

Nong Ki
8.0 MW_{PPA}

Phrakhon Chai
8.0 MW_{PPA}

4
Angthong

Cooperative Solar Wiset Chai Chan
5.0 MW_{PPA}

5
Saraburi

Phra Phutthabat
5.0 MW_{PPA}

6
Kanchanaburi

Tha Muang
3.9 MW_{PPA}

7
Phra Nakorn Si Ayudthaya

Bang Pa In
40.1⁽¹⁾ MW_{PPA}

Bang Pa Han
16.0 MW_{PPA}

Cooperative Solar Bang Pa-In

5.0 MW_{PPA}

Cooperative Solar Phra Nakorn Si Ayudthaya

2.0 MW_{PPA}

8
Prachinburi

Kabin Buri
16.0 MW_{PPA}

9
Nakhon Si Thammarat

Pak Phanang
9.0 MW_{PPA}

● Project in Operation

⁽¹⁾ Including 2.1 MW, the private solar floating project

⁽²⁾ Excluding 16.7 MW, the solar rooftop project

Contracted⁽²⁾

150.0
MW

Installed⁽²⁾

203.0
MW

In addition, BCPG engages in solar rooftop projects for customers in the public and private sectors, as well as providing business support to Bangchak affiliates. BCPG installed solar roofs and provides maintenance service, and obtained the right to distribute power for 20-25 years at base tariff + Ft with a discount. Today BCPG has entered into 24 PPAs for a total capacity of 16.7 MW, each with a capacity of less than 1 MW. Presently, the rooftop projects were commercially operated 1.2 MW.

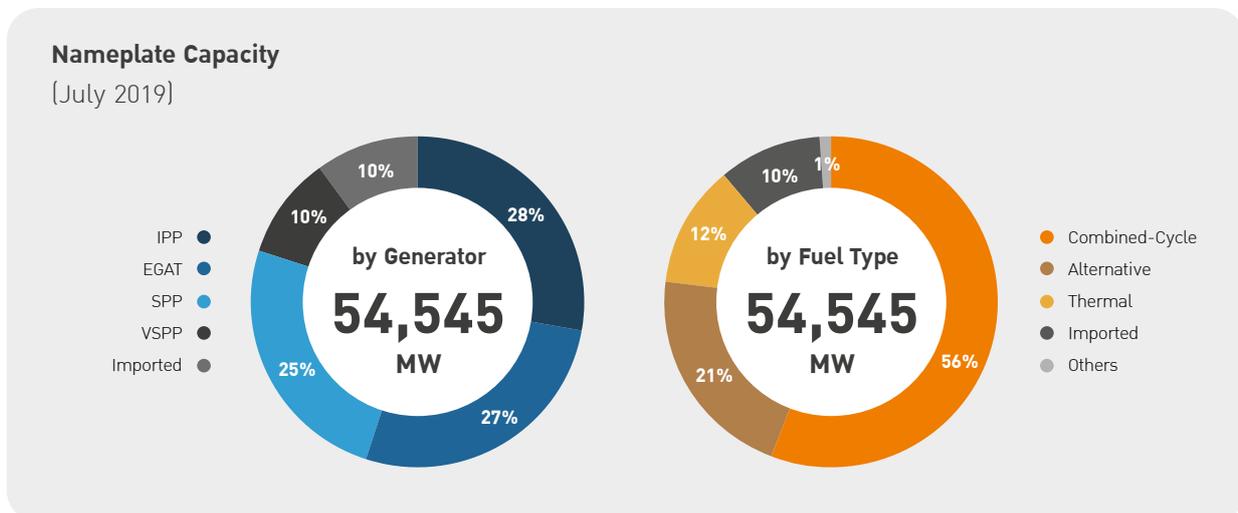
Power Business Structure in Thailand

The power business management structure in Thailand contains the policy, regulatory, and operating aspects. The policymaking and management direction duties come under the Office of the National Energy Policy Council (NEPC) together with the Energy Policy and Planning Office (EPPO); the Ministry of Energy executes such policy. The Office of the Energy Regulatory Commission (ERC), formerly under the Ministry of Energy, regulates energy affairs under the policy.

Thailand's power business structure is of the Enhanced Single-Buyer model. EGAT is the single buyer before transmitting the power to the sellers, namely the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA). MEA sells and distributes power to Bangkok Metropolis and its periphery; PEA, to the rest. Besides these three agencies, Thailand's private power producers serve as power generators, beginning in 1989, to promote energy-business competition for greater efficiency, lower production costs, and lower State burden.

Power Generation Capacity under Thailand's Demand Structure

Thailand's power generation is operated by six key groups: EGAT, IPPs, SPPs, VSPPs, independent power supply, and imported power. As of November 2019, the total generation capacity from all these groups was 54,545 MW, as detailed below:

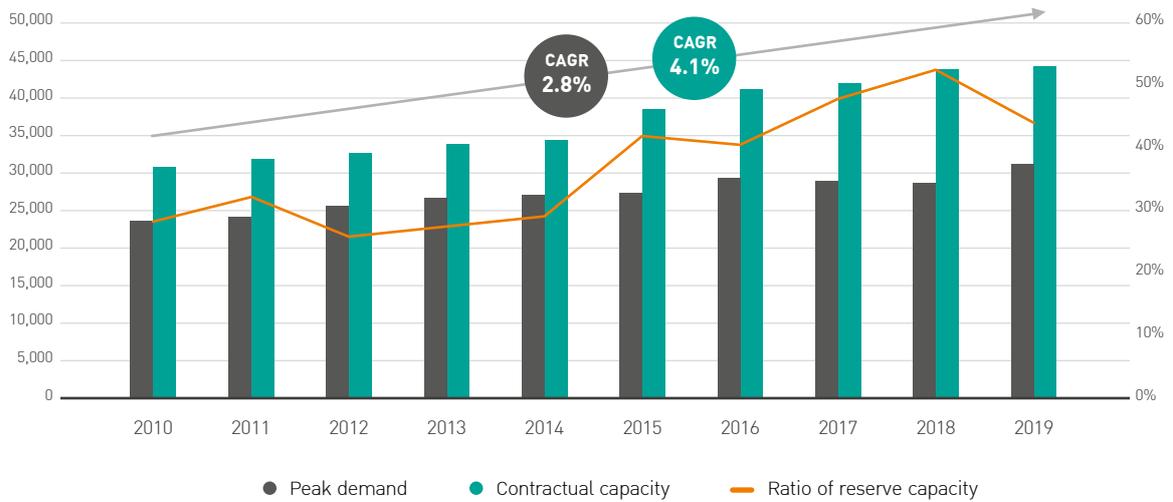


Sources: EGAT (www.egat.go.th) and ERC (www.erc.co.th)

In 2019 the peak power demand occurred in May, registering 30,853 MW (Source: EGAT, December 31, 2019). Thailand's power demand is constantly on the rise in line with its GDP (Gross Domestic Product). Between 2010 and 2019, the CAGR (Compound Annual Growth Rate) of electrical demand was 2.8%, whereas the CAGR's GDP equaled 3.7%.

Comparison of Peak Power Demand with Capacities under Past Contracts

(MW)



Source: PDP2018

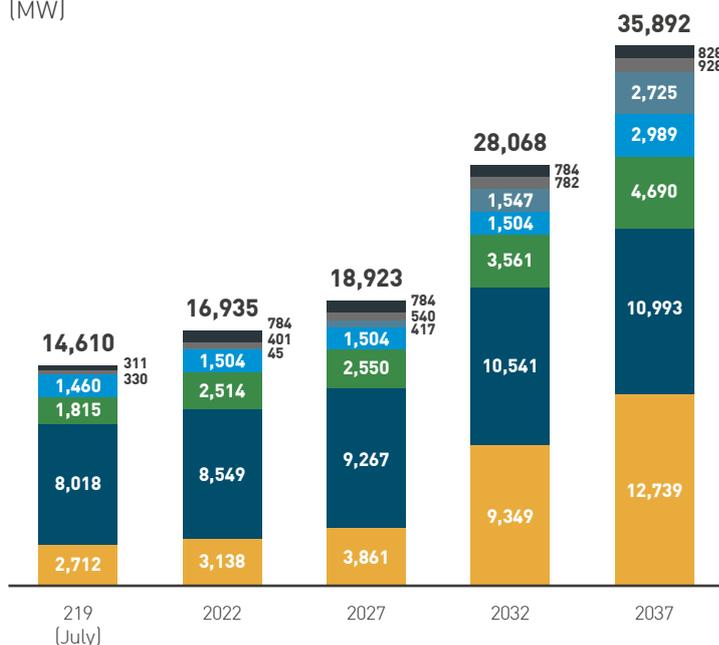
Outlook for Renewable Power Business in Thailand

Since 1989 the Ministry of Energy's policy has been to promote the private sector's role in power generation, particularly that from renewable energy, to decentralize opportunities for power generation, lower power system losses, and lower the public-sector burden of constructing major power plants for power distribution. From 2010 to 2018, renewable power generation has been rising steadily at an average rate of 22.9% a year.

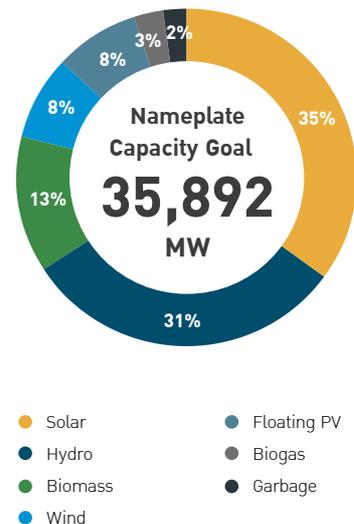
In the latest PDP (PDP2018), renewable power generation capacity will rise from 14,610 MW in 2019 to 35,892 MW in 2037 or the CAGR of 5.1% a year on average. An NEPC resolution required public solar projects for which the purchase quota is to equal 100 MW a year at a tariff of up to 1.68 THB per unit; also, NEPC focused on innovations supporting energy services (ERC Sandbox). BCPG's four projects were selected to participate in this project.

Renewable and Alternative Energy Development Plan

(MW)



Capacity by Fuel Type by 2037



Source: PDP2018

Renewable Power Business in Japan



Gotemba Project (Japan) with a contractual capacity of 4.0 MW.

Nature of Japan's Power Business

In 2019 BCPG Group operated five solar farm projects in Japan with a total contractual capacity of 14.7 MW (installed capacity, 17.4 MW) under six separate PPAs, all under 20-year term, with effect from the first meter-reading date.

- The first four projects (Takamori, Nakatsugawa, Nojiri, Tarumizu) on Kyushu Island came under PPAs with Kyushu Electric Power Company with contractual capacities totaling 10.7 MW. They were structured to purchase electricity with an

FiT of 40 JPY/kWh for 20 years after the first meter-reading date.

- One project (Gotemba in Shizuoka Prefecture) came under a PPA with Tokyo Electric Power Company with a contractual capacity of 4.0 MW. The agreement is under a 20-year term, effective from the first meter-reading date, with an FiT of 32 JPY/kWh.

As of year-end 2019, BCPG Group commanded four projects under development and construction, with contractual capacities totaling 75.0 MW (total installed capacity, 99.9 MW).



BCPG Group's solar farm locations in Japan



1

Yabuki
20.0 MW_{PPA}

2

Komagane
25.0 MW_{PPA}

3

Chiba 1&2
30.0 MW_{PPA}

4

Getemba
4.0 MW_{PPA}

5

Takamori
1.0 MW_{PPA}

6

Nojiri
0.9 MW_{PPA}

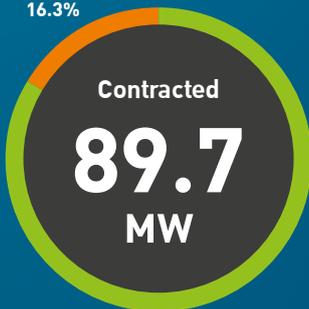
7

8.8 MW_{PPA} **Nakatsugawa (0.7)**
Tarumizu (8.1)

● Projects in operation

● Projects under construction and development

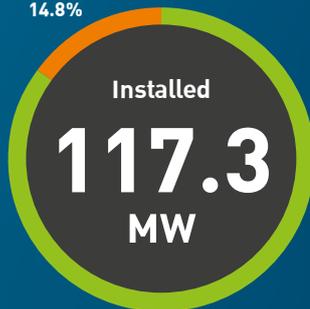
16.3%



Contracted
89.7
MW

83.7%

14.8%



Installed
117.3
MW

85.2%

Power Business Structure in Japan

Japan is a group of some 6,800 islands of the Pacific Ocean, with a population of 127 million, translating into 348 people per square kilometer (Source: Worldometers and United Nations, July 2019). The terrain is that of archipelagos situated on the Pacific Ring of Fire, largely mountainous and forest-like. Japan is a leading industrial and technological country. The Bank of Japan estimated GDP growth of 0.7% in 2019.

Following a free-market policy on the power industry launched in 1995 by the government, the industry has become highly competitive and transparent. Today's power industry in Japan is structured in three different facets: power generating system; transmission, delivery and grid management systems; and marketing and sales. There are currently 10 private power producers providing electricity to each region and taking charge of supply, transmission, and distribution systems from the generating and distributing ends to consumers in various locations at the other end. These companies carry terms for power supply, including tariffs as a general term for supplying power to consumers in controlled markets. All private power producers therefore work closely together for greater power supply stability for power users across the country. As for power industry regulation, the Electric Power System Council of Japan (ESCJ) went into operation in April 2005 as the issuer of regulations and supervisor of operation, a neutral entity that ensures transparency and fairness of power transmission and distribution systems.

Outlook for Renewable Power Industry

Following the Fukushima Daishi nuclear power plant accident caused by the major earthquake and tsunami of 2011, the Japanese Government issued an executive order to shut down all 48 other nuclear power plants across the country for safety inspection and testing, leading to a shift in the proportions of power generating fuels and prompting a surge in electricity rates driven by sizeable imports of fossil fuels to replace nuclear power for power generation.

From 2010 to 2014 the average power tariff for households rose 25.2% and for industries, 38.2%; at the same time, Japan's Energy Self-Sufficient Rate nosedived⁽¹⁾ from 19.9% in 2010 to 6.0% in 2012, illustrating rigidity for switching power-generation fuel types and a need to rely on fossil fuel imports.

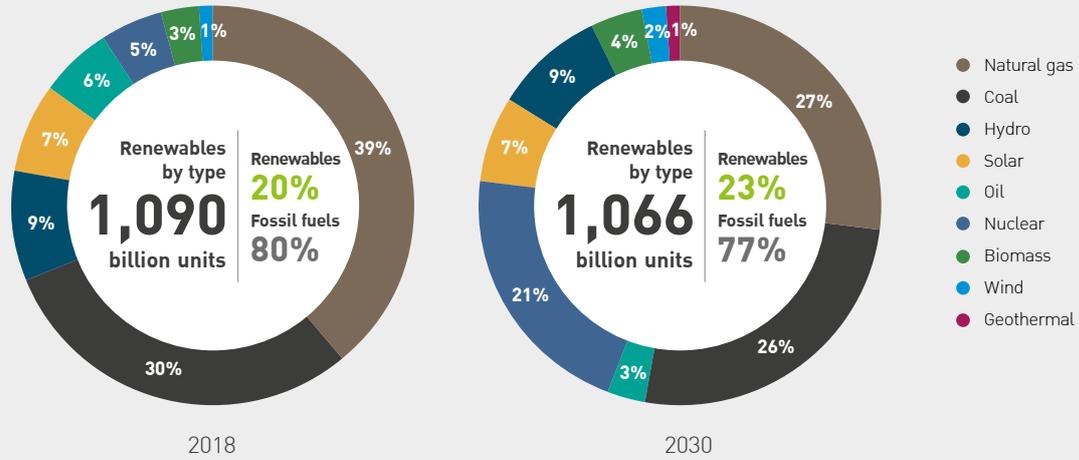
To solve this problem, several policies and measures were introduced by the Japanese government to foster energy security and stability during normal times and in crises. To this end, Japan aimed to diversify imported fuels' origins while developing indigenous energy sources, which included the promotion of power generation from renewable sources under an enhanced national power grid and relaxed rules, and research and development (R&D) to lower operating costs.

Japan's national assembly also promulgated The Act on Purchase of Renewable Energy Sourced Electricity by Electric Utilities on July 1, 2012, under which a scope governed power purchase under the FIT model for renewable energy, requiring power operators to purchase renewable power at the prices and for periods prescribed by METI (The Ministry of Economy, Trade and Industry). METI, in the meantime, is to set power tariffs in the annual FIT format, depending on the annual amount of renewable power generated.

In 2018, METI has set tariffs for power farms larger than 2 MW winning licenses during 2012-2014 (with tariffs of JPY 32, 36, and 40/kWh) under development and not yet ready for commissioning to file project details by September 2019. In addition, they must link up with the grid, ready for commissioning within one year. BCPG Group's four projects under development and construction, however, do not fall into this category. Finally, METI has begun its selection of operators through bidding process for renewable power projects of the solar type with capacities of over 2 MW in 2018 and larger than 0.5 MW in 2019.

⁽¹⁾ The Energy Self-Sufficiency Rate describes the ratio between the produced amount of indigenous primary energy to the domestic primary energy consumption for a given year.

**Ratio of Renewable Power in 2018
and Goal in 2030**



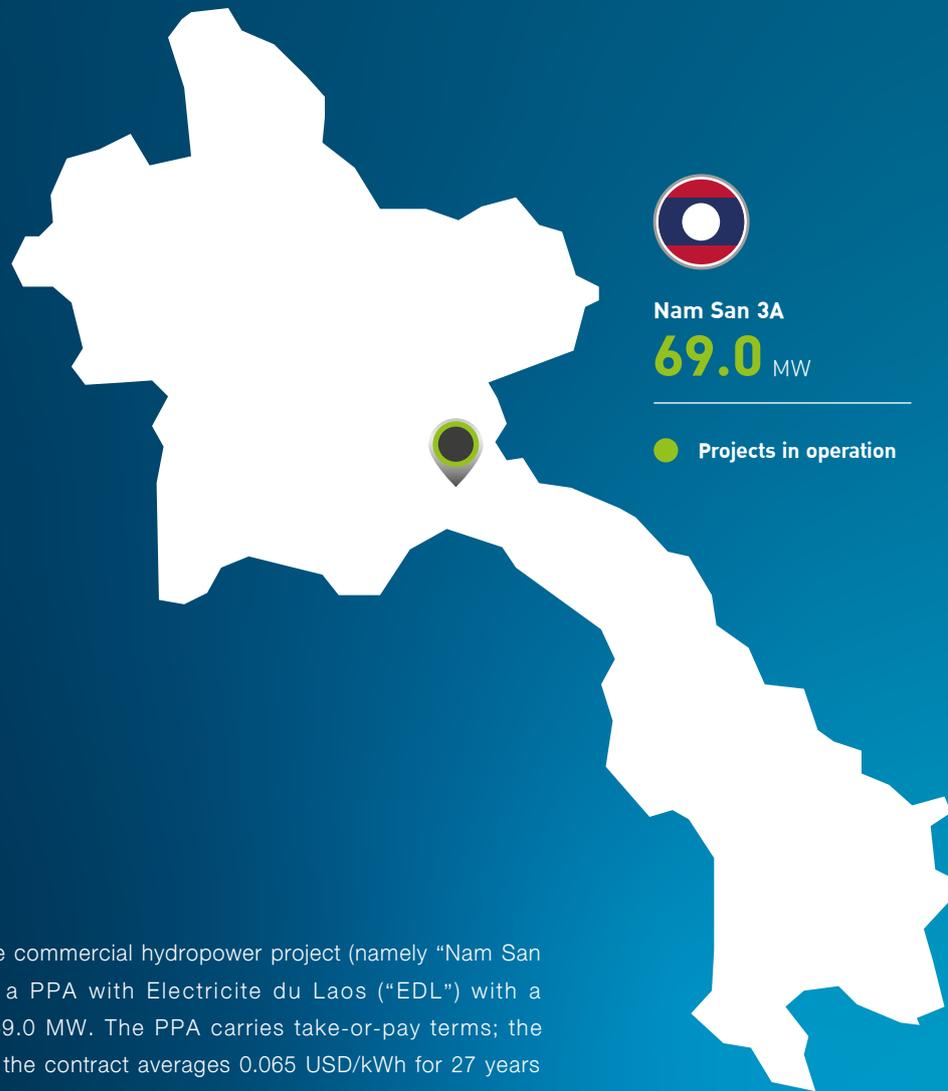
Source: Japan's Electricity Market Reform and Beyond, July 7, 2015, METI, and Inside Japan's Long-term Energy Policy, IEEJ, September 2015

Under the revised energy plan, the focus is on renewables, nuclear, and coal with the same proportions for power generation in 2030, that is, 7.0% solar, 4.2% biomass, 1.7% wind, and 9.0% hydro on average.



"Nam San 3A" Hydropower project in Lao PDR, with a contractual capacity of 69.0 MW.

Power Business Structure in Lao PDR



BCPG Group operates one commercial hydropower project (namely “Nam San 3A”) in Lao PDR under a PPA with Electricite du Laos (“EDL”) with a contractual capacity of 69.0 MW. The PPA carries take-or-pay terms; the purchase tariff throughout the contract averages 0.065 USD/kWh for 27 years from the first meter-reading date. Nam San 3A is a run-of-river hydropower plant with a concrete gravity dam built across the river to raise the water level so that there may be enough water and pressure to operate turbines and generators located in the downstream power plant.

Nature of Power Business in Lao PDR

Laos is a neighboring country with the “ASEAN’s battery” reputation due to its geographical characteristics holding massive water resources. Its population is 7 million, and the population density of 231 per square kilometer (Source: Worldometers and United Nations, July 2019). The terrain is highly fertile in natural resources, particularly water and lignite, which has drawn foreigners’ interest for energy-business investment. The Asian Development Bank (ADB) estimated the GDP for Laos at 6% for 2019, ranking fourth among Southeast Asian nations.

Power Business Structure in Lao PDR

The power business structure in Lao PDR bears much resemblance to that of Thailand. The policymaking and regulatory tasks are under a public agency, with Electricite du Laos (EDL), operating under the Ministry of Energy, in charge of supervision, generating, and distributing power domestically and abroad. EDL commands some capacities under itself, while serving as the major shareholder of EDL-GEN (a power generator and provider of maintenance services). Besides power distribution, EDL owns the transmission and distribution systems, while also supervising these systems.

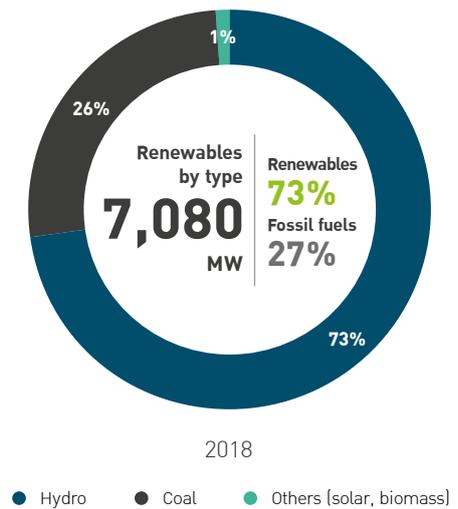
Power Capacities under the Power Demand System in Lao PDR

In 2018, Lao PDR had about 1.13 million households (93.8% of total) connected to the grid. The total nameplate capacity is 7,080 MW, with an annual growth rate of 7.05% from 2017. The demand growth averaged 9.1% as of 2017.

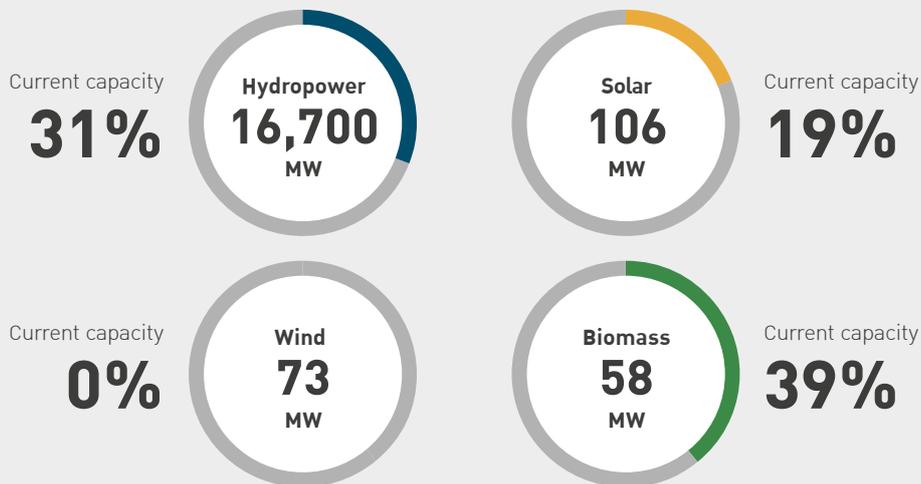
Outlook for Renewable Power Industry in Lao PDR

For 2011-2025, Lao PDR's goal for renewable-energy generation under the renewable-energy development is 30% of the total domestic power demand, with a focus on readily available hydropower to generate 16,700 MW. Refer to the report on hydropower project development No. 6, the hydropower resources could produce electricity upto 28,600 MW.

Power-Generating Capacity by Fuel Type



Power Generation Goal of 2025 Compared with Current Individual Energy Generation



Source: MEM, Renewable Energy Strategy Development (2011-2025), Renewable Energy in Lao PDR (2016)

Power Distribution between Lao PDR Border and Neighboring Countries

By and large, power generation in Lao PDR is designed to supply it across the border, and the export outlook is on a steady rise each year. The bulk of the demand comes from the private sector, with Thailand leading the group of importers. Lao PDR has PPAs with Thailand, Vietnam, Cambodia, Myanmar, and China upto 14,660 MW. Current completed projects account for 4,294 MW (Information as of March 2019).

Revenue Structure from Power Distribution by Project

Electrical sales of BCPG Group was reported in the consolidated financial statements for fiscal years ending December 31, 2017, 2018, and 2019 are detailed below.

	For the fiscal year ending December 31					
	2016		2017		2018	
	THB million	%	THB million	%	THB million	%
BCPG						
Base tariff	194.1	5.8	198.2	6.0	210.3	6.1
Adder	497.6	15.0	489.2	14.7	507.0	14.8
FiT	-	-	25.7	0.8	61.3	1.8
BSE						
Base tariff	235.3	7.1	242.8	7.3	248.3	7.3
Adder	600.5	18.1	591.8	17.8	603.5	17.6
BSE-BRM						
Base tariff	58.9	1.8	60.8	1.8	63.7	1.9
Adder	150.6	4.5	149.4	4.5	154.4	4.5
BSE-BRM 1						
Base tariff	56.2	1.7	58.9	1.8	60.6	1.8
Adder	143.5	4.3	144.8	4.4	147.2	4.3
BSE-CPM 1						
Base tariff	57.8	1.7	60.1	1.8	62.6	1.8
Adder	147.9	4.5	147.7	4.4	151.6	4.4
BSE-NMA						
Base tariff	56.6	1.7	58.3	1.8	60.7	1.8
Adder	145.0	4.4	142.8	4.3	147.1	4.3
BSE-PRI						
Base tariff	111.7	3.4	115.4	3.4	121.4	3.5
Adder	287.7	8.7	285.3	8.6	293.9	8.6
FiT	97.6	2.9	98.5	3.0	101.9	3
LLG						
Base tariff	-	-	-	-	28.9	0.8
Adder	-	-	-	-	34.6	1.0
Revenue from Thailand operations	2,841.0	85.5	2,869.2	86.4	3,059.7	89.3
Natkatsugawa	12.6	0.4	12.4	0.4	11.1	0.3
Takamori	17.4	0.5	16.8	0.5	14.6	0.4
Nojiri	16.3	0.5	15.3	0.5	13.8	0.4
Tarumizu	125.5	3.8	109.3	3.3	105.9	3.1
Nikaho	144.0	4.3	115.9	3.5	-	-
Nagi	165.8	5.0	138.2	4.2	-	-
Gotemba	-	-	36.7	1.0	47.7	1.4
Revenue from Japan operations	481.5	14.5	444.6	13.4	193.1	5.6
Nam San 3A	-	-	-	-	148.2	4.3
Hydropower projects in Lao PDR	-	-	-	-	148.2	4.3
Revenue from O&M service	-	-	6.5	0.2	25.6	0.8
Total revenues	3,322.5	100.0	3,320.0	100.0	3,426.6	100.0

Investment in Power Plant Projects through Associates

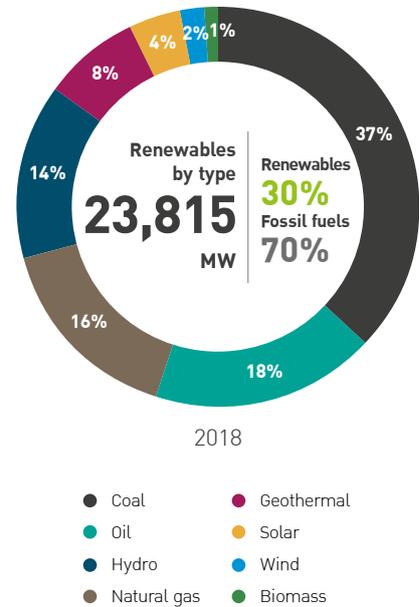
Wind Power Project in the Philippines

A wind power plant in Nabas, the Philippines, with BCPG holding 40.0% of the total paid-up capital, came into operation on June 10, 2015. The current capacity is 36.0 MW (equity capacity, 14.4 MW). Another 14.0-MW capacity is under development (equity capacity, 5.6 MW). The project is under a 20-year contract term with an FiT of 7.40 PHP/kWh, after which market prices are to apply.

In 2019, the wind farm generated the total electricity of 110.1 GWh (equity production, 44.0 GWh) slightly reduced from 114.6 GWh (equity production 45.8 GWh) by 2018. Its capacity factor was 35.5% in 2019 compared to 37.1% in 2018. The production decreased as the wind turbine shutdown for inspection caused by the tropical storm, Ursula, during Q4/2019. As a result, this year's profit share before the amortization of BCPG amounted to THB 58.7 million.

Regarding the power industry of the Philippines as of year-end 2018, the entire system accounted for 23,815 MW of capacity (4.8% rise from 2017), with roughly 30% coming from renewable energy. The country has set a goal of 100% access to electricity by 2022.

Power Generation Capacity by Fuel Type



Source: Department of Energy (DOE), 2019



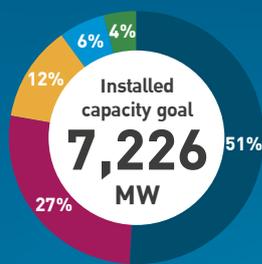
Lom Ligor project, Which operates a wind farm with with a total contractual capacity of 9.0 MW at Pak Phanang District, Nakhon Si Thammarat.

In 2018, the Philippines command a capacity of renewable power of 30% or 7,226 MW. Its goal for capacity for renewable power is 16,407 MW by 2030, whereas the wind power ratio will rise to 15%.

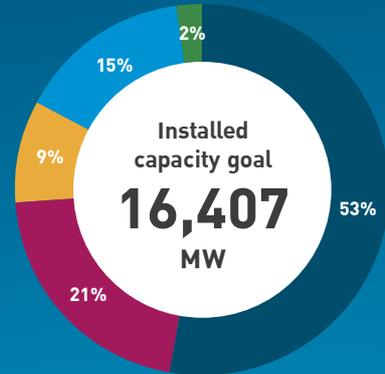
Estimated Renewable Energy under 2011-2030 Plan
[MW]

- Hydro
- Geothermal
- Solar
- Wind
- Biomass

Capacity by Type 2018



Capacity by Type 2030



Source: Department of Energy (DOE), 2016, NREP Roadmap (2010-2030)



Nabas

14.4 MW (36.0 MW) **5.6** MW (14.0 MW)

- Projects in operation
- Projects under construction & development

Geothermal Power Plant Projects in Indonesia

Three operating geothermal power projects in West Java, Indonesia, command a total generating capacity of 875.0 MW (equity capacity, 157.5 MW), whereas 120.0 MW was under development (equity capacity, 24.0 MW). The average tariff was 0.06-0.09 USD/kWh, a function of assorted inflation indices (including foreign exchange currency rates, consumers' price indices, and oil indices).

Project Name	Geothermal Power Plant		
	Wayang-Windu	Salak ⁽¹⁾	Darajat ⁽¹⁾
Location	Pangalengan Regency	Sukabumi Regency	Garat Regency และ Bandung regency
Indirect equity	20.0%	17.3%	17.3%
Purchaser	PT Perusahaan Listrik Negara (PLN) ⁽²⁾	PT Perusahaan Listrik Negara (PLN) ⁽²⁾	PT Perusahaan Listrik Negara (PLN) ⁽²⁾
Contractual capacity			
Steam : (For PLN's power generation)	-	Units 1-3 : 180 MW	Unit 1 : 55 MW
Power :			
Operating projects	Units 1-2 : 227 MW	Units 4-6 : 197 MW	Units 2-3 : 216 MW
Developing projects	Units 3-4 : 120 MW	-	-
Total capacity	347 MW	377 MW	271 MW
Equity capacity			
Steam :	-	Units 1-3 : 31 MW	Unit 1 : 10 MW
Power :			
Operating projects	Units 1-2 : 45 MW	Units 4-6: 34 MW	Units 2-3: 37 MW
Developing projects	Units 3-4 : 24 MW ⁽³⁾	-	-
Total equity capacity	69 เมกะวัตต์	65 เมกะวัตต์	47 เมกะวัตต์

Remarks:

⁽¹⁾ Salak and Darajat Projects were acquired by Star Energy from Chevron on March 31, 2017.

⁽²⁾ PLN is the state enterprise of Indonesia, the sole state enterprise whose key role is to provide domestic power system service.

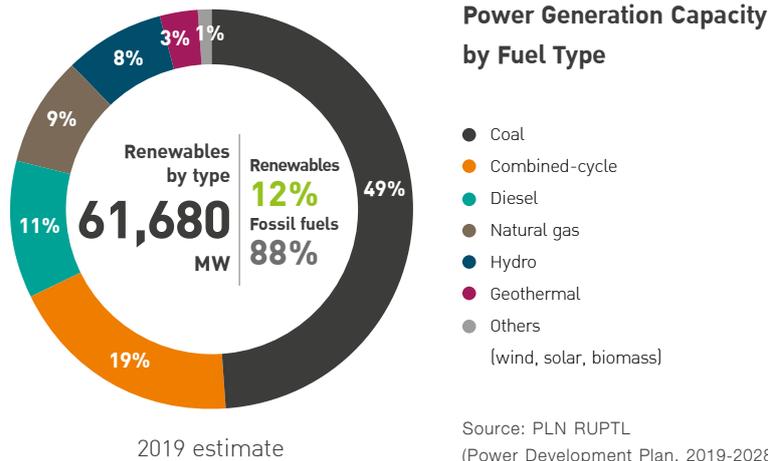
⁽³⁾ Under exploratory drilling to confirm viability.



Wayang-Windu project at Pangalengan, Indonesia, with 69 MW total equity capacity.

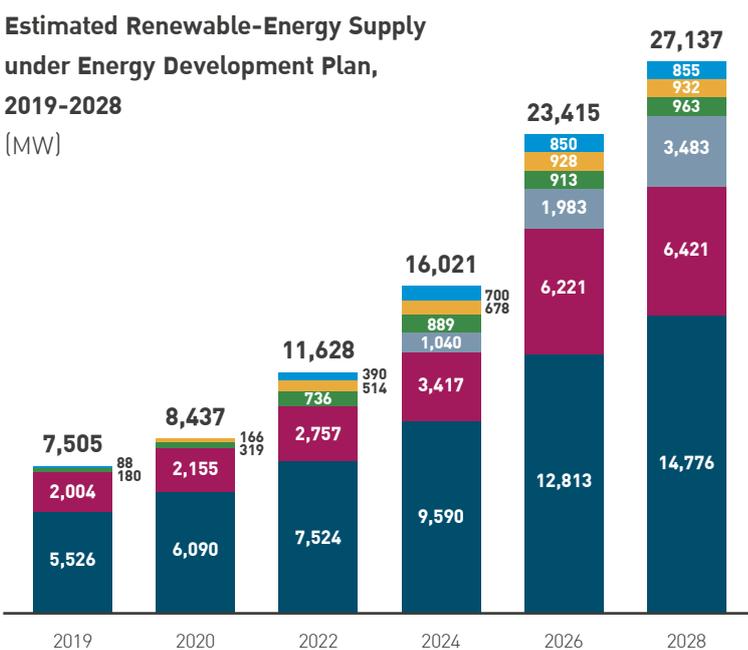
In 2019, the geothermal power plants were generated 6,764 GWh or equal to 1,220.4 GWh as equity base. This year production reduced from 1,242 GWh in 2018 by 1.8%. It caused by the curtailment and plant's maintenance. As a result, this year's profit share before the amortization of BCPG amounted to THB 723.0 million.

As for Indonesia's power industry at year-end 2019, its power generation capacity was about 61,680 MW (6.7% growth from last year), most of which (87.7%) came from fossil fuels, primarily indigenous coal. About 97.1% of the population had access to electricity.

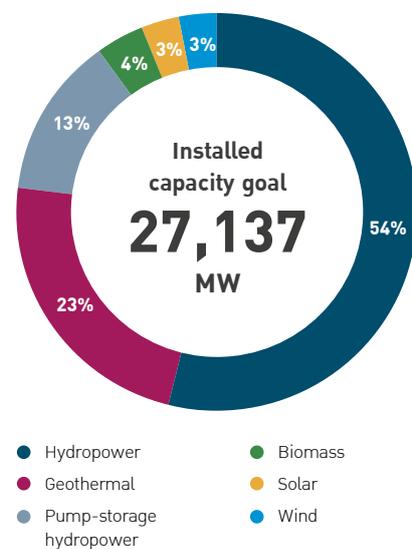


Indonesia is one of the few countries with massive geothermal energy potential (Ref. RUEN No. 22, 2017, quoting 29,544 MW in potential), but only 6% (1.814 MW) of this potential is used as of yearend 2018. In 2019 the Ministry of Energy and Natural Resources of Indonesia (MoEMR) estimated a 185-MW rise in such capacity to 1,999 MW by the yearend, ranking it at No. 3, next to the US and the Philippines.

Estimated Renewable-Energy Supply under Energy Development Plan, 2019-2028
(MW)



Capacity by type by 2028



Source: PLN RUPTL (Power Development Plan, 2019-2028)



1

Salak
65.2 MW (377 MW)

2

Wayang Windu
45.4 MW (227 MW) **24.0** MW (120.0 MW)

3

Darajat
46.9 MW (271 MW)



- Projects in operation
- Projects under development



Indonesia is one of the few countries with massive geothermal energy potential, by the yearend, ranking it at No. 3, next to the US and the Philippines.

Shareholding Structure

Registered and Paid-Up Capital

On September 29, 2016, BCPG was listed on the Stock Exchange of Thailand (SET) under the Energy and Utilities Sector. As of December 31, 2019, its registered capital was THB 10.0 million, consisting of 2 billion common shares at THB 5.0 par value and paid-up capital of THB 9,994,459,905, consisting of 1,998,891,981 common shares at THB 5.0 par value.



Shareholding Structure

As of December 4, 2019⁽¹⁾, the major shareholders were as follows:

Major Shareholders	Number of Shares	Shareholding (%)
BCP ⁽²⁾	1,399,999,994	70.0
Social Security Office	36,059,134	1.8
Thai NVDR Co., Ltd.	23,237,013	1.2
South East Asia UK (Type C) Nominees Limited	16,895,334	0.8
Ms. Pitcha Hemvachiravarakorn	12,000,000	0.6
BNP Paribas Securities Service, Paris	10,917,000	0.5
Total major shareholders	1,499,108,075	75.0
Total shares	1,998,891,981	100.0

Remarks:

⁽¹⁾ Latest closing date of the shareholder roster.

⁽²⁾ BCP is a SET-listed company which engages in the business of oil refining and marketing of refined products. As of September 29, 2019, the top 10 major shareholders were as follows:

Major Shareholders	Number of Shares	Shareholding (%)
Social Security Office	203,417,697	14.8
Ministry of Finance	137,442,767	10.0
Vayupak Fund 1 by MFC Asset Management Public Co., Ltd.	100,936,800	7.3
Vayupak Fund 1 by Krung Thai Asset Management Public Co., Ltd.	100,936,800	7.3
Thai NVDR Co., Ltd.	91,454,250	6.6
South East Asia UK (Type C) Nominees Limited	32,835,228	2.4
AIA Company Limited-EQDI-D FUND 1	30,000,069	2.2
Bangkok Life Assurance PCL	23,056,200	1.7
Krungsri Dividend Stock LTF	22,045,400	1.6
State Street Europe Limited	19,245,211	1.4
Total 10 major shareholders	761,370,422	55.3
Total shares	1,376,923,157	100.0

Source: SET, www.set.or.th

Other Securities Offered

The 2017 AGM of April 4, 2017, passed a resolution approving the issuance of up to 10 million units of warrants under the Employee Stock Option Program (BCPG ESOP Warrant Scheme) to be offered to directors, executives and employees of the Company and its subsidiaries, with details as follows:

Security	: Warrants to purchase common shares of BCPG Pcl. specifically offered to directors, executives and employees of the Company and its subsidiaries
Type	: To specific names and non-transferrable, except under specified conditions
Warrant term	: Five years after the issuance, non-extendable, and conversion to common shares to be fully completed within the term of warrants
Number of warrants allocated	: 10,000,000 units
Number of common shares allocated	: 10,000,000 shares, about 0.50% of the paid-up shares
Issurance date of warrant	: April 18, 2017
Selling price per unit	: THB 0 (Zero Thai Baht)
Exercise ratio of warrant	: One unit of warrant has the right to exercise into one common share, except where there is an adjustment by the Term of Warrant
Exercise price	: An individual warrant holder can exercise the right to subscribe to common shares at the following prices: (1) THB 10.00 per share for 50% of the total allotment of warrants. (2) THB 13.82 per share for the remaining 50% of allotment of warrants.
Exercise dates	: Every 25 th day of February, May, August and November of the year until the expiry of the warrant, with the first exercise date being May 25, 2017, and the last exercise date is five work days before the expiry date of the five-year period warrant, effective from the issuance date of warrant. If such date falls on a holiday observed by the Company, the preceding date will be valid for the exercise date.
Other rights and benefits apart from the rights and benefits of the common share	: -None-
Secondary market for warrant	: BCPG will not register these warrants as securities on SET.
Secondary market for common shares converted from warrants	: The Company will convert all exercised warrants to common shares and register on SET.

As of December 31, 2019, the Company recorded 1,108,019 units of unexercised warrants equivalent to 0.1% of the paid-up capital.

Dividend Policy

BCPG's policy is to pay out dividends to shareholders at a rate of at least 40% of the net profit reported in the Company's separate financial statements after deduction of all reserves required by its Articles of Association and applicable laws. The Board's resolutions on dividend payout will be submitted for approval of shareholders' meetings, except interim dividends, which can be authorized by the Board but must be reported in the following shareholders' meeting. Generally, dividend payment is subject to the current economic situation, BCPG's cash flow and BCPG Group's investment plans, and other concerns considered appropriate by the Board.

Subsidiaries in Thailand

Subsidiaries in Thailand hold a policy of dividend payout of at least 80.0% of the net profit reported in each company's separate financial statements after deduction of all reserves required by each company's articles of association and applicable laws. However, such payment is subject to cash flow, obligations of the company, annual investment plans, and other considerations as seen fit by the board of each company.

Overseas subsidiaries

Overseas subsidiaries have adopted the same policy of dividend payout at a rate of at least 40.0% of each company's net profit reported in its separate financial statements after deduction of all provisions required by each company's articles of associations and applicable laws. Dividend payment is also subject to each company's cash flow, obligations, annual investment plans, and other concerns considered necessary and appropriate by its own board of directors.

Dividend payment by overseas subsidiaries to BCPG may be subject to applicable expenses, such as withholding tax, other related taxes, transaction fees and forex gains or losses.

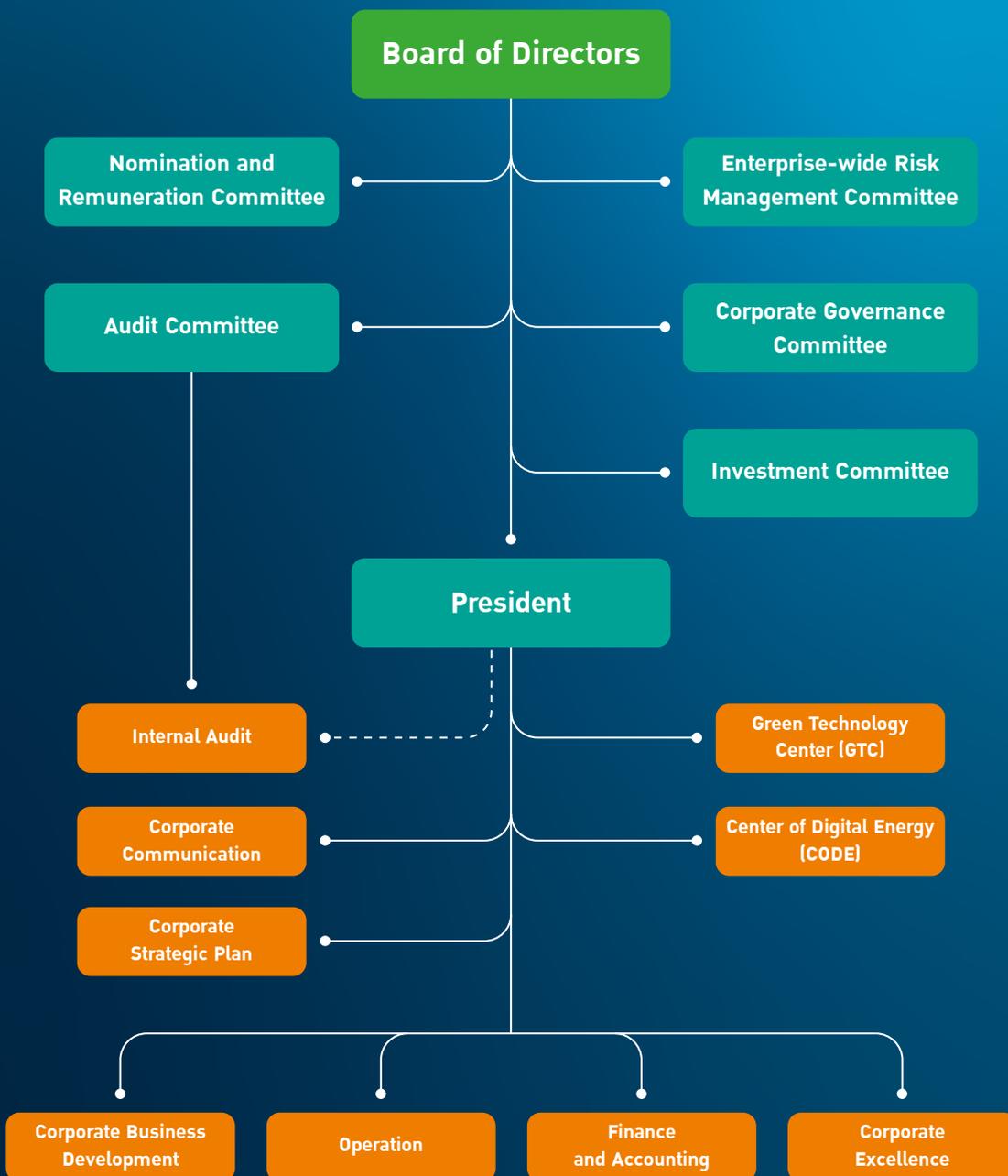
Dividend Payment History

The Company made dividend payments during 2018-2019 as seen below:

Dividend payment	2018	2019		
		Jan - Mar	Apr - Jun	Jul - Sep
Profit per share (THB/share)	1.11	0.19	0.23	0.20
Interim dividend (THB/share)	0.64	0.16	0.16	0.16
Dividend payout (%)	57.7	84.2	69.6	80.0

Management Structure

BCPG's management structure consists of the Board of Directors and five subcommittees: the Audit Committee, Nomination and Remuneration Committee, Corporate Governance Committee, Enterprise-wide Risk Management Committee and Investment Committee, as summarized below:



Board of Directors

As of December 31, 2019, the Board had 12 directors:

Name	Position
Directors holding office for the entire year	
1. Mr. Pichai Chunhavajira ⁽¹⁾	Chairman
2. General Kanit Sapitaks ⁽²⁾	Independent Director/ Chairman of the Nomination and Remuneration Committee (NRC)
3. General Utis Sunthorn ⁽³⁾	Independent Director/ Chairman of the Corporate Governance Committee (CGC)/ Member of the Audit Committee (AC)
4. Ms. Vilai Chattanrassamee ⁽⁴⁾	Independent Director/ Chairman of the Audit Committee/ Member of the Nomination and Remuneration Committee
5. Dr. Pankanitta Boonkroong ⁽⁵⁾	Independent Director/ Member of the Audit Committee
6. Mr. Thammayot Srichuai ⁽⁶⁾	Director/ Member of the Enterprise-wide Risk Management Committee (ERMC)/ Member of the Investment Committee (IC) ⁽¹⁵⁾
7. Prof. Dr. Suchatvee Suwansawat ⁽⁷⁾	Independent Director/ Chairman of the Enterprise-wide Risk Management Committee/ Member and Secretary of the Nomination and Remuneration Committee
8. Mr. Bundit Sapianchai ⁽⁸⁾	Director/ President/ Member and Secretary of the Corporate Governance Committee/ Member and Secretary of the Enterprise-wide Risk Management Committee/ Member of the Investment Committee ⁽¹⁵⁾ / Secretary to the Board of Directors
Directors appointed during the year	
9. Mr. Chaiwat Kovavisarath ⁽⁹⁾	Vice Chairman/ Chairman of the Investment Committee ⁽¹⁵⁾
10. Mr. Narin Kalayanamit ⁽¹⁰⁾	Independent Director/ Member of the Corporate Governance Committee
11. General Sakda Niemkham ⁽¹¹⁾	Independent Director/ Member of the Corporate Governance Committee
12. Mr. Thaworn Ngamganokwan ⁽¹²⁾	Independent Director/ Member of the Enterprise-wide Risk Management Committee
Director retiring during the year	
1. Admiral Sithawat Wongsuwan ⁽¹³⁾	Independent Director/ Chairman of the Nomination and Remuneration Committee
2. Mr. Narong Boonyasquan ⁽¹⁴⁾	Independent Director/ Member of the Corporate Governance Committee

Remarks:

- ⁽¹⁾ Appointed Chairman of the Board of Directors on March 25, 2016. As the Chairman does not serve on subcommittees and represents BCPG's major shareholder, Bangchak Corporation Pcl, he is not defined as an independent director.
- ⁽²⁾ Appointed director on March 25, 2016, and NRC Chairman on July 1, 2019.
- ⁽³⁾ Appointed director and AC member on March 25, 2016, and CGC Chairman on July 1, 2019.
- ⁽⁴⁾ Appointed director and AC chairman on March 25, 2016, and NRC member on May 25, 2019.
- ⁽⁵⁾ Appointed director and AC member on March 25, 2016.
- ⁽⁶⁾ Appointed director and IC member on November 1, 2018, and ERMC member on May 25, 2019.
- ⁽⁷⁾ Appointed director and NRC member and secretary on March 25, 2016, and ERMC Chairman on October 17, 2016.
- ⁽⁸⁾ Appointed director, CGC member and secretary, ERMC member and secretary, and IC member on March 25, 2016.
- ⁽⁹⁾ Appointed director on April 9, 2019, and Vice Chairman and IC Chairman on May 21, 2019.
- ⁽¹⁰⁾ Appointed director on April 9, 2019, and CGC member May 21, 2019.
- ⁽¹¹⁾ Appointed director (replacing Mr. Narong Boonyasquan) and CGC member on July 1, 2019.
- ⁽¹²⁾ Appointed director (replacing Admiral Sithawat Wongsuwan) and ERMC member on July 1, 2019
- ⁽¹³⁾ Resigned from the position as Vice Chairman and member of all subcommittees with effect on May 17, 2019.
- ⁽¹⁴⁾ Deceased on May 23, 2019.
- ⁽¹⁵⁾ As an IC member is defined as Executive Director, he is not defined as an independent director.

Duly Authorized Directors (according to BCPG's Certificate ended December 31, 2019)

BCPG's duly authorized signatories are Mr. Pichai Chunhavajira, Chairman, jointly signing with Mr. Bundit Sapianchai, President, with affixation of the BCPG seal, or Mr. Pichai Chunhavajira, or Mr. Bundit Sapianchai, jointly signs with Mr. Chaiwat Kovavisarach or General Utis Sunthorn or Ms. Vilai Chattanrassamee or Mr. Suchatvee Suwansawat or General Kanit Sapitaks or Ms. Pankanitta Boonkrong, or Mr. Thammayot Srichuai or Mr. Narin Kalayanamit or Mr. Thaworn Ngamganokwan or General Sakda Niemkham, with affixation of the BCPG seal.

Board Composition

1. The Board consists of 5-12 directors, with at least half of the directors being residents of the Kingdom of Thailand, with qualifications in accordance with the laws and BCPG's article of association. There is no gender or other discrimination.
2. The Board must consist of independent directors of at least one-third of all directors and no fewer than three.
3. The Board must consist of directors with knowledge, expertise and experience in renewable-energy businesses, international business, finance and accounting, internal control, law, organizational development, social, environment and safety issues, as well as risk and crisis management. At least one independent director must be an expert in finance and accounting. The Board is to nominate a director as its Chairman. If appropriate, the Board may select a director or directors for the Vice Chairmanship. The Board is authorized to appoint and dismiss the President. The President, by position, is to serve as secretary to the Board.
4. The Chairman of the Board must not be the same person as BCPG's President. The Chairman of the Board should also not serve on any of the subcommittees for the sake of clarity in distribution of roles, responsibilities, and operations.

Independent Directors

The Board consists of eight independent directors, or 66.7% and more than one-third of the entire Board, to ensure that they constitute a key mechanism to oversee good corporate governance and BCPG's and the shareholders' interests by balancing the decision-making power of the entire Board, including awareness of performing their duties based on righteousness and ability to make unbiased comments without being under any party's or individual's influence. The Board has therefore stipulated the following definitions and qualifications of the independent director under the Good Corporate Governance Policy (Article 3) as follows:

1. Holds no more than 0.5% of the voting shares of BCPG, the parent company, subsidiaries, joint ventures, major shareholders, or authorized controlling persons of BCPG, including the shares held by persons related to the independent director.
2. Is not or has never been a director affiliated with the management of BCPG's businesses, temporary employees, employees, advisers on regular pay, or authorized controlling persons of BCPG, the parent company, subsidiaries, joint ventures, sister companies, major shareholders, or authorized controlling persons of BCPG, unless he or she has already relieved from such roles for at least two years. However, the prohibited roles do not include cases where the independent director used to be a government official or an adviser in government agencies that are major shareholders or authorized controlling persons of BCPG.
3. Is not a related family member or by legal registration the father, mother, spouse, sibling, or offspring, or spouse of the offspring of other directors, executives, major shareholders, authorized controlling persons or others who will be nominated for directorship, executives, or authorized controlling persons of BCPG or subsidiaries.
4. Does not or has never had business relation with BCPG, the parent company, subsidiaries, joint ventures, major shareholders, or authorized controlling persons of BCPG that may obstruct independent views of the independent director. Is not or has never been a biased shareholder or is an authorized controlling person of a person with business relation with BCPG, the parent company, subsidiaries, joint ventures, major shareholders, or authorized controlling persons of BCPG, unless already relieved from the roles for at least two years.

5. Is not or has never been the auditor of BCPG, the parent company, subsidiaries, joint ventures, major shareholders, or authorized controlling persons of BCPG, and is not a shareholder who may be perceived to have authorization or is a partner of an auditing firm in which the auditor is attached to BCPG, the parent company, subsidiaries, joint ventures, major shareholders, or authorized controlling persons of BCPG, unless already relieved from any of the roles for at least two years.
6. Is not or has ever been a professional service provider in any way, which includes providing legal services or financial services with service fees of more than THB 2 million a year from BCPG, the parent company, subsidiaries, joint ventures, major shareholders, or authorized controlling persons of BCPG. Is not a biased shareholder, an authorized person, or partner of the professional service provider, unless already relieved from the roles for at least two years.
7. Is not a director appointed to represent BCPG, major shareholders, or a shareholder connected to a major shareholder.
8. Is not engaged or involved in any similar business activities, or participated in any competing activities with BCPG or subsidiaries. Is not a shareholder with a significant shareholding or a director involved in management, temporary employees, employees, advisers on regular payroll, or holds more than 1% of the voting stocks of all the other companies that operate a similar business and in significant competition with BCPG or subsidiaries.
9. Has no other characteristics that hinder expression of independent views on BCPG's operations.

Scope of Authority, Duties, and Responsibilities of the Board

The Board of Directors, at its meeting No. 13/2019 on December 17, 2019, approved the revised Company's CG policies and scope of the Board's authority, duties, and responsibilities as follows:

1. New directors are to attend an orientation session on BCPG's business operations.
2. Perform their duties under the law, BCPG's objectives and articles of association, and resolutions of the shareholders with integrity, and duly protect BCPG's interests, and with accountability to shareholders.
3. Formulate BCPG's policies and directions, and monitor and supervise operations to ensure that the Executive Management efficiently and effectively conduct business under BCPG's policies and regulations under good corporate governance to maximize economic value and shareholders' wealth, and that innovation and modern technology are applied in resource allocation to create value for sustainable business.
4. Oversee BCPG's operations for long-term sustainable growth, including a personnel development plan and a succession plan.
5. Regularly monitor BCPG's operations under laws, regulations and terms and conditions as shown in BCPG's contracts by assigning the Executive Management to report BCPG's operations and other key issues to the Board at its meetings to ensure effective operations.
6. Regularly and completely report to the shareholders BCPG's status, including outlooks, both positive and negative, with sufficient supporting reasons.
7. Ensure that BCPG commands an effective and reliable accounting system, financial reporting, internal control, and internal audit.
8. Annually review and approve the policy on corporate governance.
9. Assume a substantial role in conducting risk management by setting up due and adequate directions and measures to manage risk, complete with regular follow-up.
10. Supervise and ensure that the Executive Management treats all stakeholders with ethics and fairness.

11. Independent directors and external directors should be prepared to exercise their discretion independently in strategy formulation, management, use of resources, appointment of directors, and formulation of business operation standards, and to disagree with any actions of other directors or the management when there are different views on issues affecting equitable treatment of all shareholders.
12. Where necessary, at BCPG's expense, the Board can seek professional advice from external advisers on business operations.
13. Appoint the Company Secretary under the securities and exchange law to produce and maintain documents and to perform any other duty as specified by the Capital Market Supervisory Board, and assist in conducting activities of the Board and BCPG, namely the Board's and shareholders' meetings; also, to regularly advise directors and BCPG on their performance and operations under applicable laws and regulations, and ensure that the directors and BCPG disclose information with accuracy, completeness, and transparency.
14. Provide a code of corporate conduct, a code of business ethics, and a code of ethics for directors, executives, and employees to guide their implementation within the corporation.
15. Abstain from trading securities at least one month before the announcement of financial statements and at least three days after such announcement.
16. Report to the Board meetings of the change (purchase, sale, transfer, or receipt) of securities and derivatives held by themselves, their spouses, their cohabiting partner ⁽¹⁾, or their children under legal age ⁽²⁾, and juristic persons in which the directors, person under ⁽¹⁾ and ⁽²⁾ together hold more than 30% of voting shares which is the highest shareholding of such juristic person which holds shares in BCPG or its subsidiaries. They are also required to promptly notify BCPG on the change.
17. Directors intending to trade BCPG securities must inform Internal Audit of their intention at least one day in advance of the trading. Internal Audit will then report such transactions to the Audit Committee on a quarterly basis.
18. Attend at least one of the training programs for directors by the Thai Institute of Directors (IOD), namely the Director Accreditation Program (DAP) or the Director Certification Program (DCP), or an equivalent program to enhance their skills.
19. The non-executive members of the Board must conduct the President's annual performance assessment.
20. Non-executives and independent directors should hold meetings as necessary, at least twice a year, to discuss management problems of their interest in the absence of the management and report such meeting resolutions to the President.
21. Each director can serve as director in up to five SET-listed companies.
22. Appoint and define subcommittees' roles and responsibilities as needed to support the functions of the Board.
23. Put in place a mechanism to monitor subsidiaries to protect BCPG's investment. The Board is responsible for considering the suitability of each person to be assigned as director in each subsidiary to ensure that person's execution complies with BCPG's policies and transactions performed comply with the securities and exchange law and SET's notifications.
24. Approve asset acquisitions or disposals, investment in new businesses, borrowing, or lending from financial Institutions, guaranteeing, or any action under laws, notifications, regulations, and applicable provisions of securities and exchange laws.
25. Comment on related transactions or on engagement in transactions (in case such transaction does not require approval from the shareholders' meeting), or both, of BCPG and its subsidiaries, under related laws, notifications, regulations, and applicable provisions.

26. Report the Board's responsibility for financial reports in parallel display with the auditor report in the annual report, covering material issues under SET's Code of Best Practices for Directors of Listed Companies.
27. Approve the payment of interim dividends to the shareholders and report such payment at the next shareholders' meeting.
28. Approve the appointment of those without any prohibitions under the Public Limited Companies Act B.E.2535 (including its amendments), the Securities and Exchange Act B.E.2535 (including its amendments), and other applicable laws, as well as related notifications, or regulations when directors' positions are vacant for any reason other than term completion, as well as appointment of directors to replace the ones retired, and appointment of new directors, and determine compensation for directors, and present these to the shareholders' meeting for approval.
29. Assign a director, directors, or any other person to represent the Board. However, such authorization must not be authorization or sub-authorization that empowers the director or the director's proxy to approve a transaction that they or a related party may have conflicts of interest or any other conflict with BCPG or its subsidiaries, except when the approval of the transaction follows policies and criteria that the shareholders' meeting or the Board have already approved.

Director Nomination

The Nomination and Remuneration Committee (NRC) is assigned by the Board to recruit and nominate qualified professionals to the Board or the shareholders, as applicable. As for the selection criteria, BCPG emphasizes qualified professionals with comprehensive knowledge, experience, sound career paths, leadership, vision, righteousness, ethics, good attitude toward BCPG, and ability to dedicate time for the benefit of BCPG's business. The NRC also takes into consideration Board diversity and develops a Board Skill Matrix to specify the required qualifications. With the matrix, missing skills and suitable qualifications for the Board composition and structure under BCPG's strategies are identified. The IOD's Director Pool database is also employed. The nomination process is based on transparency, reinforcing shareholders' confidence. BCPG has specified the following qualifications of the Board:

1. Command qualifications not prohibited under the Public Limited Companies Act, the Securities and Exchange Act, Cabinet resolution of January 24, 2011, on the appointment of high-ranking government officials and that of directors in state enterprises or BCPG's articles of association and corporate governance principles.
2. Possess leadership skills, broad vision, righteousness, ethics, and a decent career path.
3. Possess knowledge, capacity and experience which will benefit the company's business.
4. Command interest in BCPG's activities and can dedicate time and ability. For former directors, their past participation, contribution and performance will be also considered
5. Not engaged or involved in any similar business activity or participate in any competing activities, whether in self-interest or other interests, except where the AGM has been notified before the appointment.
6. Is not a political official, member of the parliament, senate, or local council, a local administrator, or official or person holding a position in a political party.

The NRC provides an opportunity for directors and shareholders to nominate qualified candidates. The shareholders' meeting may appoint a director through a majority vote. If a director's position is vacant due to causes other than term completion, the Board will consider the appointment of a qualified candidate with no prohibiting characteristics mentioned above at the next Board meeting. If the vacant term will expire in less than two months, the director appointed by the Board may serve only until the completion of the term of the director he or she replaces. The resolution to nominate a qualified candidate to replace a director's position must receive no less than three-quarters of the votes of the remaining directors.

Director Tenure and Dismissal

At every AGM, one third of the directors are to retire from directorship. If this number is not a multiple of three, the number of directors retired is to be nearest to one-third. Directors who have completed their terms may be re-elected. However, directorships should not exceed three consecutive terms, except for those who are considered appropriate to do so. The Board will consider independence and efficiency of work performance of the director in question and present his or her work performance and the supporting reasons for his or her term extension to the shareholders. Independent directors can serve for up to three consecutive terms from the date of the first appointment as independent directors. If considered appropriate for independent directors to serve a longer period, the Board will consider such necessity and, if appointed, they will not be considered independent directors.

Other than term completion, a director may retire for the following reasons:

1. Death
2. Resignation
3. Lack of qualifications under Section 68 of the Public Limited Companies Act B.E.2535.
4. Resolution of the shareholders' meeting to dismiss a director under Section 76 of the Public Limited Companies Act B.E.2535.
5. Court order
6. Lack of qualifications or possession of prohibited characteristics specified under Section 89/4 of the Securities and Exchange Act B.E.2535.

Board Meetings

1. The Board is to meet regularly, at least once every quarter and when necessary. Meeting agendas are set in advance throughout the year.
2. The meeting documents are to be sent to directors or their proxies at least seven days before the meeting date. To urgently maintain the rights and interests of BCPG, it may move a meeting to an earlier date and notify the directors through several different channels and in a timely manner. The Executive Management must provide suitable and timely information to directors. The Chairman is to ensure that meeting documents are delivered to directors at least five days ahead of the meeting to provide sufficient time to study, consider, and make proper decisions at the meeting. The Chairman also ensures that the meeting minutes are completed within seven days after the meeting so that they may be reviewed before their adoption at the next meeting.
3. 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.
4. The directors should attend no less than 75% of the total meetings held annually.
5. The Chairman approves meeting agendas in consultation with the Executive Management, who is also to consider proposals from directors who wish to include other significant items on the agenda of the next meeting.
6. The Chairman should duly allocate time for the Executive Management to present documents for the Board's discussions of crucial matters.
7. At the meeting, the Chairman summarizes key issues for directors' consideration, encourage and allow them to express views, which will be compiled and concluded as meeting resolutions.
8. When considering an agenda item in which a given director has potential conflicts of interest, the director has no right to vote and must not attend the meeting during the consideration of the item.
9. Directors can have access to and can request from the Executive Management documents, advice, or services about BCPG's business operations. They can also request independent opinions from external consultants.

Orientation for New Directors

For new directors, BCPG provides orientation sessions, including lectures and overview presentations of its businesses (such as vision, mission, values, and business goals, management structure and executives, businesses, organization strategic plans, investment plans and progress, and past performances), major policies, socio-environmental corporate responsibility, directors' roles, duties, and responsibilities, relevant laws and corporate governance principles. BCPG also arranges a study trip to its renewable-energy (RE) power plants for business insights, including a handbook covering relevant information on the Board and the management as a guide in performing their duties under corporate governance principles.

Director Development

BCPG encourages the Board to participate in development training and seminar to enhance their knowledge and understanding of corporate governance principles, rules and regulations, and the roles and responsibilities of the directors for their effective performance. Directors attending trainings provided in 2019 are listed below:

Summary of 2019 Training Attendance in Courses Organized by Thai Institute of Directors (IOD)

Name	DAP	DCP	Others
Mr. Pichai Chunhavajira	2006	2009	
Mr. Chaiwat Kovavisarach	-	2013	
General Kanit Sapitaks	2016	-	
General Utis Sunthorn	2016	-	
General Sakda Niemkham	2019	-	
Ms. Vilai Chattanrassamee	-	2006	
Dr. Pankanitta Boonkrong	-	2006	Advance Audit Committee Program (AACP), Class 29/2018
Mr. Thaworn Ngamganokwan	2015	2016	Risk Management Program for Corporate Leaders, Class 17/2019
Mr. Thammayot Srichuai	-	2017	
Mr. Narin Kalayanamit	-	2014	
Prof. Dr. Suchatvee Suwansawat	-	2008	
Mr. Bundit Sapianchai	2547	2005	

A study trip and a visit to the Clyde Dam Hydro-Electric Power Plant in Cromwell and Wairakei Geothermal-Electric Power Plant in Taupo, New Zealand, to share experience and views in power plant management and maintenance, and power purchase through competitive bidding.

Mr. Pichai Chunhavajira, Chairman of the Board, gave a talk on "Significant changes to the accounting standards which might have impact on the operation," attended by a BCPG director, namely Ms. Vilai Chattanrassamee, and BCP's management and employees on December 16, 2019

Director Performance Assessment

BCPG conducts, at least once a year, performance assessment of the Board and subcommittees. The assessment serves as a scope for assessing the annual performance against their duties and authority, and corporate governance principles. It also serves as a basis for development planning for the following year.

The Board approved the performance assessment forms for the Board and subcommittees as follows:

1. Performance Assessment Form for the Board

- Individual directors (self-assessment): Assessment topics consist of responsibility for performing roles and duties, training and self-development, and compliance with good governance policy.
- Individual directors (cross-assessment): one director assessed by 3-4 anonymous directors): Assessment topics consist of responsibility for performing roles and duties, and independence of the individual.
- The entire Board: Assessment topics consist of Board policy, composition and qualifications, performance, meetings, and self-development.

2. Performance Assessment Form for each Subcommittee

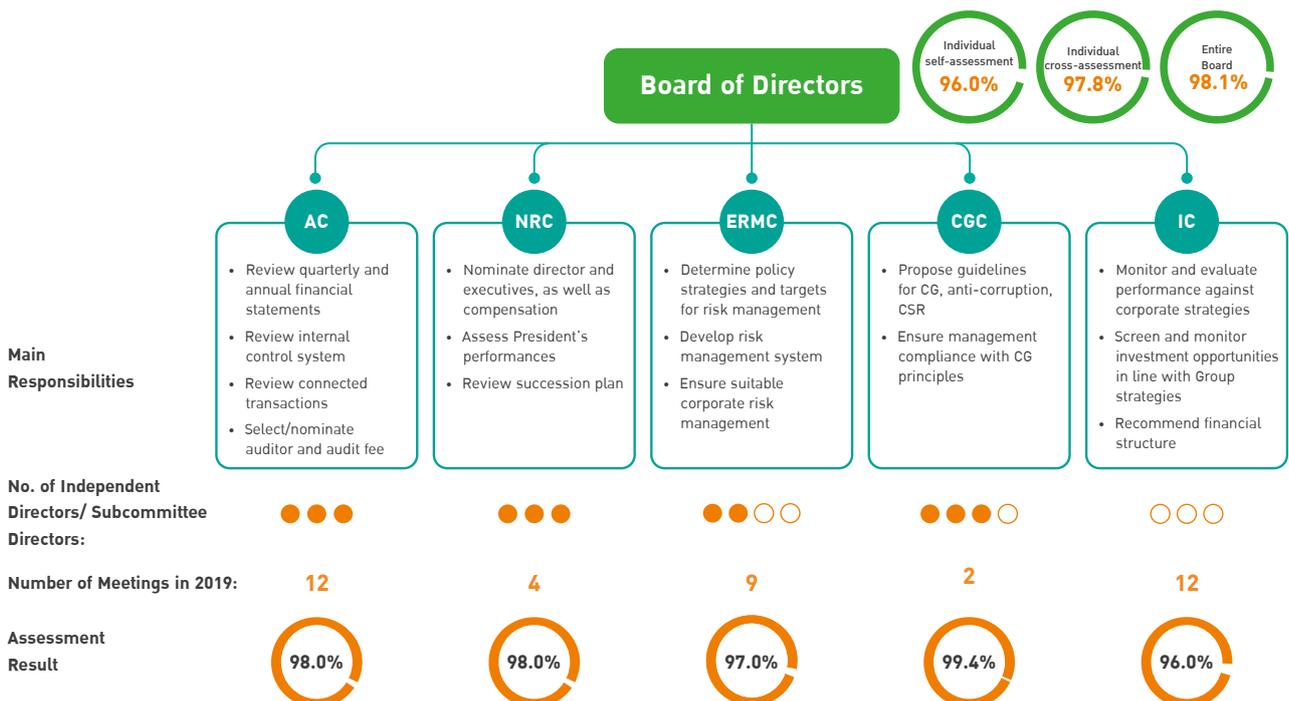
Assessment topics consist of responsibility in performing against the roles and duties, and meetings. A scoring system is adopted for the assessment so that the Board can compare the assessment for each topic. The scoring is defined as follows:

- 1 = Absolutely disagree, or no actions taken
- 2 = Disagree, or reasonable actions taken
- 3 = Agree, or reasonable actions taken
- 4 = Rather agree, or substantial actions taken
- 5 = Absolutely agree, or outstanding actions taken.

Under the scoring system, the rating criteria are as follows:

- Over 85 percent = Excellent
- Over 75 percent = Very good
- Over 65 percent = Good
- Over 50 percent = Satisfactory
- Less than or equal to 50 percent = Need improvement

Assessment Results of Board of Directors and Subcommittees in 2019



Subcommittees

Valuing good corporate governance, the Board has appointed subcommittees to support its mission to follow up and supervise the Group's operations and business performance to ensure effectiveness, efficiency and compliance with good governance. In 2015 the Board appointed the Audit Committee, whose duties and responsibilities were to ensure good governance practices and internal audit. Board Meeting No. 2/2016 dated March 9, 2016, appointed four subcommittees which were later approved by the AGM on March 24, 2016, namely: Nomination and Remuneration Committee (NRC), Enterprise-wide Risk Management Committee (ERMC), Corporate Governance Committee (CG), and Investment Committee (IC). On June 18, 2019, the Board considered the component and qualification of the board members in each subcommittee for appointing the subcommittee's members.

Audit Committee (AC)

The Audit Committee must possess the qualifications as stipulated by SEC's and SET's laws and regulations. It comprises no fewer than three independent directors, and at least one member must have sufficient knowledge and experience in finance and accounting or auditing to perform an audit of the credibility of BCPG Group's financial statements. Miss Tipparat Sulkim, Internal Audit Assistant Manager (Acting Interned Audit Manager), acts as secretary.

Name	Position
1. Ms. Vilai Chattanrassamee ⁽¹⁾	Chairman
2. General Utis Sunthorn	Member
3. Dr. Pankanitta Boonkrong ⁽¹⁾	Member

Remarks : ⁽¹⁾ Commands sufficient knowledge and experience to perform an audit of the credibility of BCPG Group's financial statements.

Scope of Authority, Duties and Responsibilities

1. Ensure that BCPG has accurate and adequate financial reports that meet the accounting standards as specified by applicable laws.
2. Ensure that BCPG has a suitable and efficient internal control system and internal audit procedures, as well as efficient and adequate risk management procedures.
3. Review BCPG's compliance with the Securities and Exchange Act, SET's notifications and regulations as well as other laws that govern BCPG's business.
4. Review connected transactions or transactions of potential conflicts of interest, or acquisition and disposal of assets to ensure compliance with the laws and SET's regulations, sensibility, and in the best interests of BCPG.
5. Review and consider with the management substantial shortcomings and subsequent responses of the management.
6. As empowered, investigate and interrogate all related parties under the AC's authority, and hire experts to assist in the investigation and interrogation under BCPG's regulations.
7. Produce an Audit Committee report and disclose it in BCPG's annual report. Such report must be signed by its chairman.
8. Consider, recruit, and nominate an independent person as BCPG's external auditor, recommend its audit fee and propose removal of the external auditor, and attend a meeting with the auditor in the absence of the management at least once a year.
9. Consider auditing scopes and plans of the external auditor and the Internal Audit Office so that they may mutually benefit and reduce redundancy of financial auditing.

10. Approve the charter, audit plans, budget, training programs and manpower of the Internal Audit Office
11. Appoint, transfer, dismiss, and evaluate the annual operation of the head of the Internal Audit Office and review the independence of the office.
12. Review the efficiency and effectiveness of the IT system related to internal control and risk management.
13. If, in the regular operation of the Audit Committee, there is a transaction or action that is found to have (or suspected to have) a substantial effect on the financial position and operating outcomes of BCPG, namely:
 - Transaction with conflicts of interest
 - Substantial corruption, malfeasance or defects found in the internal control system.
 - A breach of SEC's and SET's laws and regulations or laws applicable to BCPG's business.

The Audit Committee is to report facts and findings to the Board in order for the responsible units to rectify it within the time the AC deems appropriate. If the Board or executives fail to rectify it within due time, any member of the AC may report such transaction or action to SEC or SET.

14. Review and comment on the self-assessment form in relation to anti-corruption measures and Thailand's Private Sector Collective Action Coalition against Corruption (CAC).
15. Perform other Board-assigned duties with approval of the Audit Committee.

Nomination and Remuneration Committee (NRC)

The Nomination and Remuneration Committee is made up of at least three members, more than half of whom should be independent directors. At least one member must be knowledgeable or experienced in personnel management. The Chairman must be an independent director. The NRC Committee selects one of its members to serve as its secretary.

Name	Position
1. General Kanit Sapataks	Chairman
2. Ms. Vilai Chattanrassamee	Member
3. Prof. Dr. Suchatvee Suwansawat	Member and Secretary

Scope of Authority, Duties and Responsibilities

1. Define and review the nomination method and qualifications of those to be appointed directors, President and senior management.
2. Select and nominate to the Board qualified candidates for the positions of directors, President and senior management.
3. Define criteria of compensation for directors, President and senior management.
4. Consider and propose directors' compensation to the Board for endorsement and submit it to the shareholders for approval.
5. Submit the compensation for the President and the management to the Board for approval.
6. Assess the performance of the President and provide recommendations for proper compensation for the Board's approval.
7. Review and report to the Board progress on annual succession planning for the President and the management.
8. Assess its own performance, report it to the Board, and disclose it in the annual report.
9. Consider a qualified Company Secretary for the Board's approval.
10. Perform other Board-assigned duties.

Enterprise-wide Risk Management Committee (ERMC)

The Enterprise-wide Risk Management Committee comprises at least three directors, and at least one member must have expertise in business or risk management, or both. The President is an ERMC member and secretary by position.

Name	Position
1. Prof. Dr. Suchatvee Suwansawat	Chairman
2. Mr. Thammayot Srichuai	Member
3. Mr. Thaworn Ngamganokwan	Member
4. Mr. Bundit Sapianchai	Member and Secretary

Scope of Authority, Duties and Responsibilities

1. Set and review the enterprise-wide risk management policy in line with corporate strategies and objectives as well as providing the management guidelines for managing potential risk relating to BCPG's business conduct.
2. Monitor, follow up and review significant enterprise-wide risk management plans and maintain the risk at an acceptable level.
3. Promote enterprise-wide risk management across the corporation.
4. Report significant enterprise-wide risk management outcomes to the Board.
5. Perform other Board-assigned duties.
6. Review its charter at least once a year to ensure its suitability to prevailing circumstances.

Corporate Governance Committee (CG)

The Corporate Governance Committee comprises no fewer than three directors, more than half of whom should be independent directors. At least one director must command knowledge and understanding of good corporate governance principles under international standards and practices. The President is a CGC member and secretary by position.

Name	Position
1. General Utis Sunthorn	Chairman
2. General Sakda Niemkham	Member
3. Mr. Narin Kalayanamit	Member
4. Mr. Bundit Sapianchai	Member and Secretary

Scope of Authority, Duties and Responsibilities

1. Propose guidelines for corporate governance, anti-corruption, and CSR to the Board.
2. Assign policies on corporate governance, anti-corruption, and CSR to the CG taskforce to support corporate governance operation as seen fit.
3. Ensure that the performance of the Board and the management aligns with corporate governance and anti-corruption principles.
4. Review the policy and guidelines for corporate governance, anti-corruption, and CSR by comparing them with international standards and practices, and propose due revision to the Board to keep them up to date.
5. Perform other Board-assigned duties.

Investment Committee (IC)

The Investment Committee comprises directors and other experts with competency and experience in energy or related businesses, finance and accounting, business management, or technology. More than half of the IC are directors, and the President is an IC member by position. The IC appoints its own secretary, the present one being Mr. Charnvit Trangadisaikul, Executive Vice President, Corporate Business Development.

Name	Position
1. Mr. Chaiwat Kovavisarach	Chairman
2. Mr. Thammayot Srichuai	Member
3. Mr. Bundit Sapianchai	Member
4. Mr. Suchat Chiaranussati ⁽¹⁾	Member
5. Mr. Thanwa Laohasiriwong	Advisor

Remarks: ⁽¹⁾ Not a member of the Board.

Scope of Authority, Duties and Responsibilities

1. Follow up and evaluate performance under the corporate strategy and sustainably develop the corporation, taking into account the current business profile, limitations, diversity, and capacity to expand the business, both domestically and internationally, in line with the directions, business goals and policies set by the Board.
2. Screen and monitor projects and investment opportunities compatible with BCPG's strategies, and present them with supporting views to the Board for approval.
3. Recommend a financial structure that fits BCPG's strategy and present it to the Board for approval.
4. Perform other Board-assigned duties.

Operating Authority

1. Approve procurement, purchasing, hiring and investment for projects for which plans and budgets have already been approved by the Board of up to THB 300 million.
2. Approve procurement, purchasing, and hiring, including hiring consultants for a new business project, of which plans and budgets have not been approved by the Board, of up to THB 100 million.
3. Appoint and set a compensation for each consultant to the IC.
4. Direct and request information from the management as seen fit.

Summary of Director's Meeting Attendance in 2019

Name	BoD	ID/NED	AC	NRC	ERMC	CGC	IC
Directors for the entire year							
1. Mr. Pichai Chunhavajira	13/13	-	-	-	-	-	-
2. General Kanit Sapataks	13/13	2/2	-	4/4	-	-	-
3. General Utis Sunthorn	13/13	2/2	12/12	-	5/5	2/2	-
4. Ms. Vilai Chattanrassmee	12/13	2/2	12/12	3/3	-	-	-
5. Dr. Pankanitta Boonkrong	13/13	2/2	12/12	-	-	-	-
6. Mr. Thammayot Srichuai	13/13	2/2	-	-	5/5	-	12/12
7. Prof. Dr. Suchatvee Suwansawat	13/13	2/2	-	4/4	8/9	-	-
8. Mr. Bundit Sapianchai	13/13	-	-	-	8/9	2/2	11/12
9. Mr. Chaiwat Kovavisarach	9/9	-	-	-	-	-	12/12
10. Mr. Narin Kalayanamit	9/9	-	-	-	-	2/2	-
11. General Sakda Niemkham	6/6	-	-	-	-	1/2	-
12. Mr. Thaworn Ngamganokwan	6/6	-	-	-	4/4	-	-
Director retiring during the year							
1. Admiral Sithawat Wongsuwan	5/5	2/2	-	1/1	-	-	-
2. Mr. Narong Boonyasaquan	4/6	2/2	-	-	-	-	-

Remarks:

BCPG held the 2019 Seminar on Corporate Strategy on Tuesday, July 9, 2019

BoD Board of Directors

ID Independent Director

NED Non-Executive Director

AC Audit Committee

NRC Nomination and Remuneration Committee

ERMC Enterprise-wide Risk Management Committee

CGC Corporate Governance Committee

IC Investment Committee

Director Compensation

1. Compensation of the Board is approved by the AGM. The compensation is to be compatible with industry peers and is related to corporate performance and individual directors' performance.
2. Each director who was assigned additional duties and responsibilities (for instance, a subcommittee member) is to receive additional compensation proportional to such assignment.
3. The Board provides a report on the compensation of individual directors and executives, which includes the disclosure of compensation they receive for service at subsidiaries, in the annual report in keeping with the good governance policy.

Director Compensation Determination

BCPG sets the Board's compensation that suits their duties and responsibilities and is compatible with listed companies in a similar industry and of a similar size. The compensation is sufficient to motivate directors to deliver quality performance in gearing the company for its business directions and achieve its goals in a transparent manner to foster trust of the shareholders.

The NRC annually determines proper compensation for directors and propose it to the Board for endorsement and then to the AGM for approval. The 2019 AGM, held on April 9, 2019, approved the 2019 compensation of the Board and the subcommittees as follows:

1. Fixed compensation for the Board:
 - The Board at THB 30,000 each a month
 - The Audit Committee at THB 10,000 each a month.

2. Meeting allowance, which will be paid to attendants only:

- The Board at THB 30,000 each a meeting
- Subcommittees at THB 15,000 each a meeting.

Monthly compensation and meeting allowances for the Board Chairman and chairman of each committee is 25% higher than that of other members and 12.5% higher for the Vice Chairman.

3. Bonus: The Board receives an annual bonus at 0.75% of the net profit and up to THB 3 million each. The bonus was prorated to each director's term, with the Board Chairman and Vice Chairman receiving 25% and 12.5% more than other members.
4. In addition, BCPG has issued warrants for the Board, executives, and employees of BCPG and its subsidiaries (the ESOP Program), amounting to 10,000,000 units, 3,300,000 units of which were allotted to the directors in April 2017. The offer corresponded to the details disclosed and subsequently approved by the 2017 AGM
5. Directors' other expenses

BCPG does not define other compensation except for directors' expenses arising from performing their duties as follows:

- A vehicle was provided to the Board Chairman to facilitate his performance
- Fuel credit card for actual spending in duty performing for up to 400 liters per month
- Internet service for duty performing, for up to THB 900 per month
- Directors' and executives' indemnity insurance of up to THB 250 million.

Summary of Director Compensation in 2019

Name	Compensation in Cash (THB)								
	BoD	AC	NRC	ERMC	CGC	IC	2018 Performance Bonus	Gain from ESOP ⁽¹⁾	Net Total
Directors for the entire year									
1. Mr. Pichai Chunhavajira	937,500	-	-	-	-	-	1,769,855	510,000	3,217,355
2. General Kanit Sapitaks	750,000	-	71,250	-	-	-	1,415,884	408,000	2,645,134
3. General Utis Sunthorn	750,000	300,000	-	75,000	37,500	-	1,415,884	408,000	2,986,384
4. Ms. Vilai Chattanrassmee	720,000	375,000	45,000	-	-	-	1,415,884	408,000	2,963,884
5. Dr. Pankanitta Boonkrong	750,000	300,000	-	-	-	-	1,415,884	408,000	2,873,884
6. Mr. Thammayot Srichuai	750,000	-	-	75,000	-	180,000	161,731	408,000	1,574,731
7. Prof. Dr. Suchatvee Suwansawat	750,000	-	60,000	150,000	-	-	1,415,884	408,000	2,783,884
8. Mr. Bundit Sapianchai	750,000	-	-	120,000	30,000	165,000	1,415,884	612,000	3,092,884
Total (1)	6,157,500	975,000	176,250	420,000	67,500	345,000	10,426,890	3,570,000	22,138,140
Directors appointed during the year									
9. Mr. Chaiwat Kovavisarach	589,580	-	-	-	-	225,000	1,214,132	459,005	2,487,717
10. Mr. Narin Kalayanamit	532,000	-	-	-	30,000	-	-	-	562,000
11. General Sakda Niemkham	360,000	-	-	-	15,000	-	-	-	375,000
12. Mr. Thaworn Ngamganokwan	360,000	-	-	60,000	-	-	-	-	420,000
Total (2)	1,841,580	-	-	60,000	45,000	225,000	1,214,132	459,005	3,844,717
Directors retiring during the year:									
1. Admiral Sithawat Wongsuwan	322,258	-	18,750	-	-	-	1,592,870	459,005	2,392,883
2. Mr. Narong Boonyasaquan	270,000	-	-	-	-	-	1,595,833	-	1,865,833
Total (3)	592,258	-	18,750	-	-	-	3,188,703	459,005	4,258,716
Grand Total (1) + (2) + (3)	8,591,338	975,000	195,000	480,000	112,500	570,000	14,829,725	4,488,010	30,241,573

Remarks : ⁽¹⁾ Based on the difference between the exercise price and the average market price of the month in which the right of warrants was exercised.

Executive Management and Personnel

Executive Management

Executive Management consists of six members:

Name	Position
1. Mr. Bundit Sapianchai	President
2. Ms. Revadee Pornpatkul	Senior Executive Vice President, Operation, Acting Country Manager, Nam San 3A Hydro-electric Power Plant, Lao PDR
3. Ms. Sattaya Mahattanaphanij	Senior Executive Vice President, Corporate Excellence, and Company Secretary
4. Ms. Phatpuree Chinkulkitnivat	Senior Executive Vice President, Finance and Accounting
5. Mr. Pavan Siamchai	Executive Vice President, Operation, and Country Manager, BCPG Japan Corporation, and Acting Executive Vice President, Green Technology Center (GTC)
6. Mr. Charnvit Trangadisaiikul	Executive Vice President, Corporate Business Development

Scope of Duties and Responsibilities

1. Manage and perform day-to-day business activities in line with its policies, work plans, goals, rules and regulations specified by the Board.
2. Manage and conduct business under the Board's resolutions and within the approved budget in a strict, honest, and careful manner for the best interests of BCPG and its shareholders.
3. Report at every Board meeting a progress update of the implementation under the Board's resolutions and BCPG's significant business performance.
4. Operate the business under corporate governance principles as defined by the Board.
5. Not engaged or involved in any similar business activities or participate in competing activities, whether in self-interests or other interests, unless the superior and Internal Audit Office were notified and approval granted.
6. The President's directorship in other companies or any position in other business entities must be first approved by the Board. The Executive Management from vice presidents upward need a prior approval from the President in the same case, except for taking up a position in a joint-venture company, the action of which will require the Board's approval.
7. The Executive Management, namely the first four executives below the President, including all equivalent to the fourth executive and all executives at vice presidents (or equivalent) upward in the accounting and finance function must not engage in securities trading at least one month before the date of disclosure of the financial statements and at least three days after the disclosure date. These executives must promptly report to the Board meeting of the changes (purchase, sale and transfer) of securities and derivatives held by themselves, their spouses, their cohabitation partners (1) or their children under legal age (2) and the juristic person in which they, persons under (1) and (2) together hold more than 30% of the voting shares which is the highest shareholding of such juristic person which holds shares in BCPG or its subsidiary.
8. Executives intending to trade BCPG's securities must inform the Internal Audit Office of their intention at least one day in advance of the trade. The Internal Audit Office will report such transactions to the Audit Committee meeting on a quarterly basis.

- Attend BCPG-sponsored training related to business operations and day-to-day administration to enhance knowledge and working skills. In addition, executives at the senior executive vice president level are encouraged to participate in IOD's or IOD-equivalent Director Certification Program (DCP) to enhance their understanding of the roles and duties of BCPG's directors. This would lead to effective organization management.

Management Nomination

The Board must ensure that a succession plan for each key position, such as the President and top management, is in place. The President must report the progress of the implementation under the plan to the Board at least once a year. The Board also sets a policy on selection of candidates for the position of the President, specifying that, if qualifications are met and for the best interests of BCPG, outsiders as well as its own employees from vice presidents upward are eligible for nomination for the position of President/ Senior Executive Vice Presidents. The NRC is assigned to define criteria and method for the selection, development, and performance assessment of the President as well as criteria and a compensation structure.

To ensure that the President and top management possess essential skills and qualifications to drive the corporation in line with corporate strategic plans and achieve goals, the Board assigns Human Resources Development and Administration to manage training and development of knowledge and competency of the management. The President is required to report to the Board annually on actions taken during the year in parallel with the succession plan. Apart from this, the Board has set additional development guidelines for rotation of responsibilities among the top executives to bring about understanding, experience, and readiness for the overall management of the corporation.

Scope of Authority, Duties and Responsibilities of the President

- Define policies, the vision, objectives, strategies, business plans, and budgets jointly with the Board.
- Monitor, manage, and operate day-to-day business to benefit BCPG, under the policies, vision, objectives, strategies, business plans, and budgets as endorsed and approved by the Board or the shareholders' meeting, or both.
- Manage BCPG's business under the vision and missions specified by the Board under the business plans, budgets, and business strategies endorsed and approved by the Board or the shareholders' meeting, or both.
- Cooperate with the AC to ensure that business operations and risk management comply with BCPG's objectives and articles of association, as well as the resolutions of the Board or the shareholders' meeting, or both.
- Monitor and ensure that overall financial, marketing, human resources, and other operations comply with the policies and business plans endorsed and approved by the Board or the shareholders' meeting, or both.
- Negotiate and enter into contracts or any transactions, or both, of normal business practices within the authorized limitation specified in the approval authority schedule approved by Board meetings.
- Order and issue rules and regulations, notification and internal memos in the conduct of business in line with BCPG's policies to benefit the company, and keep the corporation well organized.
- Follow up, investigate, and control operations of BCPG, its subsidiaries, or associated companies, or all of these, to achieve target performances and report these to the Board every quarter and find opportunities to further improve and enhance BCPG's performance.
- Develop the corporation to improve operation and performance and ensure continuity of development for sustainable growth.
- Pursue investment opportunities in potential projects by conducting comprehensive and proper technical and financial study for decision-making.
- Hire, appoint, dismiss, determine, promote, demote, reduce the salary or wages of, relocate, and terminate any employees, excluding senior executive vice presidents or above, where the approval of the Board is required.

12. Transfer executive vice presidents. However, their hiring, appointment, dismissal, determination, promotion, demotion, salary or wage reduction, and termination must have the approval of the Board.
13. Approve business transactions that are normal business practices and other transactions in supporting BCPG's businesses under general commercial terms and conditions within the budget approved by the Board.
14. Conduct business in compliance with SEC's and SET's rules for connected transactions and acquisitions and disposals of assets, and with the approval authority schedule approved by the Board.
15. Appoint consultants as seen fit for BCPG's operations.
16. Assign the power of attorney or delegate to persons or groups of persons (or both) performance of specific tasks provided that the action complies with the document concerning the power of attorney or rules, regulations, or resolutions of the Board and does not cause conflicts of interest or other conflicts in any form with BCPG or its subsidiaries. If there appears to be a conflict of interest, such transaction should be presented to the Board or the shareholders' meeting (or both) for consideration and approval unless such transaction is considered a general transaction of BCPG having the same criteria as an arm's length transaction
17. Perform other tasks as assigned by the Board.

The President can approve any payment for BCPG's business over and above those specified in contracts or obligations and is also authorized to proceed or determine and approve a procurement transaction of up to THB 50 million.

Executive Management Compensation

Compensation for the Executive Management consists of (1) monetary compensation, which consists of the salary and the bonus, and (2) compensation for executives (including BCPG's employees) in other forms, namely annual medical check-ups, vaccination, and medical allowances, provident fund, and insurance premiums. In addition, BCPG has set up an ESOP scheme for directors, executives and employees. In 2019, executive compensation in the forms of salary, bonus, and contributions to provident fund amounted to THB 70.5 million.

Company Secretary

The Company Secretary plays a key role in supporting the Board's work and activities to ensure that they are conducted under the laws, rules, regulations, and BCPG's articles of association, regulations and policy, including rules, regulations and good practices of regulators and related agencies, and of the Securities and Exchange Act. The Board appoints the Company Secretary with duties and responsibilities under the Securities and Exchange Act which include: providing initial advice on relevant laws and regulations; scheduling and organizing meetings of the BCPG Board and subcommittees, subsidiaries' boards, shareholders, and Board activities to ensure efficiency, effectiveness, and utmost benefits for the company; coordinating with relevant departments to ensure that the Board and shareholders' resolutions are complied with; ensuring shareholders' rights; disclosing information and preparing the annual report (Form 56-2); preparing and maintaining key documents, including notices and minutes of Board and shareholders' meetings, the Board roster, annual reports and maintaining reports on conflicts of interest declared by directors or executives.

In addition, the Company Secretary plays a key role in promoting corporate governance by supporting the Board's and the President's tasks and activities, and being responsible for corporate compliance. In 2019 Ms. Sattaya Mahattanaphanij, Senior Executive Vice President, Corporate Excellence, was appointed Company Secretary under the resolution of Board Meeting No. 6/2017 dated May 30, 2017.

Changes in Securities Held by Directors and Executives

The report on the changes in securities holding in BCPG and its subsidiaries of the Directors, Executives and persons related to them, as defined in Section 59 of the Securities and Exchange Act B.E. 2535 from January 1 to December 31, 2019, is as follows:

Unit: Shares					
Name	Amount carried forward to Jan. 1, 2019	Exercised Warrants – ESOP	Change from the Stock Market +acquired /-sell during the year		Number of Shares as at Dec. 31, 2019
Directors ⁽¹⁾					
1. Mr. Pichai Chunhavajira	681,250	93,750	-	-	775,000
2. Mr. Chaiwat Kovavisarach	553,124 ⁽²⁾	84,376	-	-	637,500
3. General Kanit Saptaks	50,000	75,000	-	-	125,000
4. General Utis Sunthorn	225,000	75,000	-	-	300,000
5. General Sakda Niemkham	- ⁽³⁾	-	-	-	-
6. Ms. Vilai Chattanrassamee	227,500	75,000	-	-	302,500
7. Mr. Thammayot Srichuai	225,000	75,000	-	-	300,000
8. Dr. Pankanitta Boonkrong	225,000	75,000	-	-	300,000
9. Mr. Narin Kalayanamit	- ⁽²⁾	-	-	-	-
10. Mr. Thaworn Ngamganokwan	- ⁽³⁾	-	-	-	-
11. Prof. Dr. Suchatvee Suwansawat	225,000	75,000	-	-	300,000
12. Mr. Bundit Sapianchai	439,096	112,500	-	-	551,596
Executives ⁽¹⁾					
1. Ms. Revadee Pornpatkul	220,650	73,500	-	-	294,150
2. Ms. Sattaya Mahattanaphanij	155,000	93,000	-	-	248,000
3. Ms. Phatpuree Chinkulkitnivat	-	-	-	-	-
4. Mr. Pavan Siamchai	188,500	-	-	-	188,500
5. Mr. Charnvit Trangadisaiikul	99	148,350	-	-	148,449

Remarks:

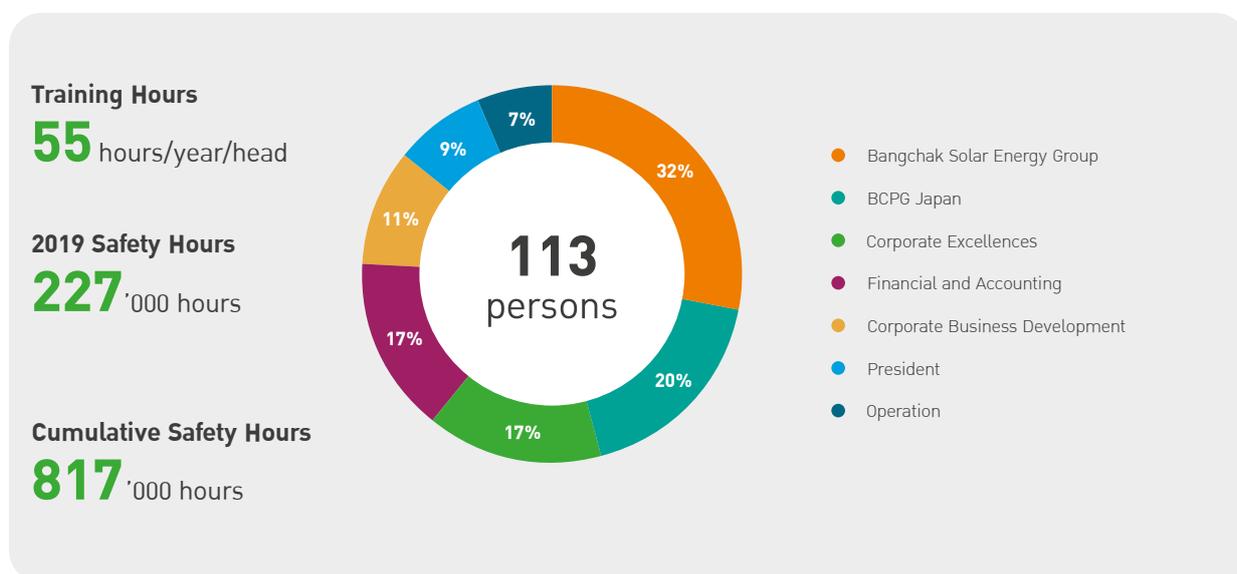
⁽¹⁾ There were no holdings or changes in securities holding in BCPG and its subsidiaries during 2019 of the persons related to the directors and the executives, as defined in Section 59 of the Securities and Exchange Act B.E. 2535 (including any amendment thereafter), who are spouses or cohabitation partners and children under legal age (2) and a juristic person that directors and/or executives, persons under (1) and (2) together hold shares more than 30% of the voting right of such juristic person, and their shares are the highest volumes of such juristic person.

⁽²⁾ According to a resolution of the 2019 AGM on Tuesday April 9, 2019, Mr. Chaiwat Kovavisarach and Mr. Narin Kalayanamit were appointed directors. They duly reported to BCPG the common shares of BCPG or of its subsidiaries that they or any persons related to them held when they entered directorship: Mr. Kovavisarach held 553,124 shares and Mr. Kalayanamit and any persons related to him held none.

⁽³⁾ According to the resolution of the Board meeting, General Sakda Niemkham and Mr. Thaworn Ngamganokwan were appointed directors, replacing retired directors with effect from July 1, 2019. Neither of the directors nor any persons related to them held any share of BCPG or of its subsidiaries.

Personnel

As of December 31, 2019, BCPG and affiliates had a headcount of 113 people (excluding executives) as follows:



Compensation

BCPG set short-term and long-term compensation for employees to ensure fair pay commensurate with their performance, which includes:

1. Salaries and bonuses based on individual responsibilities in comparison with other listed companies in a similar business, experience, and qualifications as well as the business performances of BCPG Group.
2. Welfare, such as provident fund, health, life and accident insurance, annual check-up allowances, out-patient medical allowances for employees and their families, vaccination allowances, social insurance cash benefits, travel expenses, and per diem when travelling aboard.
3. Others, such as the ESOP program.

In addition, employees are provided with the rights under related policies and laws, including the rights for annual leave and other types of leave. In 2019, compensation for employees (excluding executives) in the forms of salary, bonus, contribution to the provident fund and the social insurance cash benefits totaled THB 212.4 million.

Labor Disputes

In 2019 there was no major labor dispute.

Personnel Development

BCPG's policy is to regularly provide opportunities for learning and development to all employees to enhance their knowledge, skills, proficiency, and work efficiency. Employees are encouraged to develop themselves through on-the-job training and in-house training held by BCPG and Bangchak Corporation Pcl, as well as knowledge-sharing activities. Executives and employees regularly attend external training and seminars relating to their functions so that they can apply their knowledge in improving BCPG's operations.



1. Mr. Pichai Chunhavajira

2. Mr. Chaiwat Kovavisarach

3. General Kanit Sapitaks

4. General Utis Sunthorn

5. Ms. Vilai Chattanassamee

6. Dr. Pankanitta Boonkrong

Chairman and Authorized Signing Director

Vice Chairman and Authorized Signing Director
Chairman of the Investment Committee

Independent Director and Authorized Signing Director
Chairman of the Nomination and Remuneration Committee

Independent Director and Authorized Signing Director
Chairman of the Corporate Governance Committee
Director of the Audit Committee

Independent Director and Authorized Signing Director
Chairman of the Audit Committee
Director of the Nomination and Remuneration Committee

Independent Director and Authorized Signing Director
Director of the Audit Committee



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7. Mr. Thammayot Srichuai

Director and Authorized Signing Director
 Director of the Enterprise-wide Risk Management Committee
 Director of the Investment Committee

8. Mr. Narin Kalayanamit

Independent Director and Authorized Signing Director
 Director of the Corporate Governance Committee

9. Professor Dr. Suchatvee Suwansawat

Independent Director and Authorized Signing Director
 Chairman of the Enterprise-wide Risk Management Committee
 Director of the Nomination and Remuneration Committee

10. Mr. Thaworn Ngamganokwan

Independent Director and Authorized Signing Director
 Director of the Enterprise-wide Risk Management Committee

11. General Sakda Niemkham

Independent Director and Authorized Signing Director
 Director of the Corporate Governance Committee

12. Mr. Bundit Sapianchai

President and Authorized Signing Director
 Director and Secretary of the Corporate Governance Committee
 Director and Secretary of the Enterprise-wide Risk Management Committee
 Director of the Investment Committee
 Secretary to the Board of Directors

Board of Directors

Mr. Pichai Chunhavajira

Chairman and Authorized Signatory

Age: 71

Education/ Training

- Master's Degree (Business Administration), Indiana University of Pennsylvania, USA
- Bachelor's Degree (Accounting), Thammasat University
- Honorary Ph.D. (Accounting), Thammasat University
- Honorary Ph.D. (Financial Management), Maharakham University
- Honorary Ph.D. (Accounting), Sripatum University
- Diploma, The Joint State – Private Sector Program Class 13, National Defence College, National Defence Studies Institute
- Certified Public Accountant
- Certificate, Director Accreditation Program (DAP 49/2006), Thai Institute of Directors (IOD)
- Certificate, Director Certification Program (DCP 143/2011), Thai Institute of Directors (IOD)
- Certificate, Leadership Program (Class 5), Capital Market Academy

Work Experience (last 5 years)

- 2013 - Present : Chairman, Bangchak Corporation Public Company Limited
- 2014 - 2017 : Member of the Board, Bank of Thailand
- 2001 - 2013 : Director, PTT Exploration and Production Public Company Limited
- 2010 - 2012 : Chairman, Thailoil Public Company Limited
- 2008 - 2012 : Chairman, Thailoil 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, Thailoil Power Company Limited
- 1998 - 2011 : Director, Bangchak Corporation Public Company Limited

Other Current Directorship

- Other listed companies
 - Chairman, Bangchak Corporation Public Company Limited
- Non-listed companies
 - Chairman, BBGI Public Company Limited
 - President, Thailand Boxing Association
 - Vice President, National Olympic Committee of Thailand under the Royal Patronage
 - AIBA Executive Committee Member, Asia Zone

Shareholding in the Company: 775,000 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

Mr. Chaiwat Kovavisarach

Vice Chairman and Authorized Signatory

(Date of Appointment: April 9, 2019)

Chairman of the Investment Committee

Age: 54

Education/ Training

- Master of Engineering, Asian Institute of Technology (AIT)
- Master of Business Administration, Thammasat University
- Bachelor of Engineering (Honors), King Mongkut's Institute of Technology Ladkrabang
- Investment Banking, Kellogg Business School, Northwestern University
- Director Certification Program (DCP 168/2013), Thai Institute of Directors (IOD)
- Role of the Nomination and Governance Committee (RNG 4/2013), Thai Institute of Directors (IOD)
- Diploma, National Defence College (NDC) Class 58, National Defence Studies Institute
- Senior Executive Program, Thailand Energy Academy, Class 10
- Senior Executive Program, Capital Market Academy, Class 26 (CMA26)

Work Experience (last 5 years)

- Since 2015 : President and Chief Executive Officer, Bangchak Corporation Public Company Limited
- 2007 - 2014 : Advisor, Avantgarde Capital Company Limited

Other Current Directorship

- Other listed companies
 - Chairman of the Board of Directors, OKEA ASA (OSE)
 - Director, Lithium Americas Corp. (NYSE & TSX)
- Non-listed companies
 - Director, Thailand Management Association (TMA)
 - Director, Thai Listed Companies Association (TLCA)
 - Board of Trustees/ Executive Committee/ Audit Committee, Asian Institute of Technology (AIT)
 - Member of the International Chamber of Commerce Thailand (ICC Thailand)
 - Vice Chairman of the Federation of Thai Industries and Chairman of the Institute for Industrial Development and Innovation
 - Director, BBGI Public Company Limited
 - Chairman of the Bai Mai Pan Sook Foundation
 - Vice President of AIT Alumni Association, Thailand Chapter
 - Chairman, Bangchak Retail Company Limited
 - Director, Nido Petroleum Pty. Ltd. (registered in ASX until 2018)
 - Member of the Investment Management Subcommittee, Government Pension Fund
 - Member, Suan Kularb Alumni Association under the Royal Patronage

Shareholding in the Company: 637,500 shares (as of December 31, 2019)

Family relationship among other directors, executives, major shareholders or subsidiaries: None

General Kanit Sapitaks

Independent Director and Authorized Signatory
Chairman of the Nomination and Remuneration Committee
Age: 67

Education/ Training

- Chulachomklao Royal Military Academy, Class 24
- Armed Forces Academies Preparatory School, Class 13
- Diploma, National Defence College, National Defence Course Class 49
- Regular Course (Class 63), Command and General Staff College
- Certificate, Director Accreditation Program (DAP 129/2016), Thai Institute of Directors (IOD)

Work Experience (last 5 years)

- 2014 - 2019 : Member of the National Legislative Assembly
- 2014 - 2017 : Chairman, Aeronautical Radio of Thailand Company Limited
- 2011 : Chairman of the Advisory Board, Ministry of Defence
- : Royal Guard of Special Assignments
- : Judge, Military Supreme Court
- 2010 : Special Advisor, Royal Thai Army
- 2008 : 1st Army Area Commander

Other Current Directorship

- Other listed companies
- None -
- Non-listed companies
Director, Five-Province Bordering Forest Preservation Foundation

Shareholding in the Company: 125,000 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

General Utis Sunthorn

Independent Director and Authorized Signatory
Chairman of the Corporate Governance Committee
Member of the Audit Committee
Age: 65

Education/ Training

- Master's Degree, Management in Social Development, National Institute of Development Administration
- Chulachomklao Royal Military Academy, Class 25
- Armed Forces Academies Preparatory School, Class 14
- Army Chief-of-Staff Course, Command and General Staff Officer Course (CGSOC), Class 65, Command and General Staff College, Institute of Advanced Army Academies
- Diploma, National Defence College (NDC) Class 50, National Defence Studies Institute
- Certificate, Director Accreditation Program (DAP 129/2016), Thai Institute of Directors (IOD)

Work Experience (last 5 years)

- 2017 - 2018 : Member of the National Legislative Assembly
- 2012 - 2014 : Chief of Working Team to Drive the Policy and Execution of the Commanding Officers' Directives in the Resolution of Problems in the Southern Provinces of Thailand
- : Special Expert, Royal Thai Army

Other Current Directorship

- Other listed companies
- None -
- Non-listed companies
- None -

Shareholding in the Company: 300,000 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

General Sakda Niemkham

Independent Director and Authorized Signatory
Member of the Corporate Governance Committee
(Date of Appointment: 1 July 2019)
Age: 60

Education/ Training

- Bachelor of Science, Department of Mechanical Engineering, Chulachomklao Royal Military Academy, Class 31
- Air Transport Course Class 139, Special Warfare Center
- Assault Course, Class 69, Special Warfare Center
- Royal Thai Army Cadet Course, Class 1/1986
- Australian Cavalry Cadet Course (ROAC)
- Royal Thai Army Cavalry Course
- Executive Permanent Secretary Course, Army Finance School
- Chief of Staff Course, Main course, Set 71
- Army College Course, Main Course, Set 52
- Diploma, Thailand National Defence College (NDC) Class 57, National Defence Studies Institute
- Director Accreditation Program (DAP 164/2019), Thai Institute of Directors (IOD)

Work Experience (last 5 years)

- 8 May 2019 - 9 September 2019 : Director, Government Lottery Office
- 2018 : Working Group of Advisors, National Security Council
- 2017 : Director of Operation Coordination Center 5
(Mission, Southern Border Provinces) Royal Thai Army
- 2015 : Expert & Acting Deputy Director, Office of Security Policy and Strategy, Internal Security Administration of the Kingdom
- 2013 : Deputy Commander, 2nd Cavalry Brigade, Royal Thai Army
- 2012 : Commanding General, 1st Cavalry Regiment, Royal Thai Army
- 2011 : Commander of the Special Unit, 4th Cavalry Regiment
Pha Muang Forces, Royal Thai Army
- 2010 : Commander of the 4th Cavalry Regiment, Royal Thai Army

Other Current Directorship

- Other listed companies
- None -
- Other non-listed companies
Deputy Director, Office of Internal Security Operations

Shareholding Proportion: None

Family relationships among other directors, executives, major shareholders or subsidiaries: None

Ms. Vilai Chattanrassamee

Independent Director and Authorized Signatory
Chairman of the Audit Committee
Member of the Nomination and Remuneration Committee
Age: 66

Education/ Training

- Master's Degree (Accounting), Thammasat University
- Bachelor's Degree (Accounting), Chulalongkorn University
- Certified Public Accountant
- Fellow Member, Thai Institute of Directors (IOD)
- Certificate, Director Certification Program (DCP 13/2001), Thai Institute of Directors (IOD)

Other Current Directorship

- Other listed companies
 - Independent Director and Authorized Signatory, Chairman of the Audit Committee, and Member of the Nomination and Remuneration Committee, BCPG Public Company Limited
 - Member of the Audit Committee, MK Restaurant Group Public Company Limited
 - Chairman of the Audit Committee, Saha Thai Terminal Public Company Limited
- Non-listed companies
 - Member of the Audit Committee, King Mongkut's Institute of Technology Ladkrabang
 - Member of the Audit Committee, Saha Thai Steel Pipe Public Company Limited
 - Director, Horton International Company Limited
 - Member of the Sub-Committee on Procurement and Material Administration of the Public Sector, The Comptroller General's Department
 - Independent Observer of Integrity Pact, Anti-Corruption Organization of Thailand (ACT)

Other Positions

- Secretary General, Federation of Accounting Professions under the Royal Patronage
- Vice Chairman, Accounting Professions Committee (Accounting System)
- Treasurer, Federation of Accounting Professions Under the Royal Patronage
- Director, Federation Accounting Professions Committee (Managerial Accounting), Federation of Accounting Professions under the Royal Patronage
- Sub-Committee Member of Accounting Standard Screening, Federation of Accounting Professions under the Royal Patronage
- Lecturer on Managerial Accounting Committee and Accounting System Committee, Federation of Accounting Professions under the Royal Patronage
- Director and Executive Committee Member, Thai Cold Rolled Steel Sheet Public Company Limited
- Financial and Accounting Consultant, Prachuap Port Company Limited
- Financial and Accounting Consultant, Westcoast Engineering Company Limited
- Audit Committee, Asian Seafood Cold Storage Public Company Limited

Work Experience

- Executive Vice President, Finance and Accounting, Sahaviriya Steel Industries Public Company Limited
- Chief Financial Officer, GMM Grammy Entertainment Public Company Limited
- Executive Vice President, Finance and Accounting, Siam Integrated Cold Rolled Steel Public Company Limited
- Executive Vice President, Finance and Accounting, Nation Publishing Group Public Company Limited
- Finance and Administration Manager, Digital Equipment Company Limited
- Controller, TMX (Thailand) Company Limited
- Finance Manager, Sweden Motors Company Limited
- Senior Auditor, SGV Na Thalang Company Limited

Shareholding in the Company: 302,500 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

Mr. Thammayot Srichuai

Director and Authorized Signatory

Member of the Enterprise-wide Risk Management Committee

Member of the Investment Committee

Age: 61

Education/ Training

- Bachelor's Degree (Engineering), Rajamangala University of Technology
- Executive Program in Energy Literacy for a Sustainable Future, TEA 8, Thailand Energy Academy
- Diploma, National Defence College, National Defence Studies Institute, Class 52
- Certificate, Civil Service Executive Development Program: Visionary and Moral Leadership Class 56, Civil Service Training Institute, Office of the Civil Service Commission
- Command and General Program (Class 47), National Defence College, National Defence Studies Institute
- Senior Executive Energy Curriculum (Class 1), Thailand Energy Academy, Ministry of Energy
- Certificate, Director Certification Program (DCP 239/2017), Thai Institute of Directors (IOD)
- Certificate, Corporate Governance for Executives (CGE 5/2015), Thai Institute of Directors (IOD)

Work Experience (last 5 years)

- October 2017 - September 2018 : Permanent Secretary, Ministry of Energy
- October 2016 - September 2017 : Deputy Permanent Secretary, Ministry of Energy

Other Current Directorship

- Other listed companies
- None -
- Non-listed companies
- None -

Shareholding in the Company: 300,000 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

Dr. Pankanitta Boonkrong

Independent Director and Authorized Signatory

Member of the Audit Committee

Age: 63

Education/ Training

- Doctor of Philosophy Program in Good Governance Development, Chandrakasem Rajabhat University
- Master's Degree (Accounting), Thammasat University
- Bachelor's Degree, Business Administration (Accounting), Thammasat University
- Certified Public Accountant
- Certificate, Director Certification Program (DCP 72/2006), Thai Institute of Directors (IOD)
- Certificate, Audit Committee Program (ACP 24/2008), Thai Institute of Directors (IOD)
- Monitoring the System of Internal Control and Risk Management (MIR 15/2013), Thai Institute of Directors (IOD)
- Certificate, Role of the Chairman Program (RCP 37/2015), Thai Institute of Directors (IOD)
- Certificate, Role of the Nomination and Governance Committee (RNG 8/2016), Thai Institute of Directors (IOD)

- Certificate, Board Matters and Trends (BMT 1/2016), Thai Institute of Directors (IOD)
- Certificate, Advanced Audit Committee Program (AACP 29/2018), Thai Institute of Directors (IOD)
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives (PDI), King Prajadhipok's Institute
- Advanced Certificate Course in Public Administration and Public Law (Class 6)
- Diploma, National Defence College, The State - Private Sector and Political Sectors Program Class 5, National Defence College, National Defence Studies Institute
- The Executive Program in Energy Literacy for a Sustainable Future, TEA Class 5, Thailand Energy Academy
- Inspector General 2016, Office of the Permanent Secretary, Prime Minister's Office and Office of the Civil Service Commission

Work Experience (last 5 years)

- 2016 - 2019 : Sub-committee member on Banking and Finance, Financial Institutions and Capital Markets. National Legislative Assembly
- 2015 - 2017 : Director, Audit and Evaluation. Office of the National Anti-corruption Commission
- 2014 - 2017 : Director and Chairman of the Corporate Governance Committee, Dhipaya Insurance Public Company Limited
- 2014 - 2016 : Director and Chairman, Small and Medium Enterprise Development Bank of Thailand
- 2015 - 2016 : Inspector-General, Ministry of Finance

Other Current Directorship

- Other listed companies
 - None -
- Non-listed companies
 - Chairman, Islamic Bank Asset Management Company Limited
 - Council Member of University Council, Silpakorn University
 - Chairman of the Audit Committee, Silpakorn University
 - Ethics Committee Member, Federation of Accounting Professions under The Royal Patronage

Shareholding in the Company: 300,000 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

Mr. Narin Kanlayanamit

Independent Director and Authorized Signatory

(Date of Appointment: April 9, 2019)

Member of the Corporate Governance Committee

Age: 61

Education/ Training

- M.S. (Management and Human Relations), Abilene Christian University, USA
- B.A. (Political Science), Delhi University, India
- Director Certification Program (DCP 167/2012), Thai Institute of Directors (IOD)
- Financial Statements for Directors Certificate (FSD 33/2017), Thai Institute of Directors (IOD)
- National Defence Course Class 50, National Defence College, National Defence Studies Institute
- Diploma Senior Executive Program, Class 16 (CMA 16), Capital Market Academy
- Corporate Governance Program for Directors and Top Executives of State Enterprises and Public Organization, Class 14, King Prajadhipok's Institute

- Executive Program For Commerce and Trade (TEPCoT), Class 8, Institute of Trade Science
- Politics and Governance in Democratic Systems for Executives Program, Class 15, King Prajadhipok's Institute
- Top Executive Program in Energy Science, Class 12, Thailand Energy Academy
- Tourism Management Program for Senior Executives (TME), Class 1, Tourism Authority of Thailand

Work Experience (last 5 years)

- 2018 - 2019 : Chairman of the Board, Government Housing Bank
- 2018 - 2019 : Board of Directors, Compensation Fund Management Committee Commission, Office of Insurance Commission
- 2018 - 2019 : Committee on Civil Sanctions Measures under SEC Act (No. 5) B.E.2559, Office of the Securities and Exchange Commission
- 2017 - 2019 : Deputy Permanent Secretary, Ministry of Finance (Head of Expenses and Liability Group)
- 2017 - 2019 : Member of the Credit Information Protection Committee
- 2017 - 2019 : Member of the Executive Committee, Office of Economic Development Cooperation with neighboring countries
- 2017 - 2019 : Member of the National Health Security Committee, National Health Security Office
- 2015 - 2019 : Director, CAT Telecom Public Company Limited
- 2015 - 2019 : Director and Chairman of the Audit Committee, Tourism Authority of Thailand
- 2015 - 2019 : Director and Executive Chairman, Government Housing Bank
- 2014 - 2017 : Inspector-General, Office of the Permanent Secretary, Ministry of Finance

Other Current Directorship

- Other listed companies
 - None -
- Other non-listed companies
 - Expert Committee on Economy, Finance, and Treasury National Financial Institution Development Board Office of the People's Financial System Development Policy, Fiscal Policy Office, Ministry of Finance
 - Expert Committee, Economics State Property Committee, Treasury Department, Ministry of Finance

Shareholding Proportion: None

Family relationships among other directors, executives, major shareholders or subsidiaries: None

Mr. Thaworn Ngamkanokwan

Independent Director and Authorized Signatory

Member of the Enterprise-wide Risk Management Committee

(Date of Appointment: July 1, 2019)

Age: 62

Education/ Training

- Master of Public Administration, National Institute of Development Administration
- Bachelor of Engineering, Mining Engineering, Chulalongkorn University
- Senior Executive Program in Energy Science, Class 10 (TEA 10), Thailand Energy Academy
- Certificate of Director Certification Program (DCP 224/2016), Thai Institute of Directors (IOD)
- Advanced Diploma, Strengthening Peaceful Society, Class 6, King Prajadhipok's Institute

- Director Accreditation Program (DAP EGAT/ 2015) Certificate, Thai Institute of Directors (IOD)
- EGAT New Leader Development Program for Executives (ENLP)
- Advanced Diploma Core Course, Royal Thai Army College, Class 58, Royal Thai Army College
- Risk Management Program for Corporate Leaders (RCL17/2019), Thai Institute of Directors (IOD)

Work Experience (last 5 years)

- October 1, 2015 - September 30, 2018 : EGAT Deputy Governor (Fuel Management)
- October 1, 2014 : Assistant Governor, Mae Moh Mining, EGAT
- October 1, 2013 : Assistant Governor, EGAT Fuel Management
- October 1, 2011 : Director of Energy Source Engineering, EGAT
- February 1, 2010 : Assistant Director, Planning and Administration Department, Mae Moh Mine, EGAT

Other Current Directorship

- Other listed companies
- None -
- Other non-listed companies
Vice Chairman, EGAT Savings Cooperative Limited

Shareholding Proportion: None

Family relationships among other directors, executives, major shareholders or subsidiaries: None

Professor Dr. Suchatvee Suwansawat

Independent Director and Authorized Signatory

Chairman of the Enterprise-wide Risk Management Committee

Member of the Nomination and Remuneration Committee and Secretary

Age: 47

Education/ Training

- Ph.D. Engineering (Civil and Environment), Massachusetts Institute of Technology (MIT), USA
- Master's Degree, Policy and Technology, Massachusetts Institute of Technology (MIT), USA
- Master Degree, Engineering (Civil and Environment), University of Wisconsin-Madison, USA
- Bachelor's Degree, Civil Engineering, King Mongkut's Institute of Technology Ladkrabang
- Certificate, Budget Management for Senior Executives, Bureau of the Budget (Class 1)
- Executive Program in Energy Literacy for a Sustainable Future, TEA Class 5, Thailand Energy Academy
- Metropolitan Development for Top Executives, Class 5
- The Rule of Law & Sustainable Development (RoLD Program)
- Intermediate Certificate Course, Good Governance for Medical Executives, Class 5 (2016)
- Certificate, Bhumipalung Phandin Program for Senior Executives, Chulalongkorn University, Class 3
- Certificate, Governance for Faculty Development, Knowledge Network Institute of Thailand, Class 6
- Certificate, Development of Thai Higher Education to the 21st Century, Office of the Higher Education Commission
- Certificate, Industrial Business Development and Investment Program for Top Executives, Institute of Business and Industry, Class 1

- Certificate, Governance for Higher Education Development, Knowledge Network Institute of Thailand, Class 9
- Certificate, Executive Development Program (EDP 11), Thai Listed Companies Association
- Certificate, Leadership Program (Class 13), Capital Market Academy
- Certificate, New Democratic Leadership (Class 1), King Prajadhipok's Institute
- Curriculum of National Disaster Management, Training Center of Japan International Cooperation Agency (JICA), Japan.
- Certificate, Corporate Governance for Directors and Top Executives of State Enterprises and Public Organizations (Class 3)
- Certificate, Director Certification Program (DCP 105/2008), Thai Institute of Directors (IOD)
- Certificate, Audit Committee Program (ACP 27/2009), Thai Institute of Directors (IOD)
- Monitoring Fraud Risk Management (MFM 1/2009), Thai Institute of Directors (IOD)
- Certificate, Financial Statements for Directors (FSD 6/2009), Thai Institute of Directors (IOD)
- Certificate, Successful Formulation & Execution of Strategy (SFE 8/2010), Thai Institute of Directors (IOD)
- Monitoring the Internal Audit Function (MIA 8/2010), Thai Institute of Directors (IOD)
- Monitoring the System of Internal Control and Risk Management (MIR 8/2010), Thai Institute of Directors (IOD)
- Certificate, Development of University Senior Executives, Class 10, Office of the Higher Education Commission, Ministry of Education

Work Experience (last 5 years)

- Since 2019 : Acting President, King Mongkut's Institute of Technology Ladkrabang
- Since 2018 : President, Council of Engineers Thailand
- Since 2017 : Chairman, Council of University Presidents of Thailand (CUPT)
- 2015 - 2019 : President, King Mongkut's Institute of Technology Ladkrabang
- 2014 - 2016 : President, Engineering Institute of Thailand Under the Royal Patronage

Other Current Directorship

- Other listed companies
 - Chairman of the Risk Management Committee/ Independent Director, Property Perfect Public Company Limited
- Non-listed companies
 - Acting President, King Mongkut's Institute of Technology Ladkrabang
 - President, Council of Engineers Thailand
 - Chairman, Council of University Presidents of Thailand (CUPT)
 - Appointed member of University Council, Rajamangala University of Technology Srivijaya
 - Council Member of University Council, Rangsit University
 - Council Member of University Council, Nakhonratchasima Rajabhat University
 - Independent Director, Don Muang Tollway Pcl

Shareholding in the Company: 300,000 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None

Mr. Bundit Sapianchai

Director and Authorized Signatory

President

Member of the Corporate Governance Committee and Secretary

Member of the Enterprise-wide Risk Management Committee and Secretary

Member of the Investment Committee,

Secretary to the Board of Directors

Age: 55

Education/ Training

- Honorary Doctorate of Electrical Engineering, Rajamangala University of Technology Krungthep
- Master's Degree, Engineering, Asian Institute of Technology (AIT)
- Bachelor's Degree, Engineering, King Mongkut's Institute of Technology Ladkrabang
- Certificate, Director Accreditation Program (DAP 28/2004), Thai Institute of Directors (IOD)
- Certificate, Director Certification Program (DCP 53/2005), Thai Institute of Directors (IOD)
- Advanced Diploma, Public Administration and Public Law (Class 10), King Prajadhipok's Institute
- Diploma, Joint State-Private Sector Course, National Defence College (Class 25)
- Certificate, Leadership Program (Class 20), Capital Market Academy
- Executive Program in Energy Literacy for a Sustainable Future, TEA 11, Thailand Energy Academy
- Diploma, Executive Management with Business Development and Investment (IBID 5), Institute of Business and Industrial Development

Work Experience (last 5 years)

- 2013 - 2015 : Senior Executive Vice President, Renewable Energy Business, Bangchak Corporation Public Company Limited

Other Current Directorship

- Other listed companies
 - Senior Executive Vice President, Bangchak Corporation Public Company Limited
- Non-listed companies
 - Chairman, Bangchak Solar Energy Company Limited
 - Chairman, Bangchak Solar Energy (Prachinburi) Company Limited
 - Chairman, Bangchak Solar Energy (Chaiyaphum1) Company Limited
 - Chairman, Bangchak Solar Energy (Buriram) Company Limited
 - Chairman, Bangchak Solar Energy (Buriram1) Company Limited
 - Chairman, Bangchak Solar Energy (Nakhon Ratchasima) Company Limited
 - Director, Star Energy Group Holdings Pte. Ltd.
 - Director, Star Energy Geothermal Pte. Ltd.
 - Director, Star Phoenix Geothermal JV B.V.
 - Director, Star Energy Geothermal Holdings (Salak – Darajat) B.V.
 - Director, Star Energy Geothermal (Salak – Darajat) B.V.
 - Director, Huang Ming Japan Company Limited
 - Director, BCPG Wind Cooperatief U.A.
 - Director, PetroWind Energy Inc. (PWEI)
 - Director, Thai Digital Energy Development Ltd.
 - Director, BCPC IndoChina Ltd.
 - Director, Impact Energy Asia Development Ltd.
 - Manager, Nam San 3A Power Sole Co., Ltd.

Shareholding in the Company: 551,596 shares (as of December 31, 2019)

Family relationship with other directors, executive, major shareholders or subsidiaries: None



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1. Mr. Bundit Sapianchai

President

2. Ms. Revadee Pornpatkul

Senior Executive Vice President, Operation

3. Ms. Sattaya Mahattanaphanij

Senior Executive Vice President, Corporate Excellence, and Corporate Secretary

4. Ms. Phatpuree Chinkulkitnivat

Senior Executive Vice President, Finance and Accounting

5. Mr. Pavan Siamchai

Executive Vice President Operations, and Country Manager, BCPG Japan Corporation and Acting Senior Executive Vice President, Green Technology Center

6. Mr. Charnvit Trangadisaiikul

Executive Vice President, Corporate Business Development

Management Profile

Mr. Bundit Sapianchai

Director and Authorized Signatory

President

Member of the Corporate Governance Committee and Secretary

Member of the Enterprise-wide Risk Management Committee and Secretary

Member of the Investment Committee,

Secretary to the Board of Directors

Age: 55

Education/ Training

- Honorary Doctorate of Electrical Engineering, Rajamangala University of Technology Krungthep
- Master's Degree, Engineering, Asian Institute of Technology (AIT)
- Bachelor's Degree, Engineering, King Mongkut's Institute of Technology Ladkrabang
- Certificate, Director Accreditation Program (DAP 28/2004), Thai Institute of Directors (IOD)
- Certificate, Director Certification Program (DCP 53/2005), Thai Institute of Directors (IOD)
- Advanced Diploma, Public Administration and Public Law (Class 10), King Prajadhipok's Institute
- Diploma, Joint State-Private Sector Course, National Defence College (Class 25)
- Certificate, Leadership Program (Class 20), Capital Market Academy
- Executive Program in Energy Literacy for a Sustainable Future, TEA 11, Thailand Energy Academy
- Diploma, Executive Management with Business Development and Investment (IBID 5), Institute of Business and Industrial Development

Work experience (last 5 years)

- 2013 - 2015 : Senior Executive Vice President, Renewable Energy Business, Bangchak Corporation Public Company Limited

Other current directorship/ positions

- Other listed companies
 - Senior Executive Vice President, Bangchak Corporation Public Company Limited

- Non-listed companies
 - Chairman, Bangchak Solar Energy Company Limited
 - Chairman, Bangchak Solar Energy (Prachinburi) Company Limited
 - Chairman, Bangchak Solar Energy (Chaiyaphum 1) Company Limited
 - Chairman, Bangchak Solar Energy (Buriram) Company Limited
 - Chairman, Bangchak Solar Energy (Buriram 1) Company Limited
 - Chairman, Bangchak Solar Energy (Nakhon Ratchasima) Company Limited
 - Director, Star Energy Group Holdings Pte. Ltd.
 - Director, Star Energy Geothermal Pte. Ltd.
 - Director, Star Phoenix Geothermal JV B.V.
 - Director, Star Energy Geothermal Holdings (Salak – Darajat) B.V.
 - Director, Star Energy Geothermal (Salak – Darajat) B.V.
 - Director, Huang Ming Japan Company Limited
 - Director, BCPG Wind Cooperatief U.A.
 - Director, PetroWind Energy Inc. (PWEI)
 - Director, Thai Digital Energy Development Ltd.
 - Director, BCPC IndoChina Ltd.
 - Director, Impact Energy Asia Development Ltd.
 - Manager, Nam San 3A Power Sole Co., Ltd.

Shareholding in the Company: 551,596 shares (as at December 31, 2019)

Family relationship with other directors, executives, main shareholders, or subsidiaries: None

Ms. Revadee Pornpatkul

Senior Executive Vice President, Operation

Age: 59

Education

- Master's Degree, Business Administration, Thammasat University
- Bachelor's Degree, Accounting, Ramkhamhaeng University
- Bachelor's Degree, Laws, Sukhothai Thammathirat University
- Bachelor's Degree, Science, Chulalongkorn University

Training/ Seminars

- Certificate, Director Accreditation Program (DAP 99/2012), Thai Institute of Directors (IOD)
- Certificate, Executive Development Program (EDP 12/2016), Thai Listed Companies Association (TLCA)
- Certificate, Company Secretary Program (CSP 71/2016), Thai Institute of Directors (IOD)
- Smart Disclosure Program (SDP 2016)
- Certificate, Executive Energy Management Program (EEM 2017)
- Senior Executive Energy Program (Class 1/2017)
- Development an Outward Mindset (November 2018)

Experience

- 2015 - 2017 : Senior Vice President, Corporate Administration and Information Technology, BCPG Public Company Limited
- 2015 - 2017 : Senior Vice President, Associated Business, Bangchak Corporation Public Company Limited Seconded to BCPG Public Company Limited

- 2013 - 2015 : Vice President, Associated Business, Bangchak Corporation Public Company Limited
Managing Director, Bangchak Solar Energy Company Limited
Managing Director, Bangchak Solar Energy (Prachinburi) Company Limited
Managing Director, Bangchak Solar Energy (Chaiyaphum 1) Company Limited
Managing Director, Bangchak Solar Energy (Buriram) Company Limited
Managing Director, Bangchak Solar Energy (Buriram 1) Company Limited
Managing Director, Bangchak Solar Energy (Nakhon Ratchasima) Company Limited
- 2007 - 2013 : Vice President, Accounting and Tax, Bangchak Corporation Public Company Limited
- 2004 - 2007 : Senior Manager, Accounting, and Acting Vice President, Accounting and Tax, Bangchak Corporation Public Company Limited

Other current directorship/ positions

- Other listed companies
 - Executive Vice President, Associated Business, Bangchak Corporation Public Company Limited
- Non-listed companies
 - Director, Bangchak Solar Energy Company Limited
 - Director, Bangchak Solar Energy (Prachinburi) Company Limited
 - Director, Bangchak Solar Energy (Chaiyaphum 1) Company Limited
 - Director, Bangchak Solar Energy (Buriram) Company Limited
 - Director, Bangchak Solar Energy (Buriram 1) Company Limited
 - Director, Bangchak Solar Energy (Nakhon Ratchasima) Company Limited
 - Director, BSE Energy Holdings
 - Director, BCPG Japan Corporation
 - Director, BCPG Engineering Company
 - Director, Lomligor Company Limited

Shareholding in the Company: 294,150 shares (as at December 31, 2019)

Family relationship with other directors, executives, main shareholders, or subsidiaries: None

Ms. Sattaya Mahattanaphanij

Senior Executive Vice President, Corporate Excellence, and Corporate Secretary

Age: 54

Education

- Master's Degree, International Business and Information Management System, Widener University, Pennsylvania, USA
- Bachelor's Degree, Business Administration (Finance and Banking), Assumption University

Training/ Seminars

- Certificate, Board Nomination and Compensation Program (BNCP 5/2019), Thai Institute of Directors (IOD)
- Certificate, Company Secretary Program (CSP 82/2017), Thai Institute of Directors (IOD)
- Advanced Senior Executive Program (ASEP-3), Sasin and Kellogg School of Management
- Development an Outward Mindset, 7 Habits of High Effective People

Experience

- Since 8/2019 : Executive Vice President, Bangchak Corporation Public Company Limited
Seconded to BCPG Public Company Limited
- 2016 – 2017 : Executive Vice President, Finance and Accounting,
BCPG Public Company Limited
- 2006 – 2016 : Executive Director, Avantgarde Capital Company Limited

Other current directorship/ positions

- Other listed companies
 - None -
- Non-listed companies
 - Director, BCPG Investment Holdings Pte. Ltd.
 - Director, Greenergy Holdings Pte. Ltd.
 - Director, Greenergy Power Pte. Ltd
 - Director, Avantgarde Capital Company Limited

Shareholding in the Company: 248,000 shares (as at December 31, 2019)

Family relationship with other directors, executives, main shareholders, or subsidiaries: None

Ms. Phatpuree Chinkulkitnivat

Senior Executive Vice President, Finance and Accounting

Age: 45

Education

- Master of Business Administration (MBA), University of Michigan, Ann Arbor, USA
- Bachelor of Economics, Faculty of Economics, Chulalongkorn University

Training/ Seminars

- Advanced Management Program, Harvard Business School (AMP 192/2017)
- Bain APAC Executive Digital Immersion, Beijing (2017)
- Bain Executive Digital Immersion, Silicon Valley, (2016)
- CEDI-BABSON Entrepreneurial Leadership Program, Babson College (2013)
- Pacific Rim Bankers Program, Foster School of Business, University of Washington (2011)
- Euro Money Training on Country Risk Analysis (2007)
- CFA (“Chartered Financial Analyst”) Charter holder (2002)
- Lecturer in Corporate Finance for College of Management, Mahidol University (2000)

Experience

- Since 8/2019 : Executive Vice President, Bangchak Corporation Public Company Limited
Seconded to BCPG Public Company Limited
- 7/2018 - Present : Senior Executive Vice President, Finance and Accounting,
BCPG Public Company Limited
- 7/2014 - 7/2018 : Senior Vice President, Strategic Planning Head/Office of the President,
Commercial Banking Group, Bangkok Bank Public Company Limited
- 2012 - 6/2014 : Senior Vice President and Regional Manager, Commercial Banking Group,
Bangkok Bank Public Company Limited

Other current directorship/ positions

- Other listed companies
 - None -
- Non-listed companies
 - Director, Thai Digital Energy Development Co., Ltd.
 - Director, BCPG Indochina Co., Ltd.
 - Director, Impact Energy Asia Development Limited

Shareholding in the Company: -None- (as at December 31, 2019)

Family relationship with other directors, executives, main shareholders, or subsidiaries: None

Mr. Pavan Siamchai

Executive Vice President, Operation

Country Manager, BCPG Japan Corporation

Acting Senior Executive Vice President, Green Technology Center

Age: 49

Education

- Ph.D., Engineering (Electrical and Electronics), Technology Institute of Japan, Japan
- Master's Degree, Electrical Engineering, Chulalongkorn University
- Bachelor's Degree, Electrical Engineering, Chulalongkorn University

Training/ Seminars

- Certificate, Director Accreditation Program (DAP 123/2016), Thai Institute of Directors (IOD)

Experience

- Since 2015 : Executive Vice President, BCPG Public Company Limited
- 2005 - 2015 : Director and Chief Operating Officer, Solartron Public Company Limited

Other current directorship/ positions

- Other listed companies
 - None -
- Non-listed companies
 - Director, BCPG Japan Corporation
 - Director, BCPG Engineering Company

Shareholding in the Company: 188,500 shares (as at December 31, 2019)

Family relationship with other directors, executives, main shareholders, or subsidiaries: None

Mr. Charnvit Trangadisaiikul

Executive Vice President, Corporate Business Development

Age: 39

Education

- Master of Business Administration (with Distinction), Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Bachelor of Engineering (Mechatronics), University of Melbourne, Australia
- Bachelor of Computer Science, University of Melbourne, Australia

Training/ Seminars

- Executive Development Program, Thai Listed Companies Association (EDP 17)
- Strategic Management in Real Estate Business, Thai Real Estate Association & Chulalongkorn University (RECU 38)
- Financial Advisers Certification Course, Association of Thai Securities Companies, Thai Listed Companies Association

Experience

- Since 2/2018 : Executive Vice President, Corporate Business Development, BCPG Public Company Limited
- 1/2016 - 1/2018 : Senior Vice President, Merger and Acquisition Department, BCPG Public Company Limited
- 2013 - 2015 : Investment Director, Equis Funds Group (Thailand) Co., Ltd. and Soleq Solar Management Co., Ltd.
- 2012 - 2013 : Vice President, Avantgarde Capital Co., Ltd.
- 2011 - 2012 : Assistant Vice President, Siam Commercial Bank Plc.
- 2008 - 2011 : Assistant Vice President, Avantgarde Capital Co., Ltd.

Other current directorship/ positions

- Other listed companies
 - None -
- Non-listed companies
 - Director, BSE Energy Holdings Pte. Ltd.
 - Director, Lomligor Company Limited
 - Adviser, Sub-Commission on Special Affairs of the Commission on Energy Affairs, National Legislative Assembly
 - Member, Biomass Taskforce, Commission on Energy Affairs, National Legislative Assembly
 - Director, Thai Investor Relations Club, Thai Listed Companies Association
 - Director, BCPG Indochina Co., Ltd.

Shareholding in the Company: 148,449 shares (as at December 31, 2019)

Family relationship with other directors, executives, main shareholders, or subsidiaries: None

Corporate Governance

Good Corporate Governance Policy

It is the policy of the BCPG Board of Directors to comply with relevant laws, the objectives, the Articles of Association, and the resolutions of shareholders' meetings, as well as the 2017 Principles of Good Corporate Governance of Listed Companies as specified by the Stock Exchange of Thailand (SET) and the criteria under the Corporate Governance Report of Thai Listed Companies (CGR) of the Thai Institute of Directors (IOD), as well as internationally accepted criteria such as the ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard). The Corporate Governance Committee is mandated to monitor, consider, and give recommendations on the continuous improvement

of the Corporate Governance Policy to ensure that it is up to date and consistent with any new regulation prescribed and notified by the regulatory authority, and propose the same to the Board for approval. BCPG Board Meeting No. 13/2562 dated December 17, 2019, reviewed the Good Corporate Governance policy as recommended by the Corporate Governance Committee. It was the fourth revision to ensure that the Company's policy was consistent with the recommendations of IOD for the improvement of good corporate governance based on the CGR Report 2019. The policy was also disseminated on the Company's website at <http://www.bcpvgroup.com/storage/download/cg/policy/bcpvg-cg-policy-th.pdf>



Compliance with Good Corporate Governance

It is the Company's policy to strictly comply with the Principles of Good Corporate Governance. Accordingly, in 2019, its efforts were rewarded with the following recognition:

- Rated for another year as "Excellence" by the 2019 Corporate Governance Report of Thai Listed Companies (CGR) organized by IOD.
- Achieved a score of 100 for quality in convening the 2019 AGM (AGM Checklist) by the Thai Investors Association.
- Maintained its membership of Thailand's Private Sector Collective Action Coalition against Corruption (CAC).
- Consistently recognized by Thaipat Institute as one among the 100 listed companies with outstanding Environmental, Social, and Governance (ESG 100) performance in 2019.
- International Business Magazine awarded BCPG as follows:
 - Best Renewable Energy Company – South East Asia 2019
 - Most Innovative Renewable Energy Company – South East Asia 2019
 - Best Managed Company – Energy Sector
 - Most Innovative Renewable Energy Company
- Awarded with "Innovative Power Technology of the Year – Thailand" by Asian Power
- Awarded with an honorary plaque for six clean-energy power plant projects for BCPG Solar Energy Group, which participated in voluntary greenhouse gases reduction under Thailand's standard (T-VER), organized by the Thailand Greenhouse Gas Management Organization (Public Organization).
- BCPG and its subsidiaries in Thailand maintained their international standard certification as follows:
 - ISO 9001: 2015 International Standard for Quality Work Management System
 - ISO 14001: 2015 International Standard for Environmental Management
 - ISO/IEC 27001: 2013 International Standard for Information Technology Security.

The details of good corporate governance practices that have been materialized, based on the principles of good corporate governance for listed companies in 2017 by the Securities and Exchange Commission (SEC), covering all principles of the eight categories, are summarized as follows:

Principle 1: Establish Clear Leadership Role and Responsibilities of the Board

The Board of Directors has clearly determined its and various sub-committees' responsibilities since the Company's inception by clearly separating the duties and responsibilities of the management under the regulations and good corporate governance guidelines for BCPG Group in responding to various business circumstantial changes. This is to develop a corporate governance policy, a code of business ethics, and a code of ethical conduct for the directors, executives, and employees. In addition, a charter was developed for every sub-committee to specify general qualifications and essential specialized knowledge of the directors, independent directors, office terms and termination for the Board, operating policies, authority scope, responsibility, meeting management, and voting of the Board/ sub-committees.

For checks and balances between the Board and the management, BCPG has required the separation of roles and duties for the Board and the management into three groups: (1) those that the Board should be the doer (2) those on which the Board should work with the management, and (3) those with which the Board should not proceed. The Board authorizes the President with duties for business operations and daily operation management as assigned. The President manages business in accordance with the policies, plans, budgets approved by the Board, and accurately and thoroughly safeguards the interests of BCPG and shareholders.

Principle 2: Define Objectives that Promote Sustainable Value Creation

With guidelines and recommendations provided by the Board, the management team is required to prepare and present the business direction, corporate strategy plans, schedules, budgeting, and required manpower to the Board for open discussion and concurrence before obtaining approval of BCPG Group's annual business plan, including risk assessment and forecasts. Furthermore, BCPG values sustainable development by formulating a strategic plan for the next five years by focusing on improvement and leveraging strong foundations of the organization to forge competitiveness and add value to multiple stakeholders in the long run.

Principle 3: Strengthen Board Effectiveness

Balance of power for independent directors/ non-executive directors

The BCPG Board of Directors has specified an appropriate number and proportion of independent directors for the business. As of December 31, 2019, BCPG had a total of 12 directors consisting of:

- Eight independent directors, equivalent to 66.7 percent of all directors:
 - 1.) Gen. Kanit Sapitaks, 2.) Gen. Utis Sunthorn, 3.) Gen. Sakda Niemkham, 4.) Ms. Vilai Chattanrassamee
 - 5.) Dr. Pankanitta Boonkrong 6.) Mr. Narin Kalayanamit 7.) Prof. Dr. Suchatvee Suwansawat 8.) Mr. Thaworn Ngamgankwan, With independent directors number 2 4 and 5 serving as the Audit Committee.
- Three non-executive directors:
 - 1.) Mr. Pichai Chunhavajira (Chairman) 2.) Mr. Chaiwat Kovavisarach (Vice-Chairman)
 - 3.) Mr. Thammayot Srichuai (Member of the Investment Committee).
- One executive director: Mr. Bundit Sapianchai (President).

The details of the qualifications and biographies of directors, Board composition, independent director nomination process, and other information regarding the Company's directors and its sub-committees are shown under "Management Structure" of this annual report.

Principle 4: Ensure Effective CEO and People Management

The Board of Directors has established a policy indicating that either external or internal individuals can be selected for the President and Senior Executive Vice President positions. The objectives of this policy are to enable appropriate selection under specific situations and for a certain time period and to prepare personnel within the organization to perform duties on behalf of the President or the Senior Executive Vice President when they are unable to perform duties, complete terms, or leave positions, thus minimizing the risk or impact of management discontinuity. BCPG, therefore, has prepared a succession plan for a suitable person to be selected by the Nomination and Remuneration Committee or the management under the rules and procedures of the Company.

In addition, to optimize benefit in the selection of the President and the Senior Executive Vice President positions, the Board has assigned the management to oversee the training and development of senior executives. The Board has additionally established development guidelines with the senior management responsibility rotation to acquire understanding, experience, and readiness in managing the organization as a whole. Those at the Senior Vice President level and higher can apply for selection as the President and the Senior Executive Vice President if their criteria are met.

Principle 5: Nurture Innovation and Responsible Business

BCPG is committed to paying attention to all groups including stakeholders, shareholders, customers, business partners, competitors, employees, creditors, government agencies, as well as communities and society as a whole so that they may fulfill their lawful rights and obtain fair treatment from BCPG's operations. The Board has stipulated a policy and guidelines for each group of stakeholders to serve as a reference for BCPG's operations, such as human rights, fair labor treatment, prevention of intellectual property and copyright infringement, fair supplier and competitor treatment, and cultivation of awareness of potential impacts on communities, society, and the environment. The Board promotes cooperation between BCPG and stakeholders to create mutual wealth, financial security, business sustainability. Efficient communication channels for each group of stakeholders are established. In addition, BCPG encourages the provision of whistleblowing or complaints from employees and other interested parties regarding illegal acts, ethics, or behavioral issues that may indicate corrupt practices by individuals in the organization. BCPG continues organizing activities to cultivate policies and best practices on anti-corruption every year. It also performs its business operations as a social enterprise by cooperating with agricultural cooperatives to jointly implement solar power plants in various areas (Solar Cooperation Project).

As for environmental stewardship, BCPG has instilled and emphasized a corporate culture to prevent negative impacts on the environment, communities, and society by monitoring and overseeing to create BCPG's trustworthiness and credibility. BCPG focuses on advancing its operations to meet international standards and quality, including the continuous development and improvement of various work systems by implementing the ISO 9001 quality system and the ISO 14001 environmental management standard in all power plants in Thailand from the beginning. All of BCPG's power plants in Thailand have been audited and certified against the new ISO 9001 and ISO 14001 version of 2015.

Finally, in 2019 the Company initiated the Life for BCPG project by developing an application to motivate employees to care of the environment by conveying their daily activities.

Principle 6 Strengthen Effective Risk Management and Internal Control

Risk management policy

The Board of Directors has implemented a risk management system for all relevant aspects to cover risks related to the vision, goal, business strategy, finance, production, and other operation by assessing the potential risks, their severity, preventive measures, responsible persons, reporting, monitoring, and evaluation. BCPG appointed an Enterprise-wide Risk Management Committee responsible for overseeing risk management together with the management teams and reporting the performance to the Board quarterly, reviewing or evaluating the effectiveness of risk management at the department level annually, or at any time on the corporate level when the level of risk has been significantly changed.

Internal control policy

The Board has established an internal control system covering all aspects, including finance, operation, laws, rules, regulations, efficient and appropriate checks and balances to protect and maintain the investments of all shareholders, BCPG's assets, hierarchy of control, and a Table of Authority to systematically distribute the authorities and responsibilities of the management and employees by reviewing checks and balances between parties and developing formal written procedures. The Internal Audit Office, an independent unit reporting directly to the Audit Committee, is responsible for auditing the operation of all departments, both business and supporting units, to ensure complete compliance with BCPG's policies and regulations.

Policies governing the operation of subsidiaries and associated companies

BCPG has formalized the policies governing the operation of subsidiaries and associated companies for BCPG executives who serve as its representative directors to acknowledge their duties and responsibilities specified in the policy for overseeing such subsidiaries and associates on behalf of the Board. The business and performance results must be summarized and regularly presented at Board meetings. BCPG has established governance guidelines for subsidiaries or associated companies, including affiliates (called "joint-venture companies"), summarized as follows:

1. Appointing a representative of the Company to take a director position in a company proportionally to BCPG's shares in each company ("Representative Director of the Company"). They are expected to ensure that business is in compliance with laws, good corporate governance and governance of joint-venture operation.
2. The representative directors of the company in each joint-venture company must have the approval of the Board before voting in the board meetings of each such company. If the joint venture is not a subsidiary or an associated company, the representative director can vote on various subjects only with pre-approval by the BCPG President.
3. An approval by BCPG's Board of Directors is required when a subsidiary company plans to acquire or dispose of assets or related-party transactions that need pre-approval from the BCPG Board or comply with regulations of a SET or SEC announcement. The BCPG Board's approval, the shareholders' meeting's approval, or approval of related regulatory agencies, or all of them, is needed (as applicable).
4. A joint venture that is a subsidiary company must implement an internal control system, risk management system, and fraud prevention system, including specifying appropriate monitoring of the performance of subsidiaries and associates.
5. A joint venture that is a subsidiary company must disclose as accurately, completely, and credibly as possible information about the operating performance and financial position, including various information. The information must be reported to regulatory agencies, government agencies, and other related parties, as well as external investors and the public.

Principle 7: Ensure Disclosure and Financial Integrity

BCPG will disclose material information, including financial and non-financial data in an accurate, complete, timely, and transparent manner through accessible, unbiased, and reliable channels under the following guidelines:

- Commitment to providing equitable information to shareholders, financial institutions, securities companies, investors, information users, and the public with transparency, accuracy, completion, timeliness, and consistency. This policy covers all channels, such as annual and quarterly reports on the performance to analysts and general investors, letters to shareholders, Company website, and other media.
- No disclosure of material information that has not yet been disclosed to the public to unauthorized employees, a group of people, or any other person (including investors, the media, and analysts) until its publicity.
- Avoid providing information about business performance outcomes that will affect stock prices or benefit any particular person before financial statements are delivered to SET.

- BCPG has assigned Investor Relations to liaise with shareholders, analysts, investors, and others who need financial information, performance outcomes, financial position, and any transaction information that may affect the Company.

Throughout 2019, BCPG participated in SET activities to disseminate information to investors at the Opportunity Day, organized activities to clarify quarterly performances to analysts from various institutions (Analysts' Meeting Day), and disseminated press releases to welcome institutional investors (One-on-One Meeting activities) who requested an appointment to visit and receive information from the Company.

Activity	Amount
Analyst Meeting	4
Opportunity Day and SET Digital Roadshow (organized by SET)	4
Investors' company visits and conference calls	16
Domestic and international roadshows with shareholders and investors	3
Shareholders' and investors' site visit	1

Supervision of Directors, Executives, and Individuals on Abuse of Inside Information and Unfair Conduct

BCPG has formalized policies and rules to prohibit individuals with access and possession of unauthorized information to use it for personal or others' benefit. The guidelines are as follows:

- BCPG has specified in the Corporate Governance Policy prohibition of behavior deemed unfair for securities trading as follows:
 - 1) Disclosing information that may harm investors and the capital market, such as publicizing or disclosing false or misleading statements, including analysis and forecasts derived from false or misrepresented information.
 - 2) Taking advantage of other investors by exploiting previously-known unauthorized information for BCPG's securities trading.
 - 3) Manipulating securities prices by trading securities that mislead the public on prices or trading volumes, resulting in price or trading volume abnormality.
 - 4) Submitting trading orders into SET's securities trading system to cause delays or disruption, or use or allowance of a nominee's account for unfair trading practices.
- BCPG informs directors and executives of their duties to disclose changes in their securities and derivatives holdings under Section 59 of the Securities and Exchange Act B.E.2535. This disclosure also applies to the holdings of their spouse, cohabiting couple, minor children and their juristic persons whose combined shares exceed 30% or represent the majority shares of such juristic persons in BCPG and subsidiaries. At every Board meeting they must inform BCPG of the portfolio change at once.
- Establishes a Blackout Period to prohibit directors and executives from trading securities at least a month ahead of the public disclosure of financial statements, financial position, the Company's performance, and other material internal information which will affect securities price changes. This also applies at least three days after the information has been made public. In addition, the rule also prohibits the disclosure of such material information to other parties.
- Directors or senior executives who wish to trade the Company's securities must inform Internal Audit at least a day in advance for its quarterly reporting to the Audit Committee.

- Establishes disciplinary actions, as permitted by law, for the use of inside information for personal gain. They range from a warning letter, salary deduction, temporary suspension without pay, to dismissal, depending on the intent of the action and the seriousness of the offense.

Principle 8: Ensure Engagement and Communication with Shareholders

The Company respects the rights of shareholders, considering them as owners, whose rights form an integral part of business. They exercise their rights through attending the general meetings/ extraordinary general meetings of shareholders and voting on important matters. The Board promotes the exercise of rights and will not violate or deprive the rights of shareholders by using guidelines as follows:

- Rights to buy and sell shares and rights to profit sharing.
 - Rights to receive timely and sufficient information in suitable formats for a decision that affects the Company and oneself.
 - Rights to attend and vote at shareholders' meetings on important matters, such as appointing directors to act on their behalf, appointing and determining the auditor's fees, and authorizing significant changes of the Company as specified by law or policy. The Company facilitates and encourages shareholders and institutional investors to attend each shareholders' meeting.
 - Any other right which the shareholders should lawfully receive.
1. Creating an advance opportunity for shareholders to propose meeting agenda and nominate a director (or directors) of the company, pose questions, request explanation, and express their opinions appropriately. At the 2019 AGM, BCPG announced the rights granted to shareholders through the SET website and the Company's website on September 1, 2019. However, as of December 31, 2019, a period of more than four months in advance, no proposal was submitted to the Company for inclusion on the agenda of the 2019 AGM.
 2. The shareholders receive a meeting invitation and information on the date, time, and venue from BCPG, as well as the agenda and all relevant information on the subjects that require consideration. On the dividend payment agenda, the company discloses the actual payment amount against that under the policy. BCPG delivered the information in advance to shareholders for their perusal before the meeting. For the 2019 AGM, held on April 9, 2019, BCPG sent the invitation letter to the shareholders 21 days before the meeting and continuously advertised the meeting invitation in newspapers for three days in advance of the meeting date, including posting all the information on the Company's website 31 days before the meeting.
 3. Under the provisions of the law and BCPG's rules on the election of directors, shareholders can vote for an individual under the "one share for one vote" concept.
 4. The Chairman, the Board of Directors, and relevant executives are responsible for attending each shareholders' meeting or extraordinary general meeting (if any) to clarify subjects for shareholders.
 5. After the shareholders' meeting, BCPG disseminates resolutions through various channels, such as the SET website and the Company's website so that shareholders and related parties who did not participate in the shareholders' meeting may receive such information immediately or within the next business day.

Furthermore, the Board of Directors ensures fair and equal treatment of all shareholders. The Company has specified guidelines as follows:

1. Shareholders are entitled to vote according to their numbers of shares.
2. Shareholders receive necessary, equitable, fair, and timely information. This also includes the preparation and dissemination of information in English so that BCPG may communicate more widely to international shareholders and investors.

3. Shareholders are treated fairly and equally under the Good Corporate Governance Code 2017 as announced by SEC.
4. In the event of significant transactions such as the acquisition or disposal of assets or engagement in transactions with related individuals, BCPG thoroughly reviews the justifications and needs before proceeding with the transaction through a prior approval process. The Company upholds and strictly complies with the rules set forth by regulatory agencies, as well as summarizing important matters, including the Audit Committee's remarks, for disclosure in the annual report and the annual information disclosure form (Form 56-1) for shareholders and various stakeholders.
5. Communication with independent directors on various subjects relating to their rights, including whistleblowing or complaints regarding the following subjects:
 - 5.1 Violation of the law and Company rules, corruption, or violations of the code of conduct by directors, executives and employees.
 - 5.2 Abnormality of financial reports or a defective internal control system.
 - 5.3. Subjects that affect the Company's interests or reputation.

All subjects can be reported through various channels as specified by the Company. The reporting criteria and methods were published and summarized on the Company's website as follows: Whistleblowing or complaints can be reported via the Company's website at www.bcpvgroup.com under the heading: Good Corporate Governance/ Complaint channels via the web link shown below.

Or other channels as follows:

- Sealed envelope directed to the Chairman of the Audit Committee BCPG Public Company Limited M Tower, 12th Floor, 2098 Sukhumvit Road, Phrakhanongtai, Phrakhanong, Bangkok 10260 or e-mail : auditcommittee@bcpggroup.com
- E-mail to
 - Audit Committee and Chief of Internal Audit e-mail: ico@bcpggroup.com (To report about employees)
 - Chairman, Chairman of Corporate Governance Committee, and Company Secretary e-mail: cg@bcpggroup.com (To report tips or personal complaints about
1) President, 2) Directors and/or 3) Sub-committees)
- Phone number to: Chief of Internal Audit Office Phone number : 02 - 335 - 8906
- Phone number to: Company Secretary Phone number : 02 - 335 - 8941

Remuneration of the Auditor

For the accounting period ended December 31, 2019, BCPG paid the auditor, namely KPMG Phoomchai Audit Co., Ltd., remuneration of THB 2.92 million, consisting of the audit fee of THB 1.19 million, and the non-audit fee of THB 1.73 million.

Report of the Audit Committee

The Audit Committee independently fulfilled its roles as defined in its charter, which was reviewed to keep abreast of current situations and annually approved by the Board. In 2019 the committee held 12 meetings (the list and meeting attendance of each director were shown under Management Structure). The meetings focused on review of financial statements, accuracy, effectiveness of information technology related to financial reporting, review of internal control and internal audit, good corporate governance to ensure BCPG's compliance with the securities and exchange laws, SET regulations, or laws applicable to BCPG's business, and review of the risk management system, anti-corruption, as well as recommendations to appoint the auditor. This year's performance was highlighted as follows:

Review of financial reports

The Audit Committee reviewed material data of the quarterly and annual financial statements, and consolidated financial statements by reviewing accounting and major issues, including disclosure of the notes to the financial statements against the stipulations of the law and financial reporting standards. The Committee was also advised by the auditor and the management to ensure that its financial reporting complied with the Thai Financial Reporting Standards (TFRS). Also monitoring the impacts of the announcement of the new version of these standards, it approved the financial statements—reviewed and verified by the auditor as unqualified views. Moreover, the committee held a non-management meeting with the auditor to ensure the auditor's independent and unrestrained execution and comments.

Review of internal control and internal audit systems

Concerning internal control, the Audit Committee reviewed and approved the assessment results of BCPG's internal control system based on the sufficiency assessment form stipulated by the Securities and Exchange Commission (SEC), whereby the Company was found to have an appropriate and sufficient internal control system for business operations. On internal audit, the committee conducted the annual review of the charter of Internal Audit, including review of the investigation results of various issues and follow-ups of the results of the correction or improvement of issues found during the previous investigation, encouragement of the use of investigation facilitation programs in the investigation processes, consideration of appropriate investigation plans in line with BCPG's strategic plans and current situations, as well as determination of assessment criteria of the performance of the Head of Internal Audit to ensure the office's independent and honest operation in BCPG's interests.

Review of good corporate governance, compliance, and applicable regulations

The committee reviewed compliance with the corporate governance policy, regulations of SEC and SET, as well as laws applicable to BCPG's business. It was advised by BCPG's legal unit on the unit's supervision and operation in full accordance with the regulations of the laws applicable to BCPG's business. It also acknowledged BCPG's data management plans and the security of the information system on a quarterly basis. As for connected transactions and transactions of potential conflicts of interest, it considered the validity of these transactions for BCPG's maximum benefit before submission to the Board of Directors for further consideration. The management also reported the movements of the transactions to the Audit Committee on a quarterly basis.

Review of risk management system

BCPG assigned the Enterprise-wide Risk Management Committee (ERMC) the duties of supervision and consideration of its important risk management policy. Moreover, it assigned Internal Audit to follow up on the minutes of ERMC meetings to integrate various risk factors into the risk-based audit plan to assess the efficiency and effectiveness of procedures, as well as monitoring the potential risks of the Company's operation such as risks of foreign investment.

Review of corruption prevention

The committee encouraged the Company to concretely implement the anti-corruption guidelines by working with the Corporate Governance Committee in ensuring BCPG's corporate governance system in every process of operation and encouraging BCPG to cooperate with the public and the private sectors by participating in Thailand's Private Sector Collective Action Coalition against Corruption (CAC). Moreover, BCPG has provided channels for complaints and whistleblowing. It also defined the criteria of whistleblowing or complaints to ensure that BCPG Group would appropriately and efficiently handle them. In the past year, BCPG received no complaints.

Recommendations to appoint the auditor and determine the annual audit fees

The committee nominated BCPG's auditor on the basis of qualifications, independence, expertise, experience, performance, as well as appropriate compensation in line with the scope of investigation guidelines. The result was submitted to the Board of Directors.

In conclusion, based on the above performance, it was the view of the Audit Committee that BCPG's financial reporting was accurate, properly disclosed, and complete in line with the adopted financial reporting standards. The internal control system was sufficient and effective, and the implementation was in accordance with the laws applicable to business operations.

- Signed -

(Ms. Vilai Chattanrassamee)
Chairman of the Audit Committee

Report of the Nomination and Remuneration Committee

Dear Shareholders,

The Nomination and Remuneration Committee was appointed by the Board of Directors to stipulate the criteria for the nomination of directors, the President, and top executives, review and determine the compensation of the directors and the President, as well as giving recommendations to the Board. On June 13, 2019, the Board reviewed the composition and qualifications of the members of each subcommittee. At present, the committee consist of three independent directors, namely General Kanit Sapitaks, chairman, Mrs. Vilai Chattanrassamee, member, and Professor Dr. Suchatvee Suwansawat, member and secretary.

In 2019, the committee held four meetings with the following highlights:

1. Nomination and determination of compensation for directors

Meeting No. 1/2562 dated February 13, 2019, with Admiral Sithawat Wongsuwan as chairman, nominated and considered candidates with knowledge and ability to replace the directors who resigned on term completion. There were four directors who resigned due to such expiration, namely Mr. Pichai Chunhavajira, Admiral Sithawat Wongsuwan, General Kanit Sapitaks, and General Utis Sunthorn. The meeting recommended them for reappointment as directors for another term. It also recommended the appointment of two new directors, namely Mr. Chaiwat Kovavisarach and Mr. Narin Kalayanamit. The directors who were stakeholders did not attend the meeting in line with the corporate governance code.

Meeting No. 2/2562 dated June 18, 2019, was convened with General Kanit Sapitaks as chairman. The meeting considered the appointment of new directors, namely Mr. Thaworn Ngamganokwan and General Sakda Niemkham, to replace two directors that resigned. Subsequently, there were 12 directors following the Company's articles of association.

The appointment of the directors increased diversity for management by the Board of Directors and supported the growth of business, especially the expansion to CLMV. The committee considered the qualifications of directors in accordance with the Company's requirements, including education, work experience, and performance. Moreover, the committee analyzed the Board structure with the Board Skill Matrix to obtain directors with knowledge and ability from diverse fields and increase work efficiency. The committee submitted the consideration to the Board or the shareholders' meeting, or both, for consideration.

In 2019 BCPG provided an opportunity for minor shareholders to submit a list of candidates to be appointed as the Company's directors in the 2019 AGM between September 1, 2019 and December 31, 2019, via the SET system. However, no shareholder submitted such list.

The determination of compensation of the Board and the subcommittees, as well as annual review of compensation, took into consideration the appropriateness of duties and scopes of responsibilities, including comparison with the compensation of other listed companies of the same industry. For 2019 the committee considered the appropriateness of directors' compensation and recommended the same rates.

2. Nomination and determination of compensation for senior management

The committee considered the nomination of senior management position, namely Senior Executive Vice President, Operation, taking into account qualifications, education, experience, and performance to assess the nominee's vision, knowledge, and ability in line with the present and future business directions as the Company expanded its business with technological diversity in many countries. On the determination of the compensation for senior management, there would be comparison of the compensation of those at the same level in BCPG and of peer companies. The nomination was then submitted to the Board for consideration.

3. Determination of the criteria and performance assessment of the President in order to consider and determine his compensation in 2019 and submission to the Board.
4. Review its own charter for 2019 in accordance with the corporate governance code and Corporate Governance Report of Thai Listed Companies (CGR) 2019 of Thai Institute of Directors (IOD) and submission to the Board for approval.

The Nomination and Remuneration Committee recognize the duties and responsibilities as assigned by the Board and performed work with prudence, transparency, and fairness, as well as the corporate governance code. The committee reported comments on related issues to the Board, taking into account the Company's and the shareholders' benefit.

- Signed -

(General Kanit Sapitaks)
Chairman of the Nomination and
Remuneration Committee

Report of the Corporate Governance Committee

Dear Shareholders,

Business conduct under corporate governance and a code of business conduct, consistently observed by BCPG Public Company Limited, forms one of the Company's vital missions, for the practice is strategic to sustainable future success. To achieve goals for business management development for acceptance and standardization in line with domestic and international corporate governance codes, the Board of Directors appointed a Corporate Governance Committee to define a policy, oversee, monitor, and promote compliance with the corporate governance code and the code of business conduct, culminating in a robust corporate culture.

This year the committee's meetings deliberated various matters under its scope of authority and duties set forth in its charter and regularly reported its performance to the Board, as highlighted below.

1. Development of guidelines and rules of corporate governance

The committee introduced SEC's CG Code 2017 to assess alignment with current rules to find that a majority of the elements were comparable. Unstated elements were then set forth as additional guidelines. To elaborate, it submitted to the Board a revision of the BCPG Group's corporate governance code, featuring additional rules to prevent the use of inside information potentially affecting securities prices, by requiring that directors and executives should notify the Company of their wish to trade Company securities in advance. The rule, with effect from December 17, 2019, stated: Directors and executives wishing to trade BCPG securities must inform Internal Audit at least one day ahead of such trading so that a report can be provided to the Audit Committee every quarter."

2. Oversight, promotion, and monitoring of compliance with the corporate governance code, the anti-corruption policy, and the code of business conduct

The committee endorsed the annual development plan for corporate governance, the code of business conduct, anti-corruption, and treatment of stakeholders and provided advice to executives on communication, nurturing the corporate culture on transparency, fair and thorough treatment of all stakeholders, and monitoring of tasks against plans. Instances of key activities of 2019: first, joint organization with various companies in BCPG Group of the annual CG Day 2019 to drum up employees' awareness of the importance of corporate governance and the code of business conduct; second, declaration of a joint resolve with BCPG's suppliers in resisting fraud and corrupt practices; and third, participation in activities marking the Anti-Corruption Day on September 6, 2019, launched by the Anti-Corruption Organization of Thailand at BITEC Center. In addition, the committee endorsed and provided recommendations on directly relevant, key work plans on corporate governance, including the 2019 AGM plan, endorsement of shareholders' proposal of agenda items and nomination of directors for 2020 in advance. The committee also instituted the annual assessment of the Board and all its sub-committees to revise and set guidelines for continuous improvement/development.

3. Corporate social responsibility (CSR) and sustainable development (SD)

The committee endorsed a CSR development plan embracing community relations administration and the sustainable development plan by relentlessly advocating community development activities for areas adjoining BCPG's service areas, embracing education, hygiene, religion, culture and customs, and environmental

conservation. This year BCPG initiated the Life for BCPG Project by developing a media application to urge BCPG Group employees to pay attention and show environmental care by conveying daily activities of all employees that promote environmental conservation through this application. And to align with BCPG's new vision of "The Iconic greenergy developer who evolves the world through the greener ways", BCPG defined an energy improvement plan that would result in energy and greenhouse gas reduction; the plan is part of the Low-Emission Support Scheme (LESS) Project of the Thailand Greenhouse Gas Management Organization (Public Organization).

Thanks to these actions, this year BCPG continued to garner acclaim and certification both at home and abroad, including an ESG 100 Company certificate from Thaipat

Institute, an entity dedicated to joint international initiatives on sustainability assessment, meaning that BCPG now belongs to the ESG100 group for 2019—listed companies with outstanding environmental, social, and governance conduct. Also, BCPG was ranked in the Excellent group for another consecutive year out of the CGR survey of listed companies. Such outstanding performance has resulted from the commitment, attention, and resolve of BCPG Group to align with BCPG's standard on corporate governance and code of business conduct in parallel with social responsibility and sustainability development, fruit of companywide collaboration. The Corporate Governance Committee is convinced that BCPG will achieve sustainable growth and international acceptance, which will enable it to benefit stakeholders under the code of business conduct and in turn benefit our country as a whole.

- Signed -

(General Utis Sunthorn)
Chairman of the Corporate Governance
Committee
BCPG Public Company Limited

Report of the Enterprise-wide Risk Management Committee

Dear Shareholders,

The Enterprise-wide Risk Management Committee (ERMC) of BCPG Public Company Limited, established as a result of the resolution of the Board of Directors, comprises experienced professionals in organizational management, namely Professor Dr. Suchatvee Suwansawat as chairman and General Utis Sunthorn as member, whose term later expired on July 1, 2019. Mr. Thammayot Srichuai and Mr. Thaworn Ngamganokwan were appointed members. Subsequently, ERMC comprised four directors, including Mr. Bundit Sapianchai as member and secretary. The committee's duties and responsibilities consist of the determination and review of the enterprise-wide risk management policy, supervision and monitoring of risk management plans, as well as driving for cooperation on enterprise-wide risk management at all levels to ensure BCPG Group's complete risk management in all main activities in line with BCPG's strategic direction and targets based on risk management plans jointly considered with the management.

In 2019 the committee performed its duties to its utmost ability under its charter as assigned by the Board of Directors in supervising BCPG's risk management in order to reach business targets, as well as forging confidence and reliability among investors and stakeholders. The committee held a total of nine meetings with the management in 2019, highlighted as follows:

1. Considered the risk management plans of investment projects such as Digital Energy Platform, Hydro Power Plant Project in Lao PDR, as well as other investment projects and submitted its recommendations to the Board of Directors for consideration
2. Reviewed BCPG's risk management plans, namely
 - 2.1 Monitored the progress of the management's operation under the 2019 risk management plans. On the whole, risk management was conducted at an acceptable level, based on assessment guidelines, opportunities, and potential impacts for prioritization
 - 2.2 Reviewed and improved BCPG's risk management plans for 2020 that might impact BCPG's core strategic plans
3. Reviewed anti-corruption risk management to extend the certificate as a member of Thailand's Private Sector Collective Action Coalition against Corruption
4. Reviewed and endorsed amendment to the ERMC charter
5. Supervised and provided recommendations on issues that the management should focus on and recognize future business changes as follows:
 - 5.1 Specific risks of human resource management and personnel development to acquire expertise in basic business for Digital Energy Platform, renewable-energy business, and other relevant energy management matters
 - 5.2 The corporate governance code and strict legal compliance.

The Enterprise-wide Risk Management Committee is committed to providing BCPG with appropriate corporate governance and risk management. It also stands ready to support various functions' participation in risk management development to ensure that BCPG comprehensively operates according to its policy and achieve the targets.

- Signed -

(Professor Dr. Suchatvee Suwansawat)
Chairman of the Enterprise-wide
Risk Management Committee

Report from the Investment Committee

To Shareholders,

BCPG Public Company Limited (“Company”) defines its goal to become the leader in clean energy business through the expansion in both domestic and international market, focusing on growth by building or acquiring high-quality assets, ensuring the ability to generate sustainable return to investors, with proper risk management. The Company also gives important in maintaining environmental sustainability and reducing of climate change.

The Investment Committee consists of experts from internal and external of the Company, with extensive experience in energy industry and investments. The Investment Committee includes Mr. Chaiwat Kovavisarach as the Chairman, Mr. Thammayot Srichuai, Mr. Bundit Sapianchai and Mr. Suchad Chiaranussati as the committee members, and Mr. Thanwa Laohasiriwong as the advisor. In 2019, the Investment Committee held a total of 12 meetings to consider various investment opportunities and related matters which can be concluded as follows;

- Evaluation and advising on investment proposals

The Investment Committee regularly evaluates the new investment opportunities both domestic and international, as proposed by the management, in order to provide recommendations to the management and the Board of Directors. The new investment opportunities shall create shareholder value, and be in alignment with BCPG’s strategy and goal of investing, developing and operating green business with environmental-friendly innovation.

In 2019, the Investment Committee considered the new investment opportunities and related matters, proposed by the management. This includes the review and scrutinize of investment opportunities, in which 14 investment opportunities have been reviewed. The Investment Committee carefully

considered all aspects that are related to investment decision i.e. macroeconomic condition, industry and competition landscape, electricity generation technology, economics return, development and operation risk management, appropriate source of capital, human resource plan to support new investment project, world-class standard of construction and equipment, and environmental standard etc. to ensure that the new investments will be able to generate stable revenue and profit to the Company and its shareholders at the appropriate level with reasonable and manageable level of risk.

Furthermore, in order to create additional return to the Company and shareholders, the Investment Committee has been closely monitoring and providing recommendations on the projects under development and construction by focusing on expediting construction process while maintaining international standard with reasonable budget.

- Monitoring the implementation of company’s strategy

The Investment Committee has been closely monitoring the Company’s strategy and the implementation. The Investment Committee also continuously evaluates the investment climates and industry dynamics those may require the fine-tuning of the Company’s strategy in regards to the Company’s organizational structure, financial structure, appropriate budgets to maintain its competitiveness and support business expansion.

The Investment Committee has fully performed its duties in accordance to the Investment Committee Charter approved by the Board of Directors. The Committee considers the matters with special attention to ensure the sustainability of the Company, as well as making sure all stakeholders are treated fairly.

- Signed -

(Mr. Chaiwat Kovavisarach)
Chairman of the Investment Committee

Sustainable Development

BCPG Group realizes business ethics and responsibility to create and fortify sustainable development in line with the UN Sustainable Development Goals (SDGs), five of which directly correspond to strategies and activities pursued by the group.



SDG
7



**Affordable and
Clean Energy**

Clean energy is the core business of BCPG Group. All investment in businesses under the Company’s mission are designed for development of affordable and clean energy for all people in society and direct promotion of a higher share of clean energy of the overall energy consumption. Moreover, maintenance of high operating efficiency directly supports the intention of SDG 7 on increasing energy consumption efficiency (7.2) and sharing of expertise and resources of the Group with communities and society, such as donation and installation of solar panels in remote communities for them to gain access to affordable and clean energy (7.1).

BCPG’s businesses involve the hiring of employees of the Company, joint ventures and contractors, involving directly the economic growth at both small-scale community level and the larger scale of the national level. The Group is fully committed to being a responsible corporate citizen with full respect for and compliance with the human rights of employees, workers of joint ventures and contractors (SDG 8.5, 8.7 and 8.8), as well as to the maximum efficiency of resource utilization of work processes (SDG 8.5). Meanwhile, the Group recognizes the value of and actively promotes the development of the local economy through employment and professional training as well as development of people in the community (SDG 8.5) and continuously develops technology and innovation to increase the effectiveness of the local and the national economy (SDG 8.2), focusing on economic development with zero negative impact on the environment (8.4).

SDG
8



**Decent Work and
Economic Growth**

SDG
9



**Industry, Innovation
and Infrastructure**

The identity of the Group is an innovative organization able to effectively deploy technology and creativity for business development. With this identity, BCPG Group tirelessly focuses on and promotes investment on innovations to support the development of infrastructure relying on clean and reliable energy (SDG 9.4 and 9.5).

SDG
13



Climate Action

Generating power from renewable sources to replace energy from fossil fuels is crucial to the reduction of greenhouse gas emissions. The businesses of the Group are therefore significantly involved in the efforts to mitigate impacts of climate change (SDG 13.3). Besides, under the vision to become a leading business organization in renewable energy with sustainable and uninterrupted operation, the Group needs to manage its operations with appropriate risk management of climate change to protect its clean-energy businesses which might be impacted by climate fluctuation from time to time (SDG 13.1 and 13.3).

SDG
11



**Sustainable Cities
and Communities**

One of the Group’s missions is the deployment of renewable energy and innovations to develop and nourish sustainability with a renewable or circular economy concept. Modern consumers can generate and consume their own power, as well as exchanging among consumers optimizing energy consumption, especially whenever energy surplus becomes available. This changing energy platform is the beginning of the development of a Smart Community, of which high-potential infrastructure of clean energy is the critical part to cope with future settlement of human beings capable of encountering changes to become sustainable (SDG 11.3, 11.5 and 11.6).



Sustainable Business Development Policy

To strive for a sustainable corporate culture and achieve its SDG targets, BCPG Group has launched a sustainable business development policy, including operation framework, data collection and work planning. The policy focuses on creation of values in three dimensions: economic value or Growth, social value or Good, and environmental value or Green, all under the foundation of good governance. The policy, approved on April 17, 2018, contains the following details.



Sustainable Business Development Policy of BCPG Public Company Limited

- **Good corporate governance**

Operate and manage businesses with transparency and good governance, a stringent anti-corruption policy and comprehensive risk management of the entire value chain.

- **Collaboration with all sectors to promote sustainable development**

Collaborate with government agencies, business entities, communities and civil society to promote sustainable development through the encouragement of law and regulation formulation for raising public awareness, particularly on environment and energy conservation.

- **Enhancing community energy security**

Promote and support development of the local economy and community development with a focus on shared value creation through assistance on providing community accessibility to sustainable and reliable energy sources.

- **Minimizing all environmental impacts**

Minimize all environmental impacts of the businesses and integrate the move with the principle of circular economy to reduce resource consumption and waste.

- **Responses to customers' needs and protection of customers' private data**

Manage responses to customers' needs with the highest possible efficiency, protect individual data privacy including online with state-of-the-art technology and the best possible data security systems.

- **Creative business growth with environmentally friendly innovations**

Consistently develop businesses with creative green innovations and technology compatible with the business strategy of maximizing value.

- **Developing organizational capability throughout the value chain**

Increase organizational competitiveness and sustain growth through training and development of employees, promotion of business partnership and development of competitive advantage for BCPG's joint ventures and contractors across the value chain.

- **Respect for diversity and safeguarding of human rights**

Strive to become a reputed organization that embraces diversity and operates with zero discrimination.



Key Operating Performance on Sustainability

BCPG Group's activities for SDGs include those directly related to the businesses and those specific to communities and the civil society.

Shared Value Creation Activities



1. Sansiri Backyard @T77, Green Community Project for residential accommodation under Project T77
 2. Thailand's first solar-powered bus stop signboard with wireless chargers for cellphones
 3. Solar-powered trash bin

1. Green Community Project with BCPG Alliances

Through its alliances with Sansiri Public Company Limited and related government authorities in 2018, BCPG piloted the world's largest power trading from clean energy in real-time under the Blockchain platform at Sansiri's Project T77. Continuous monitoring and learning have been closely evaluated for further improvement and for business expansion and advanced innovations for the T77 community toward a sustainable community and a full-scale Green Community. Additional solar panels were added in 2019 on the rooftop of My Backyard Farm & Café building, a new building launched under the Sansiri Backyard@T77 project. Bangkok's first innovative bus stop signboards were installed with a solar power system to provide wireless chargers for cellphones. Delivery of a solar trash bin to the T77 community was also made. The bin can help reduce the volume of garbage by using power generated from solar cells installed on the lid, thus improving efficiency for the biodegradation process and increasing the volume of the bin.



By switching to clean energy under Project T77 and using new solar panels at My Backyard Farm & Café Building, solar-powered bus stop signboards and other consistently high efficiency projects, BCPG has successfully replaced the use of fossil fuels with clean energy by up to 20% of the total energy consumption, equivalent to an installed power capacity of 432 kWh within Project T77 throughout 2019.



Development of technology and innovations for sustainable and effective farming for My Backyard Farm & Café



Installation of solar-powered bus stop signboards and real-time power switching/trading to clean energy under the Blockchain system.



Continuous promotion of a sustainable city and extension of community development from Green Community innovation at Project T77 and development of Project T77 as a template for future community development projects.



Reduction of greenhouse gas emissions by switching from fossil fuels to clean energy by up to 20% in areas of Project T77, equivalent to 340 metric tons of carbon dioxide equivalent, and by replacing landfills with the solar-powered trash bin project.



Smart University conceptual design with Chiang Mai University

2. Smart University Project, Chiangmai University

The success of power exchange at Project T77 significantly encouraged BCPG Group to move forward with the same blueprint, including the signing of a cooperation framework agreement on solar rooftop power generation with Chiangmai University under the Smart University Project in 2019. Under the agreement, BCPG Group is entitled to invest, develop, install, and manage the entire power generation system and energy storage system for 20 years with maximum possible clean energy efficiency technologies such as Blockchain, Artificial Intelligence (AI), Internet of Things (IOT), and Vehicle-to-Grid, gearing toward development of the circular economy within the university compound. Besides, BCPG Group, in conjunction with Bangchak Initiative and Innovation Center (BiiC), has extended support to Chiangmai University students with good potential to advance their creativity to become start-ups.



Increasing potential of clean-power generating capacity with the installation of solar rooftops on more than 150 buildings within Chiangmai University, capable of replacing power generated by fossil fuels by 16.3% of the total, equivalent to 12 MW, with application of power exchange technology to ensure zero surplus power in the system, resulting in the highest possible energy consumption efficiency.



Providing support to university students on their start-ups, resulting in the development and advancement of skills and creation of innovation.



Innovations of Vehicle-to-Grid and Blockchain provided clean-power exchange in real-time.



The Smart University Project, initiated with an objective to transform Chiangmai University into a Smart University and a pioneering university in clean energy, a stepping stone to transform the city of Chiang Mai to become a Smart City in the future.



The 16.3% replacement of fossil fuels with clean energy within the Chiangmai University Compound resulted in the reduction of greenhouse gas emissions equivalent to 9,615 metric tons of carbon dioxide equivalent.



"A Beginner's Guide to Solar Power System" seminar for education on solar panel application for the public, business partners and BCPG employees.

3. Circular Economy for PV Network Project

Recognizing challenges facing clean-energy consumption due to a lack of basic knowledge on the use of solar panels, BCPG Group jointly with Faculty of Engineering, Chulalongkorn University, organized training for the public, staff of BCPG and its business partners to increase their knowhow on the use and maintenance of solar panels to optimize work efficiency during their life cycles and how to manage outdated equipment appropriately. The 2019 training program was organized under the "A Beginner's Guide to Solar Power System" theme, facilitated and lectured by Associate Professor Dr. Somchai Rattanathammaphan of the Department of Electrical Engineering and Associate Professor Dr. Pichaya Rachdawong of the Department of Environmental Engineering, Faculty of Engineering, Chulalongkorn University. BCPG intends to organize this training at least annually.



Increasing individual capacities of employees and the general public in the consumption of renewable energy.



Providing occupational skill training to 60 personnel from BCPG Group and its business partners, including Sansiri, SC Asset, and students of the Faculty of Engineering, Chulalongkorn University, along with representatives of schools in remote and rural areas in 2019 under the Project Energy for Everyone, possibly leading to increasing hiring of a skilled workforce.



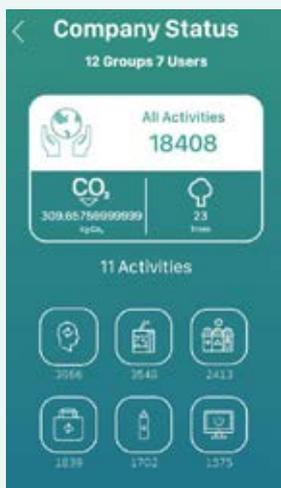
Increasing individual capacities of employees and the general public for maintenance capability of infrastructure related to renewable energy.



Promotion of solar rooftops, leading to development of sustainable cities and communities.



Increasing capacities of employees and the general public in the consumption of renewable energy, which is crucial to the reduction of greenhouse gas emissions.



4. LiFE for BCPG Project

Convinced that people are the biggest assets of the Company, BCPG Group gives a high priority to building and nurturing an organizational culture on sustainability to drive and enhance an understanding of the vision of the Group as well as the ability for employees to apply to work and to personal lives. The Group introduced in 2019 a "LiFE for BCPG" mobile application for employees to more readily manage their lives with a 'low-carbon footprint' and 'the least impact on the world' lifestyles, with extra points collected in the application.

LiFE for BCPG mobile application for employees to more readily manage their lives with a 'low-carbon footprint' and 'the least impact on the world' lifestyles.



The Company expects that the promotion of the 'low carbon' concept for employees' daily life would lead to more environmentally friendly business activities and lower natural resource exploitation by employees.



Increasing employees' awareness of climate change and successfully reducing the emission of carbon dioxide equivalent to 309.65 kilograms within six months and to the planting of 23 trees.

5. Other Power Projects

Under its commitment to a pursuit of clean-energy businesses to meet national energy demand while pursuing low-carbon society with less reliance on fossil fuels, BCPG Group launched a 9-MW power project “Lomligor Wind Farm” in 2019 at Pak Phanang district, Nakhon Si Thammarat province, as part of its long-term goal to sustain its domestic renewable power projects.



Increasing clean-energy power capacity by 9 MW from new development project.



Employment of locals in the vicinity of operating areas, including 75 local community workers in 2019.



Generation of 200.9 MW of domestic clean energy, equivalent to reduction of greenhouse gas emissions of 165,636 tons of carbon dioxide equivalent.

Major awards and recognition in response to BCPG’s successes in 2019 were granted by Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) to six projects with a total installed generating capacity of 30.9 MW, registered under the Thailand Voluntary Emission Reduction Program (T-VER) in TGO’s annual award ceremony:

- 1) Ground-mounted solar farm power project for government agencies and agricultural cooperatives, Wiset Chai Chan district, Ang Thong province.
- 2) Ground-mounted solar farm power project for government agencies and agricultural cooperatives, Bang Ban district, Phra Nakhon Si Ayutthaya province.
- 3) Ground-mounted solar farm power project for government agencies and agricultural cooperatives, Bang Pa-in district, Phra Nakhon Si Ayutthaya.
- 4) Ground-mounted solar farm power project, The War Veterans Organization of Thailand under the Royal Patronage of HM the King, Tha Muang district, Kanchanaburi province.
- 5) Ground-mounted solar farm power project, The War Veterans Organization of Thailand under the Royal Patronage of HM the King, Phra Phutthabat district, Sara Buri province.
- 6) Project Lomligor Wind Farm, Pak Phanang district, Nakhon Si Thammarat province.



1. Ground-mounted solar farm power project, The War Veterans Organization of Thailand under the Royal Patronage of HM the King, Tha Muang district, Kanchanaburi province.
2. Ground-mounted solar farm power project, The War Veterans Organization of Thailand under the Royal Patronage of HM the King, Phra Phutthabat district, Sara Buri province.

Community and Social Support Activities

Besides business activities under the sustainable development goals, BCPG Group has allocated resources to constantly support community and civil society development through activities under the “Breath of the World” community development concept, including activities in three categories.

- **Breath of the Waters:** Promotion of campaigns and activities on water resource conservation. Outstanding activities in 2019 include the following:

Charity Run: Two activities supported by BCPG Group in 2019: (1) “Rayong 2019 – Run for Rangers and Marine Life 2”, a charity run to add to the welfare fund for rangers of the Ministry of Natural Resources and Environment and that for marine officials of the Department of Marine and

Coastal Resources, taking place at Laem Charoen beach, Rayong province, and (2) “Run for the Ocean”, a charity run to collect funds to support activities to conserve marine natural resources and the environment, including sharing knowledge and research, conducted by the Faculty of Fisheries, Kasetsart University, Bangkok Campus.

Rejuvenating the Oceans: The “Rejuvenating the Oceans” youth camp organized by BCPG and EEC Thailand at Ang Thong National Marine Park, Surat Thani province, nurtured youths to be fully aware of and duly cherish marine natural resources via recreational activities. Participants included students and teachers of Ban Bang Raet School, in the vicinity of BCPG’s Lomligor Wind Farm, Pak Phanang district, Nakhon Si Thammarat province.



1. The “Rejuvenating the Oceans” youth camp attended by students and teachers of Ban Bang Raet School, in the vicinity of BCPG’s Lomligor Wind Farm, Pak Phanang district, Nakhon Si Thammarat province.
2. Activities to improve children’s playground and kitchen, Chainarong Vithaya School, Dan Khun Thot district, Nakhon Ratchasima province
3. Activities to fabricate saltlicks and plant bamboo food for elephants at Khao Krapod Park Ranger Unit, Dong Yai Wildlife Sanctuary, Buriram province
4. Sponsorship of BCPG Junior Golf Open 2019
5. The “Take Kids to the Sea” project for children of the Thai Child Rights Foundation around Sattahip district, Chon Buri province
6. Workshop of “Let’s build our dream Pai to sustainability” at Pai district, Mae Hong Son province, for public exchange of opinions to develop Pai in a sustainable way

- **Breath of the Wilds:** Promotion of activities on the conservation of forest resources. Outstanding activities in 2019 include the following:

Volunteer activities on the occasion of the royal birthday in 2019: Attended as an active member of peacock’s crest plantation for the environmental development program on the occasion of the birthday anniversary of HM the King in 2019.

Saltlicks for the Wildlife in the World Heritage Site: An activity for BCPG Group’s employees to fabricate saltlicks and plant bamboo trees as food

for elephants at Khao Krapod Park Ranger Unit, Dong Yai Wildlife Sanctuary, Buriram province. BCPG operates solar power plants in Prakhon Chai and Nong Ki districts of the same Northeastern province.

- **Breath of the Souls:** Activities for society, including no New Year gifts from the Group, designed to minimize the use of resources and donate the allocated budget to authorities in charge of the protection of natural resources, such as the Forest and Marine Ranger Foundation, as a welfare fund for rangers; activities to improve the quality of life,

such as solar panel installation to generate light for government offices or academic institutions in remote areas; activities to promote a low-carbon footprint; and promotion of community development in education, religion, and cultural development. Outstanding activities in 2019 include the following:

Access to Energy:

Floating PV solar farm, Kasetsart University Museum of Fisheries (Natural History), Faculty of Fisheries, Kasetsart University: Donation and installation of 120 floating PV solar panels at Kasetsart University Museum of Fisheries with a generating capacity of 39 kW to deliver power to the museum, the world's first museum with zero net energy consumption by using self-generated renewable energy and spare surplus power for adjacent buildings. The generated power also serves research studies on freshwater organisms dwelling underneath the solar panels and long-term water quality data collection, which are highly valuable as references for future floating PV solar farm in Thailand, especially for agriculture.

Education and Youths:

Development of quality of life for students in operating areas: Sponsoring of improved infrastructure in schools such as children playgrounds, toilets, and kitchens in BCPG's operating areas, including Wat Yom School, Wat Suthirujiraram School, Wat Khanon Ban Krot School, Wat Choeng Lane School, Wat Bhoti Taeng School, and Wat Bode Sompornchai School in Phra Nakhon Si Ayutthaya province, Bang Rang Sadao School in Kanchanaburi province, and Chainarong Vithaya School in Nakhon Ratchasima province.

Donation of consumables to Pattaya Orphanage: Donation of consumables such as dresses, diapers and toys for infants and children at Pattaya Orphanage.

"Run 4 U" Run for Children: Support to the "Run 4 U Run for Children" charity run for Sermkla Foundation to help support underprivileged children.

"Take Kids to the Sea": Support to the trip for children of the Thai Child Rights Foundation to Sattahip district, Chon Buri province, under the "My dream destination, once in a lifetime" project of the Ministry of Tourism and Sports.

BCPG Junior Golf Open 2019: Sponsorship of the BCPG Junior Golf Open 2019 tournament to promote and support young golfers to become professional players through international standard tournaments.

36th Pakphraek Games: Lomligor Company Limited, a subsidiary of the BCPG Group, provided sport uniforms and meals to athletes from a group of schools located in the operating area of the Lomligor wind farm, including Ban Bang Raet School, Wat Chaeng School, and Kanchanaram School to participate in the 36th Pakphraek Games.

Scholarships marking the 30th anniversary, School of Accountancy, Sripatum University: Providing scholarships to needy students with outstanding academic records and good behavior.

Disaster rehabilitation:

Greenroof Project: BCPG and Bangchak Corporation Public Company Limited collected empty beverage paper boxes from employees and recycled them to manufacture greenroof for donation to the Friends in Need (of "PA") Volunteers Foundation, Thai Red Cross, under the Greenroof Project to help support the needy and underprivileged to replace damaged roofs.

Financial assistance to the victims of Podul: Donated Baht 100,000 to the Friends in Need (of "PA") Volunteers Foundation, Thai Red Cross, to help victims of the Podul tropical storm.

Volunteers under the Royal Patronage: Executives and employees of BCPG, on behalf of the Bangchak Group of Companies, jointly took oaths and received volunteer caps and scarfs under the Royal Initiative Volunteers 904 to participate in the "Good Deeds from Our Hearts" program initiated by HM the King to perform good deeds for society and the nation.

Others:

Let's build our dream Pai to sustainability: Organized a "Let's build our dream Pai to sustainability" workshop to exchange information and thoughts among representatives from the government, private and community sectors to jointly maintain Pai toward sustainability at Pai district, Mae Hong Son province. The workshop provided systematic planning and pragmatic work activities.

National Day of the Elderly, Annual Songkran Festival 2019: Organized lunch and donated consumables to 75 members of the elderly at Wai Wattananivas (Pak Nam Elderly House) at Samut Prakan Municipality.

Key operating performance in 2019

Corporate Governance

Cases of corruption and corrupt practices

0 case



Total recordable injury rate

0 case



Risk Management

Ratio of operating area assessed of natural disaster risks that could impact operations

100 %



Innovation and Technology

Alliances engaged for innovation projects



Sansiri Public Company Limited (Project T77)

Chiangmai University (Smart University Project)

Public Policy and Regulatory Advocacy

Activity engaged to pursue policy for clean energy

Project **ERC Sandbox**

Employee Readiness

Average hours of training to enhance knowledge, skills and proficiency, as well as operating efficiency of employees

55 hours



Climate Change

Company's greenhouse gas emission rate

1,545 tons

Thailand 1,465 tons
Japan 80 tons



Ratio of employees using LiFE for BCPG application to manage their 'low-carbon footprint' lifestyles

70 %



Circular Economy

Total units of clean energy exchanged among consumers (only in Project T77)

0.9 megawatts

Clean energy generated, equivalent to greenhouse gas emissions



1,160,580 tons

Thailand	165,636	tons
Japan	6,745	tons
Laos	34,668	tons
Philippines	22,372	tons
Indonesia	931,159	tons

Accessible, Reliable, and Clean Energy

Number of people with access to energy

Project T77

10,000 people

Smart University (Chiangmai University)

40,000 people



Total units of clean energy generated

1,651.0 gigawatt hours



Solar

304.6 gigawatt hours

Thailand 286.6 gigawatt hours

Japan 18.0 gigawatt hours



Hydro

72.0 gigawatt hours



Wind

54.0 gigawatt hours

Thailand 10.0 gigawatt hours

Philippines 44.0 gigawatt hours



Geothermal

1,220.4 gigawatt hours

Contribution to Local Economy

Employment of labor in the vicinity of operation

75 persons

operators and technicians



Rate of employees who participated in programs for community and civil society



100 %

Diversity and Inclusion

Number of females in senior management

17 people

Total workforce 120 people

Employee 113 people

Senior management 7 people



Information and Cyber-Security

Cases of information leaked



0 case

Internal Control

Recognizing the benefit of internal control mechanisms, the Board of Directors assigned the management to assess the adequacy and suitability of the internal control system with the assessment form of the Office of the Securities and Exchange Commission (SEC), which follows the guidelines of the Committee of Sponsoring Organisations of the Treadway Commission (COSO 2013). The Audit Committee takes charge of reviewing the assessment to ensure that business activities are efficient, effective, and compliant with applicable laws and regulations, which results in auditing and counterbalancing procedures as well as efficient use of resources for the Company's genuine benefit.

The Board agreed with the Audit Committee that BCPG's existing internal control is adequate, suitable, and effective for business operations in line with the auditor's assessment. Results of the internal control assessment, made in five aspects, are summarized below:

1. Control Environment

Highly valuing integrity, the Board incorporated the Code of Conduct as part of the Company's policy on good governance. The code contains written instructions on business ethics and morality standards for directors, executives, and staff. Procurement ethics are regarded as the most stringent regulations in the code, which serves to prevent conflict of interest. All directors, executives, and staff must sign a document acknowledging the Code of Conduct before joining the Company. The code is to be reviewed annually or whenever there is an update. It clearly defines the responsibilities of subcommittees, as stated in the charters, while providing the structure of reporting lines and authorities, as well as their scopes of work. This ensures that the organization can attain its goals under the oversight of the Board. Regarding



human resource (HR) management, BCPG devised a policy on staff recruitment and development, leadership succession and development, staff rotation, and job promotion to motivate employees. An individual development plan (IDP) is also applied to each staff member. The Company also conducts a BCPG Satisfaction Survey to ensure staff's satisfaction and happiness at work to foster staff's positive attitudes toward the organization.

2. Risk Assessment

Valuing implementation of policies and procedures for risk management, BCPG established a Think Tank Team to work on defining the business direction, strategies, policies, and work plans for BCPG and subsidiaries to be presented to the Enterprise-wide Risk Management Committee (ERMC) and then to the Board for consideration. This ensures that the risk management system covers all sorts and all levels of risks arising in BCPG and subsidiaries' operations. The risk management system also looks into chances of fraud and significant changes that may affect the business so as to ensure that any risk can be promptly managed.

3. Control Activity

BCPG has in place control measures considered adequate for its risk appetite. Policies and regulations have been devised for budget, finance and accounting, HR management, procurement, and related transactions. Technology has been harnessed to support approval authority based on the scope of work and the budget size to foster decentralization and prevent fraud involving access to information and information security. BCPG, as a result, was certified with ISO 27001 : 2013. For joint-venture governance, BCPG has a unit in charge of compliance with policies that oversees joint-venture companies to ensure that their internal control is efficient and aligns with BCPG's guidelines.

4. Information and Communication

BCPG commands IT and communication systems and values fast, accurate data processing, which supports decision-making. The IT system must run stably and be ready for use. Regarding the Board's access to information, the unit in charge will collect proposal details and, via the IT system, present them to the Board for consideration before each meeting. The minutes of each Board meeting must contain sufficient detail, can be traced back, and are stored systematically. On the communication front, the corporate communication unit manages both internal and external communication on the intranet and e-mail with staff, investors, and stakeholders, as well as a special channel dedicated to whistleblowing.

5. Monitoring Activity

BCPG regularly monitors and assesses the adequacy of internal control in line with prevailing circumstances. The Company set a business target according to strategies and business plans while establishing KPIs for all business lines. It will also evaluate and analyze into the cause(s) if a large performance gap is found, for which improvement will be defined to ensure the control's up-to-date effectiveness. Internal Audit, which has a direct reporting line to the Audit Committee, will assess the efficiency, effectiveness, operation, and system of internal control of BCPG and subsidiaries against business plans earlier approved by the Audit Committee. For shortcomings discovered or when improvement is to be made regarding internal control, the matter will be raised to the management and the Audit Committee to map out corrective actions and implementation plans. Internal Audit will follow up the results of the correction and regularly present findings to the Audit Committee for consideration.

Risk Factors

BCPG groups business risks are classified into operational, management, and financial risks. The Enterprise-wide Risk Management Committee (ERMC) is in charge of overseeing corporate risk management to ensure acceptable levels of risks while arranging for annual risk assessment, as detailed below:

1. Operational Risks

1.1 Risks of unpredictable factors affecting renewable-energy power plant

As the operation of power plants that run on renewable energy, be it solar, wind, hydro, or geothermal power, BCPG cannot guarantee stability because solar intensity, wind speed, water volume, and underground pressure are naturally variable and uncontrollable. To cope with such risks, BCPG has a third-party expert evaluate the availability of these resources with support of general statistics and historical records before making investment decisions. Moreover, in maintenance planning, equipment specifications and close monitoring of production processes are taken into consideration. An early warning system is also installed to give notice whenever a problem arises to any piece of equipment. All of these efforts are to ensure efficient project management.

1.2 Risks from new project development

The success of new project development, both in and outside Thailand, depends on a number of factors, such as operating permit, compliance with power purchase agreements (PPAs) and related licenses, funding, and land acquisition, among others. These factors dictate the operability of a project and may consequently affect returns on investment. External risks like economic conditions, shifts in public policy, international relations, and requirements pertinent to overseas investment could equally affect project success. BCPG values management planning, close monitoring of project progress, and news and information tracking, as well as forging good relations with the government agencies overseeing the business and other related organizations.



1.3 Risks of power tariffs

As a solar farm with a capacity of 118 MWPPA or accounting for 22.4% of the total production capacity) is tied to a power tariff, which is structured by the base tariff and Ft with adder, and as the adder rate of THB 8.0 per unit (accounting for around 70% of the power tariff) for 10 years, then the power tariff will be derived only from the base tariff plus Ft. The situation will cause BCPG Group's income to decline from 2022 to 2024. To cope with such risks, BCPG Group has expanded its investment to projects with FiTs (feed-in-tariffs) while diversifying investments in more various types of energy (such as wind, geothermal, and hydro power plant) to ensure income stability throughout each year and the ability to generate additional revenue to offset the expected loss.

2. Management Risks

As at the end of 2019, BCP held 70.0% of the paid-up capital in BCPG, thus being the major shareholder with the control power over the Company's management through BCP representatives on the Board and the management. BCP, moreover, exercises its control power through voting on significant matters (such as capital increase/decrease, investment, acquisition and disposal of assets) at shareholders' meetings. Nevertheless, under the current management structure, there are 8 independent directors who will work in BCPG's interests, particularly for the benefit of retail investors and other stakeholders. BCPG, in addition, has opened more channels for shareholders to propose their agenda and nominate directors.

3. Financial Risks

3.1 Risks of interest rate volatility

BCPG Group, as at the end of 2019, carried a total loan of THB 19,881.2 million, comprising loans with fixed and floating interest rates at a ratio of around 11 : 89. The fluctuation of floating interest rates could influence BCPG Group's financial costs. To cope with the risk, BCPG Group closely follows movements of interest rates and may increase loans with fixed interest rates as considered appropriate for the financial market at a given time period.

3.2 Risks of exchange rate volatility

BCPG Group has now spread its wings to Japan, Indonesia, the Philippines, and Lao PDR. The Company has investment costs and loans as well as income and expenditure in various currencies, such as Thai baht, Japanese yen, US dollar, and Laotian kip. The many currencies come with forex volatility, which affects the Company's budget. In 2019 BCPG Group made a forex gain of THB 95.4 million from foreign exchange. The Company, however, has had in place a plan to manage forex risks partly by using natural hedge. For example, loans for overseas investment are acquired in the currency of the target country to align with the revenue currency. BCPG also monitors forex movements to promptly leverage appropriate financial tools to minimize risks.

3.3 Risks of loan repayment

By the nature of the power generation business, which typically requires high investment, BCPG needs to acquire loans from financial institutions through project financing. Nonetheless, the Company is capable of generating stable income streams thanks to PPA conditions, which last for 20-25 years. At the end of 2019, BCPG Group debt-to-equity ratio stood at 1.2 times. Risks from loan repayment are, therefore, considered low compared with other companies of the same industry.

Connected transactions

The connected transactions between BCPG and parties with potential conflicts of interest for the accounting periods ending 31 December 2018 and 31 December 2019 are summarized below:

Bangchak Corporation Public Company Limited (“BCP”)

BCP is an entity with potential conflicts of interest, as it is a majority shareholder of BCPG with 70.0% of the total paid-up shares held (data from SET as of December 4, 2019, the latest closing date of the shareholding roster) and has two common, namely Mr. Pichai Chunhavajira, Mr. Chaiwat Kovavisarach, and one common executive management, namely Mr. Bundit Sapianchai.



Details	Transaction value (THB million)		Necessity and justification
	Fiscal year ending 31 December 2018	Fiscal year ending 31 December 2019	
Land leasing			<p>BCPG leased land from BCP in Bang Pa-In district, Ayutthaya province, for a total of 457-2-53 rai to be used for a 38-MW capacity solar farm. The rental fees under the lease contract have been appraised by an independent appraiser approved by SEC. The contract lasts 22 years, and BCPG has no plan to use the land for other business purposes after contract expiry. On October 1, 2016, BCPG leased additional land of 32-3-70 rai from BCP for 21 years and 2 months, and another 8-1-38 rai on February 1, 2019, for 18 years and 10 months. The three leases, with the same terms of payment and other conditions, will end simultaneously. The transactions followed normal pricing terms and general business conditions.</p>
- Expenditure for the period	6.4	6.5	
- Advance payment	5.8	5.8	
- Account payables	-	6.0	
Expenditure for the rental/ purchase of office space, control room and electric system control room			<p>BCPG has leased from BCP space for its office, control room and electricity system control room for 377 square meters under a three-year lease. The leasing rate specified in the contract was appraised by an independent appraiser approved by SEC. On February 1, 2019, BCPG purchased the office building with the control room and electricity system control room, thus ending the lease.</p>
- Expenditure for the period	0.9	-	
- Account payables	0.1	-	
- Deposit	0.2	-	
Expenditure relating to a management contract			<p>BCPG engaged in a management contract with BCP. The contract will expire on December 31, 2019. According to the contract, BCP will second its employees to BCPG under a scope of work it defined. Most are senior executives who have been involved in the management and operation of renewable-based power plants since their inception. The transaction was to support normal business as needed. The fees for services due to these secondees will be charged to BCPG by their estimated employment rates.</p>
- Expenditure for the period	27.6	22.1	
- Account payables	2.5	2.5	
Revenue from electricity consumption at the Learning Center			<p>BCPG charged BCP electricity fees (based on actual consumption) for the Renewable Energy Learning Center, located in its 38-MW capacity solar farm in Bang Pa-In, Ayutthaya, under the conditions specified in the three-year lease contract for building space and the control room. No more charge was made after the purchase of the building where the Learning Center was located.</p>
- Revenues for the period	0.3	0.02	
- Account receivables	0.01	0.02	

Details	Transaction value (THB million)		Necessity and justification
	Fiscal year ending 31 December 2018	Fiscal year ending 31 December 2019	
Expenditure relating to information system service contract			The expenses are for information system service. The contract expired on December 31, 2018, and was renewed to December 31, 2019, under the revised scope of work fitting the situation. It is a normal business support transaction, and the service fees were defined in accordance with general business conditions and comparable to other service providers.
- Expenditure for the period	5.1	4.4	
- Account payables	0.5	0.5	
Expenditure under the facility service			BCP charged fees for area usage. The contract started from April 1, 2018, and will end on December 31, 2020. The rate is comparable to general business conditions.
- Expenditure for the period	0.4	0.5	
- Account payables	0.1	0.1	
Other expenditure			BCP charged service fees for personnel recruitment, driver services, and charity lotteries, based on actual payment.
- Expenditure for the period	0.1	0.01	
- Account payables	0.01	-	
Asset purchase			BCPG purchased the office building, control room, and electricity system control room on February 1, 2019.
- Asset purchase	-	41.9	
Advance payment			Advance payment for the fees for land leasing registration based on actual payment.
- Account receivables	-	0.01	

Other Parties with Potential Conflicts of Interest

Details	Transaction value (THB million)		Necessity and justification
	Fiscal year ending 31 December 2018	Fiscal year ending 31 December 2019	
Other expenditure - Bangchak Retail Company Limited (BCR)			Expenditure for refreshments and cash coupons for the shareholders' meetings and others events charged by BCR (BCP Group company). The rate charged was comparable to other service providers.
- Expenditure for the period	0.3	0.1	
Revenue from electricity - Bangchak Biofuel Co., Ltd. (BBF)			BCPG charged electricity fees under the power purchase agreement (PPA) (2.1-MW capacity) dated November 8, 2018, between the Company (Seller) and BBF (Buyer). The contract started on the Commercial Operation Date (COD) to the last day of the calendar month of the fifth anniversary of the contract. The contract was subject to five-year automatic extension up to 25 years. The electricity rate is based on the rate announced by the Provincial Electricity Authority (PEA) with discounts at market prices.
- Expenditure for the period	-	1.1	
- Account receivables	-	0.8	

Approval Measures and Procedures for Connected Transactions

Board Meeting No. 4/2015 on November 24, 2015, approved policies and principles for connected transactions of normal trade agreements and general trade conditions which can be summarized as follows.

BCPG set measures for connected transactions between BCPG and/ or its subsidiaries with connected persons in compliance with the notifications of SET and the Capital Market Supervisory Board. The Audit Committee provided their views on the justification of the transactions and prices, taking into consideration related conditions which must be of normal business practices in the industry and/ or that market price comparison is made and/or that prices or terms of such transactions at the same level exist for third parties and/or being able to demonstrate that such transaction engagement apparently contains reasonable or fair prices. If the Audit Committee lacks skills or expertise on potential connected transactions, BCPG shall arrange for an independent expert to provide opinions on such connected transactions to support the consideration of the Audit Committee, the Board of Directors, and/ or shareholders (as applicable).

Policies for Connected Transactions

- (1) Directors and executives must inform BCPG of a relationship or connected transactions of any business that may incur conflicts of interest.
- (2) Directors and executives must avoid engagement in connected transactions of potential conflicts of interest with BCPG or its subsidiaries. If it is necessary to engage in a transaction which is not a normal business practice or bears different trade conditions from those for other customers or third parties, BCPG must follow the regulations set forth by SET, SEC, and the Capital Market Supervisory Board.
- (3) Disclosure of transactions or related transaction with potential conflicts of interest must conform to the criteria specified by SET, SEC, and the Capital Market Supervisory Board.
- (4) The Internal Audit Office shall be assigned to audit these related transactions and report the findings to the Audit Committee on a quarterly basis. The office shall also define measures for the control, review, and random audit of such transactions to verify that they were actual and complied with the conditions under the contract or the stipulated policy or terms.

Trends for Connected Transactions

BCPG and its subsidiaries have set a policy to avoid undertaking related transactions with potential conflicts of interest. However, we may still engage in connected transactions with BCP Group as necessary and for the continuity of the contracts, such as the lease of land for the 38-MW solar farm, management contract, IT service contract, and the installation of solar panels and service of solar power supply to BCP Group companies.

Other future transactions apart from those mentioned above will be undertaken in compliance with the laws on securities and exchanges, regulations, notifications, orders, or requirements of the Capital Market Supervisory Board, SEC, and SET. For future normal transactions or those normal support transactions that may recur continually, BCPG has set a policy to set a scope for them to ensure the same pattern of normal transactions for all contract partners under the same circumstance and in compliance with the corporate governance code.

In addition, the Internal Audit Office will review such transactions to ensure that the prices are comparable to market prices under general trade conditions similar to other normal business practices while being comparable to other external business partners in the best interests of BCPG. The audit outcomes will be submitted to the Audit Committee on a quarterly basis. If the Audit Committee finds any transactions breaching the policy, it will promptly notify the Board of Directors or the President and jointly find a solution.

Management Discussion and Analysis For 2019 Results

Business Overview

YE2019: BCPG recorded recurring net profit of THB 1,726.3 million, increased THB 36.3 million or by 2.2% from the previous year, although the company recorded the assets monetization of two solar power plant projects (Nagi and Nikaho) in Japan to Infrastructure fund (IFF) last year.

Thanks to the favorable weather in Thailand, resulted it is a positive impact to the Solar farms. As well as, the record revenue from 3 new projects as followed; 1) “Lomligor” project 2) “Nam San 3A” project 3) the private floating solar “Bang Pa-In”, and 4) The full-year revenue recognition of two “War Veterans Organization of Thailand majesty” (WVO) projects, which they were compliment to the revenue of 2 disposal projects; “Nagi” and “Nikaho” as there was an asset monetization to IFF in Q3/2018.

Key Developments

Year 2019

March: Establishment of Joint Venture Company, Impact Energy Asia Development Limited to facilitate future investment in renewable energy business with registered capital of HKD 200. BCPG will hold 45% stake in the company

March: Co-Investment with PEA Encom International Company Limited, a subsidiary of Provincial Electricity Authority or PEA, to establish Thai Digital Energy Development Company Limited (TDED) with registered capital of THB 200 million to invest and develop renewable energy projects, digital energy platform business and energy management business (Energy Saving Company or ESCO).



April: Officially commenced operation of wind power plant project, “Lomligor”, at Nakhon Si Thammarat province on 11 April 2019 with a contracted capacity of 9.0 MW.

June - August: Applied and get selected to participate the Energy Regulatory Commission Sandbox project (ERC Sandbox) with Energy Regulatory Commission (ERC) of 4 smart city projects, which consist of 1) Town Sukhumvit (T77) 2) CMU Smart city 3) Sun Share Smart Green Energy Community and 4) Lomligor project.

September: BCPG Indochina Co., Ltd. (Formally named BCPG Biopower 2 Co.Ltd, a subsidiary of the Company) invested in a hydropower plant project in Laos PDR with total installed capacity of 69.0 MW. through the acquisition of 100% share of Nam San 3A Power Sole Co., Ltd. (Nam San 3A) from Phongsubthavy Roads and Bridges Construction and Irrigation Sole Co., Ltd. (Phongsubthavy) with the amount of not exceeding USD 174.04 million (approximately THB 5,351.50 million)

November: Officially commenced operation of the private floating solar “Bang Pa-In” in Phra Nakhon Si Ayutthaya province, which has a contracted capacity of 2.1 MW.

Year 2020

January: The Nam San 3A project in Lao PDR has successfully signed PPA with Vietnam Electricity (EVN). The project will sell electricity to EVN for 25 years from 2022 onwards. This result the remaining concession has been extended from 2043 to 2047. The average tariff has been increased from its original concession, approximately 10% and the income received will be settled all in USD.

February: on 10 February 2020, BCPG Indochina Co. Ltd., (a subsidiary of the Company) has signed the shares purchase agreement to acquire 100% shares in Nam San 3B Power Sold Co. Ltd., (“Nam San 3B”) to invest in a hydropower plant project with the total capacity of 45 MW. located in Lao PDR from Phongsubthavy Roads and Bridges Construction and Irrigation Sole Co., Ltd. (Phongsubthavy) with a total purchase price of not exceeding USD 113.2 million (or approximately THB 3,447.5 million). The seller expects to transfer all shares by the end of February.

Together with, the signing of joint ownership to invest the Transmission Line system and substation with the seller. The investment will not be exceeding USD 10 million (or approximately THB 304.6 million). The investment is expected to take place within 2020.

Operating Results for Year Ended 2019

Contracted capacity breakdown by countries and types of energy at the end of 2019.

Unit: Equity MW

Country	2017	2018	2019	Δ %
Thailand				
	130.0	139.7	142.2	+1.8
	0.0	0.0	9.0	NA
Japan				
	30.0	14.7	14.7	0.0
Lao PDR				
	0.0	0.0	69.0	NA
Indonesia				
	157.5	157.5	157.5	0.0
the Philippines				
	14.4	14.4	14.4	0.0
Total	331.9	326.3	406.8	24.7

At the end of 2019, total contracted capacity was at 406.8 MW, increased by 24.7% YoY, mainly from;

- (1) Acquisition of Nam San 3A Hydro Power Plant at Lao PDR with a total contracted capacity of 69.0 MW in September 2019
- (2) Commencing operation of Wind power plant “Lomligor”, since April 2019 with a contracted capacity of 9.0 MW.
- (3) Commencing operation of private floating solar “Bang Pa-In”, in Phra Nakhon Si Ayutthaya province since November 2019 with a contracted capacity of 2.1 MW

Operating Performance Breakdown by Geography

Revenue from sales of electricity and other income

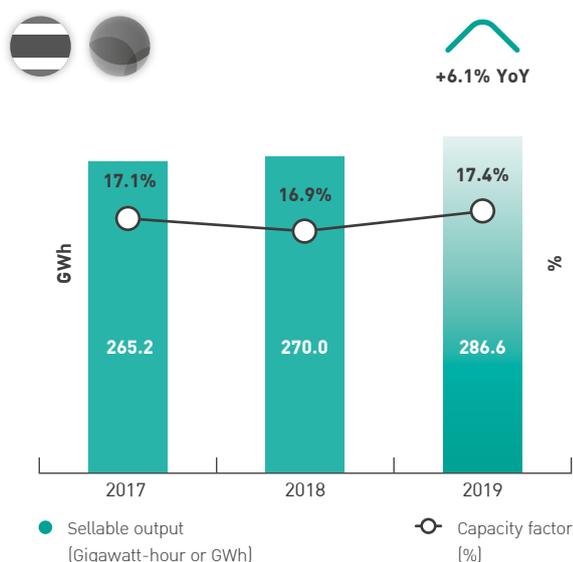
Unit: THB mn	2017	2018	2019	Δ %
Thai	2,841.0	2,857.5	3,057.2	+7.0
Japan	481.5	444.6*	193.1	-56.6
Lao PDR	-	-	148.2	NA
Other operating income	-	18.2	28.1	+54.4
Total	3,322.5	3,320.3	3,426.6	3.2

Remark : * Included revenue from sale of electricity from Nikaho and Nagi Solar Power Plants for 9 months in 2018.

The Company and subsidiaries: Thailand

Solar

Sellable output & Capacity factor



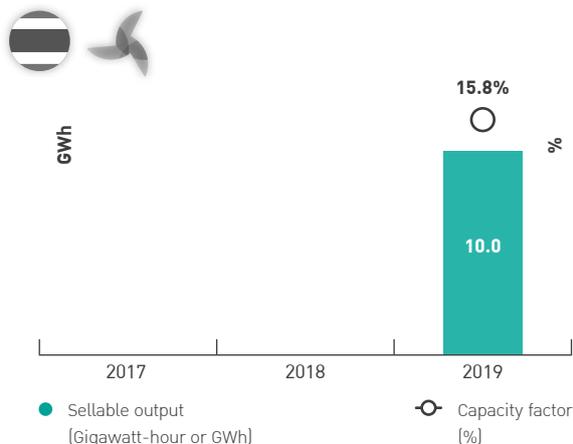
Remark : * Year 2019, the plant has been operated under BCPG for 6 months

For year 2019, solar power plants in Thailand have generated operating revenue of THB 2,993.8 million, increased by 4.8% YoY due to increase of electricity generation by 6.1% YoY to 286.6 GWh mainly from;

- (1) The weather conditions in year 2019 was brighter than the last year.
- (2) The full-year revenue recognition of two “WVO” projects.
- (3) The revenue recognition from new project during year 2019, private floating solar “Bang Pa-In”.

Wind

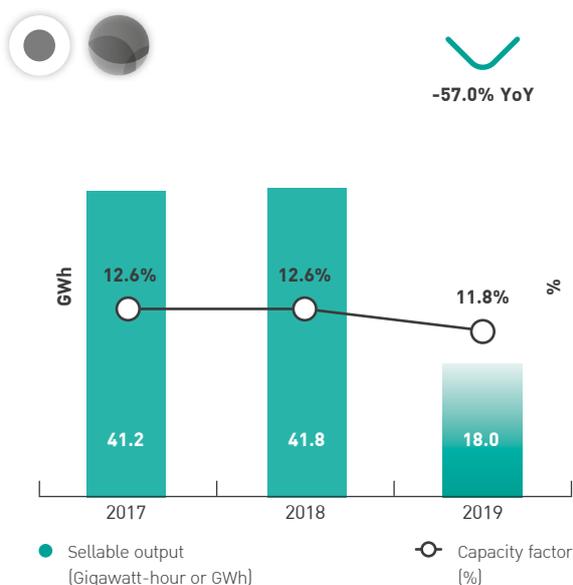
Sellable output & Capacity factor



For year 2019, a wind power plant in Thailand has generated operating revenue of THB 63.4 million from “Lomligor” wind power plant that COD since April 2019.

Subsidiaries: Japan

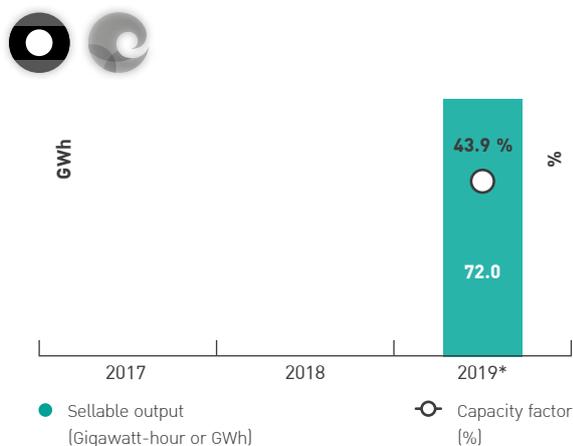
Sellable output & Capacity factor



For year 2019, the revenue from solar power plants in Japan reported at THB 193.1 million, which decreased by 56.6% from last year, which resulted from a decrease of electricity generation by 61.8% YoY to 18.0 GWh, mainly due to assets monetization of two solar power plant projects (Nikaho and Nagi) to IFF in Japan, since 3Q/2018.

Subsidiaries: Lao PDR

Sellable output & Capacity factor

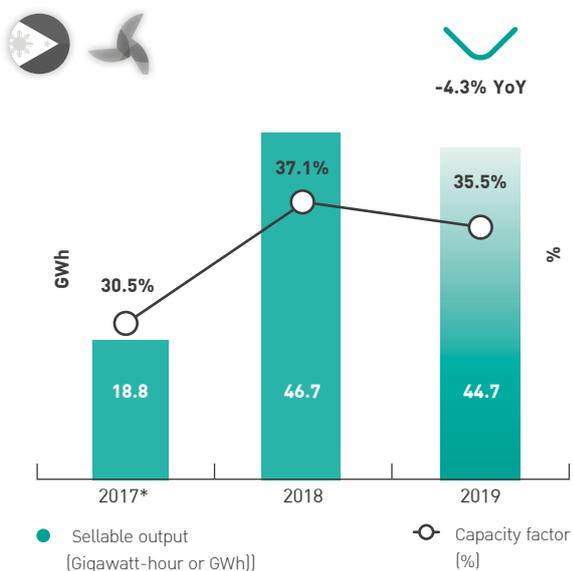


Remark : * Year 2019, the plant has been operate under BCPG for 2 months

For year 2019, a hydropower plant in Lao PDR has generated operating revenue of THB 148.2 million after the Group of Companies acquired in the end of September 2019.

Investment in associates: the Philippines

Sellable output & Capacity factor



Remark : * Year 2017 has recognize share of profits from operation for 7 months
 ** Sellable output calculation according to % holding

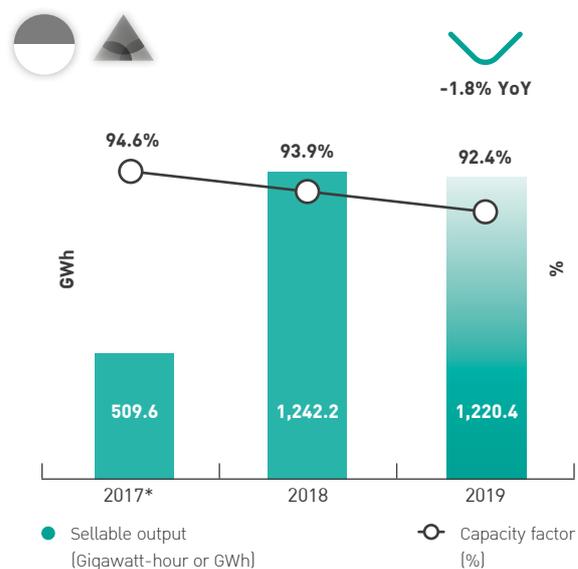
For year 2019, the recorded share of profits from operation (before amortization) of THB 58.7 million, decreased by 19.1% YoY mainly from;

(1) Low wind speed from the same period last year and the shutdown of the transmission line maintenance caused by the typhoon. This led to a decline of average quarterly capacity factor from 37.1% to 35.5%, impacted electricity sellable outputs dropped by 4.3% YoY to 44.7 GWh.

(2) Increase in interest expense followed a higher of the policy rate in the Philippines. However, the associates have already negotiated to a lower level since July 2019.

Investment in associates: Indonesia

Sellable output & Capacity factor



Remark : * Year 2017 has recognize share of profits from operation for 5 months
 ** Sellable output calculation according to % holding

For year 2019, the Group of Companies recorded share of profits from operation (before amortization) of THB 723.0 million, decreased by 5.0% from last year, mainly from a declined of average quarterly capacity factor from 93.9% to 92.4% caused by the planned shutdown and one-time item as aforementioned. The Company has set tax provision of THB 20 million in Q4/2019 as extraordinary item, however, it' s under the process of tax refund.

Overall Business Performance

Unit: THB million	2017 Restated	2018	2019	Δ %
Revenue from sale and rendering of service	3,322.5	3,320.3	3,426.6	+3.2
Cost of sale and rendering of services	(968.5)	(969.1)	(961.4)	-0.8
Gross profit	2,354.0	2,351.2	2,465.2	+4.8
Administrative expenses	(658.9)	(591.4)	(574.7)	-2.8
Administrative expenses	(658.9)	(548.2)	(574.7)	+4.8
Tax income/expense related to IFF	0.0	(43.2)	-	NA
EBITDA	2,397.3	2,452.8	2,580.8	+5.2
Operating profit	1,695.1	1,759.8	1,890.5	+7.4
Share of profit of investment in associates	507.5	203.7	354.7	+74.1
Other income/(expense)	245.0	909.5	19.7	-97.8
(Loss) from foreign currency forward contracts	(304.2)	-	-	NA
Gain/(loss) on foreign exchange	72.4	(27.6)	95.4	NA
Other income	245.0	909.5	19.7	-97.8
Other expense (Business & Inhabitant tax from IFF)	0.0	(43.2)	0.0	NA
EBIT	1,708.4	2,641.7	2,005.6	-24.1
Finance costs	(436.1)	(520.6)	(567.9)	+9.1
EBIT	1,779.8	2,324.8	1,792.4	-22.9
Income tax expense (benefit)	(5.6)	(105.6)	8.3	NA
Income tax expense (benefit)	(5.6)	(18.3)	8.3	NA
Tax expense related to IFF	0.0	(87.3)	-	NA
Minority interest	-	-	0.7	NA
Net profit	1,774.2	2,219.2	1,801.4	-18.8
Recurring profit*	1,461.5	1,690.0	1,726.3	2.2
Basic Earnings per Share (THB)	0.89	1.11	0.90	-18.9

Remark: * Excluding gain/(loss) on FX and one-time items

Financial Position of the Group of Companies as at 2019

Revenue

For year 2019, total revenue was at THB 3,426.6 million, slightly increased by 3.2% YoY due to (1) the full-year revenue recognition of two “WVO” projects (2) 3 new projects revenue recognition in 2019 “Nam San 3A”, “Lomligor” and private floating solar “Bang Pa-In” projects. As well as, the weather conditions in 2019 was brighter than the last year.

Gross profit

Unit: %	2017	2018	2019
Gross profit margin	70.9	70.8	71.9

For year 2019, the gross profit was at THB 2,465.2 million, increased by 4.8% YoY, due to more favorable weather conditions in Thailand and revenue recognitions of two “WVO”, “Lomligor”, “Nam San 3A” and private floating solar “Bang Pa-In” projects as aforementioned.

Administrative expense

Unit: %	2017	2018	2019
SG&A / Sales	19.8	17.8	16.8

For year 2019, the administrative expense was at THB 575.0 million, increased by 4.9% YoY mainly due to a recognition of financial advisor expenses in technical, accounting and Legal due diligence that related to acquisition of hydropower plant in September 2019.

However, administrative expense to sales ratio in 2019 slightly drop from 2018.

EBITDA from operation

For year 2019, EBITDA from the operation was at THB 2,580.8 million in tandem with total revenue, increased by 5.2% from last year.

Share of profit of investment in associates

Share of profit of investment in associate's breakdown:

Share of profit from operation
(before one-time items)

Unit: THB million	2017 Restated	2018	2019
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Wind power plant in the Philippines

Share of profit from operation	1.1	72.6	58.7
Amortization	-21.6	-33.3	-32.0
Net share of profit	-20.5	39.3	26.6

Geothermal power plant in Indonesia

Share of profit from operation	332.6	761.3	723.0
Amortization	-166.4	-390.4	-375.0
Net share of profit	166.2	370.9	348.0
Total share of profit (before amortization)	333.7	833.9	781.6
Total net share of profit	145.7	410.2	374.6

For year 2019, the share of profit from investment in associates (before amortization) was at THB 781.6 million, decreased by 6.3% YoY, mainly from;

- (1) Low wind speed from the same period last year and the shutdown of the transmission line maintenance caused by the typhoon in Q4/2019
- (2) Geothermal power plant in Indonesia shut down according to the maintenance plan.

One-time item:

Unit: THB million	2017 Restated	2018	2019
Total net share of profit	145.7	410.2	374.6

Geothermal power plants in Indonesia

Gain on purchase	361.8	-	-
Refinancing related expense	-	-122.7	-
Tax provision	-	-83.8	-20.0
Total one-time items	361.8	-206.5	-20.0
Total share of profit of investment in associates	507.5	203.7	354.7

However, if it was included one-time item from tax provision in both 2018 and 2019 for THB 83.8 million and THB 20.0 million respectively and refinance related expenses for Geothermal power plants amount of THB 122.7 million in Q2/2018, resulting the total net share of profit in associates in year 2019 recorded THB 354.7 million, increased by 74.1% from THB 203.7 million from the past year.

Other income

For year 2019, the Group of Companies recorded other income at THB 19.7 million, decreased by 97.8% YoY due to one-time profit in year 2018 which are

- (1) recorded of assets monetization in Japan to IFF in Q3/2018 at THB 793.0 million
- (2) and insurance claims for solar power plant in Japan, "Nagi", caused by typhoon in Q2/2018 at THB 100.9 million.

Gain/ (loss) from foreign exchange

For year 2018, the company booked FX gain of THB 95.4 million compared to FX losses of THB 27.6 million in the past year due to an impact from THB appreciation against USD and JPY resulted to lower debt exposure in THB terms (given net liability balance sheet exposure as a foreign currency).

Finance costs

Unit: %	2017	2018	2019
Average finance costs *	3.2	3.2	3.2

Remarks: * The average finance costs calculated by an average of the interest bearing debt of that period.

In year 2019, the company recorded finance costs of THB 567.9 million, increased by 9.1% YoY due to loan to be used for investment in “Nam San 3A” project.

Corporate income tax

For 2019, the company recorded CIT of THB 8.3 million which dramatically drop from last year at THB 105.6 million mainly from, in the year 2018, there was a recognition of related tax in accordance with Japan assets monetization to IFF in Q3/2018.

Net profit

Unit: %	2017	2018	2019
Net profit margin	53.4	66.8	52.6

For year 2019, the company recorded a net profit of THB 1,801.4 million, decreased by 18.8% YoY or THB 417.8 million from THB 2,219.2 million due to assets monetization of two solar power plant projects (Nikaho and Nagi) to IFF in Q3/2018, which recorded selling income (before tax) amount of THB 793.0 million.

Recurring net profit

Unit: %	2017	2018	2019
Recurring net profit margin	44.0	50.9	50.4

Interest-bearing debt breakdown by maturity:

Maturity	2017	%	2018	%	2019	%	Δ %
< 1 year	1,415.2	8.3	1,520.6	9.8	3,855.0	19.4	+9.6
1– 5 year	5,522.0	32.4	11,430.1	73.4	14,065.9	70.7	-2.7
> 5 year	10,091.1	59.3	2,616.5	16.8	1,960.2	9.9	-6.9
Total	17,028.4	100.0	15,567.2	100.0	19,881.2	100.0	

In addition, interest-bearing debt breakdown by currency shows that the largest proportion of debts is THB terms, followed by interest-bearing debts in JPY and USD terms. However, there is increased in interest-bearing debt in USD and THB, while decreased in interest-bearing debt in JPY.

For year 2019, the company recorded recurring net profit of THB 1,726.3 million, increase by 2.2% YoY; mainly from full-year revenue recognition of existing project and the new projects during the period as mentioned.

Financial position as at 31 December 2019

Assets

Total assets were at THB 37,136.6 million, increased from end-2018 at THB 5,578.7 million or 17.7% mainly from; increasing from intangible asset and goodwill totaling by THB 5,236.5 million, which resulted from acquiring the hydropower plant “Nam San 3A” in Laos.

Property Plant and Equipment (PPE) were at THB 13,675.6 million, increased by 5.6% mainly due to increase of machinery and equipment after a commenced operation of wind power plant project, “Lomligor” in Q2/2019 and increased of construction work in process at solar power plants in Japan.

Liability and Shareholders' equity

Total liabilities is at 21,581.4 million, marginally increased by 31.5%, mainly due to the increase of the interest-bearing debt - which increased by 27.7% to THB 19,881.2 million - being used as a source of fund to acquire the hydropower plant Nam San 3A in Laos.

A detailed breakdown is in the table below:

Currency (%)	2017	2018	2019	Δ %
THB	45.3	51.1	58.8	+7.7
JPY	52.8	43.0	30.6	-12.4
USD	1.9	5.9	10.6	+ 4.7
Total	100.0	100.0	100.0	

A detailed breakdown is in the table below:

Furthermore, interest-bearing debt breakdown by type of interest rates namely fixed rate and floating rate are as followed:

Type of interest rate (%)	2017	2018	2019	Δ %
Fixed rate	21.5	9.8	10.6	+0.8
Floating rate	78.5	90.2	89.4	-0.8
Total	100.0	100.0	100.0	

The interest-bearing debt year 2019 is slightly increased, compared to end-2018.

Equity attributable to owners of the company worth THB 15,555.1 million, slightly increased by 2.7% compared to end-2018.

Cash flow of the Company and subsidiaries

At the end of 2019, net cash flow from operating activities was at THB 2,119.6 million.

Net cash flow from investing activities during year 2019 was at THB 5,951.0 million, mainly due to 3 investment activities;

- (1) Investment for the acquisition of the hydropower plant in Laos in Q3/2019.
- (2) Investment for the construction of solar power plants in Japan.
- (3) Investment for Lomligor" wind power plant which has commenced its operation in Q2/2019.

Net cash outflow for financing activities during year 2019 was at THB 2,901.5, which was mainly used for the acquisition of the hydropower plant in Lao PDR.

Cash and cash equivalents at end of 2019 were at THB 1,445.2 million.

Key financial ratios:

	2017 Restated	2018	2019	Δ %
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Profitability Ratio

Gross profit margin (%)	70.9	70.8	71.9	+1.6
EBITDA margin (%)	72.2	73.9	75.3	+2.0
Net profit margin (%)	53.4	66.8	52.6	-21.3
ROE (%)	12.8	15.2	11.7	-22.6
ROA (%)	6.2	7.0	5.3	-25.1

Liquidity ratio

Current ratio (x)	1.6	1.6	0.5*	-69.7
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Leverage ratio

Interest-bearing debt/equity (x)	1.2	1.0	1.3	+24.7
Net interest-bearing debt/equity (x)	1.1	0.9	1.2	+37.0
Total liability/equity (x)	1.3	1.1	1.4	+28.0

Remark : * short-term impact caused by Bridging Loan or short-term loan used for acquiring the hydro power plant. This loan will be reclassified as Long-term loan afterwards.

Analysis of key ratios as at 31 December 2019

Gross profit margin and EBITDA margin in 2019 slightly increased in accordance to well-managed operating performance projects in Thailand.

However, Net Profit Margin in 2019 decreased by 21.3% from the past year, mainly due to assets disposal of solar power plants at Nagi and Nikaho projects to IFF in Q3/2018, which recorded selling income (before tax) of THB 794.7 million.

Interest-bearing debt to Equity at end of 2019 has increased to 1.3x from 1.0x, compared to the end of 2018, mainly due to the acquisition of the hydropower plant in Lao PDR.

Key factors which could affect to company's performance

The company estimates key factors which could affect its short-term operations as follow:

- (1) (+/-) Changes in the policy of the government and other related parties in conducting businesses in Thailand and Japan. The change might affect the company's under-construction projects and the prospect of business in the future.
- (2) (+) An increase in Ft. rate will positively support revenue of solar farms in Thailand.
- (3) (+/-) The appreciation of THB against JPY and USD will allow the company to book gain in FX translation due to net liability balance sheet exposure (mainly in JPY currency). In contrast, the weakening THB against JPY and USD will allow the company to book loss in FX translation while revenue in THB terms (translate from JPY currency) tends to increase.
- (4) (+/-) A change in interest rate is expected to allow the financial cost of the company to change slightly since approximately 90% of the company's interest-bearing debt bear with floating rates. However, the company believes that the financial cost will be well-managed under the prudent financial policy.

- (5) (+/-) Seasonality factors in each country have impact on electricity generation performance of the group of the company from renewable energy including Solar conditions, Wind and Hydro. For example, in rainy season, electricity generation from solar will decrease while, on the other hand, electricity generation from hydro will increase.

Dividend policy

Not less than 40% of the Company's net profit based on the separate financial statements, after having deducted all type of the reserve fund as required by the Company's articles of association and laws (with additional conditions).

Historical Dividend

Dividend payment	THB/Share	Type	Payout ratio
9M2019 operations	0.48	Cash	70.6%
2018 operations	0.64	Cash	57.7%
2017 operations	0.61	Cash	68.5%

Board's Responsibility for Financial Reports

The Board of Directors is responsible for BCPG Group's financial statements and consolidated financial statements as well as financial information available in the 2019 annual report. These statements were prepared under a financial reporting standard that recommends a proper accounting policy, which was adopted and consistently observed, with prudent exercise of discretion for sensible estimates. For the benefit of shareholders and investors as a whole, material data have been adequately and transparently disclosed in the notes to the financial statements.

The Board has instituted corporate governance along with proper risk management and internal control systems to ensure that all account entries are accurate, complete, timely, and adequate for BCPG to maintain company assets and prevent fraud or significant irregularities. To this end, the Board appointed an Audit Committee of independent directors that are qualified by SET's requirements to oversee the review of financial reports' credibility and accuracy, assess the internal control and internal audit systems for efficiency and effectiveness, disclose connected transactions involving related businesses or parties, and comply with applicable laws, regulations, and directives. The Audit Committee's views appear in its own report, which is also found in this annual report.

BCPG Group's financial statements and consolidated financial statements have undergone an audit by KPMG Phoomchai Audit Ltd., which serves as the external auditor of data and documents supplied by the Board for its auditing and comments under its standard. The external auditor has expressed its unqualified views as seen in its report, which also appears in this annual report.

It is the Board's view that BCPG's internal control and internal audit systems can ensure users' reasonable confidence that the financial statements and consolidated financial statements of BCPG Group for the year ended December 31, 2019, are materially accurate under the adopted financial reporting standard.



Mr. Pichai Chunchavajira
Chairman of the Board



Mr. Bundit Sapianchai
President

Independent Auditor's Report

To the Shareholders of BCPG Public Company Limited

Opinion

I have audited the consolidated and separate financial statements of BCPG Public Company Limited and its subsidiaries (the "Group") and of BCPG Public Company Limited (the "Company"), respectively, which comprise the consolidated and separate statements of financial position as at 31 December 2019, the consolidated and separate statements of income and comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2019 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements section of my report. I am independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that is relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key Audit Matters

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

Acquisition of subsidiary

Refer to Notes 4 (a), 5 and 13 to the financial statements.

The key audit matter

In September 2019, the Group has completed the acquisition of hydropower plant project in The Lao People's Democratic Republic. The management has estimated the fair value of net assets acquired including consideration transferred with the differences which was recognised as goodwill.

Due to the materiality of the transactions and the significant judgment and complexities involved in determining the fair value, I considered as the key audit matter.

How the matter was addressed in the audit

My audit procedures included the following:

- Inquired management and understood on the procedures on identification of fair value on net assets acquired which was prepared by the management.
- Read the share sale and purchase agreement, evaluated the appropriateness of the identification of the net assets acquired at the date of acquisition.
- Evaluated the independence and competency of independent appraiser.
- Involved KPMG specialist to evaluate valuation methodology and financial parameters applied to the discount rate .
- Evaluated significant assumptions underpinning the valuations reference to internal and external information and mathematical accuracy.
- Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.

Impairment testing of an investment in associate

Refer to Notes 4 (i) and 11 to the financial statements.

The key audit matter

The Company has an investment in associate in Indonesia and there are risks from various external factors such as the fluctuation in economies, politics and laws. There is a risk that the operating results and the investments might be significantly less than the initial forecast and budget and might result in the assets' carrying value being higher than the recoverable amounts, which might represent losses from impairment.

Due to the materiality of the transactions, the management's significant judgment and complexities involved in estimating a recoverable amount of investment in associate from discounted cash flow method, I considered as the key audit matter.

How the matter was addressed in the audit

My audit procedures included the following:

- Understand the management's operation plan, process of the indicators identification and impairment testing process and tested the calculation of recoverable amount prepared by the management.
- Assessed the key assumptions estimated by the management with reference to internally and externally derived sources after taking into account the historical forecasting accuracy.
- Evaluated the appropriateness of valuation methodology and financial parameters applied to the discount rate.
- Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.

Emphasis of Matter

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

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor's report thereon. The annual report is expected to be made available to me after the date of this auditor's report.

My opinion on the consolidated and separate financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

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

Responsibilities of Management and Those Charged with Governance for the Consolidated and Separate Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements

My objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Waiyawat l.

(Waiyawat Kosamarnchaiyakij)

Certified Public Accountant Registration No. 6333

KPMG Phoomchai Audit Ltd. Bangkok

18 February 2020

BCPG Public Company Limited and its Subsidiaries
Statement of financial position

Assets	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
		2019	2018	2019	2018
<i>(in Baht)</i>					
Current assets					
Cash and cash equivalents	7	1,445,192,475	2,425,311,808	264,242,718	194,467,866
Trade accounts receivable	8	640,436,353	523,816,182	131,014,756	130,478,381
Other receivables	6, 9	168,854,825	222,935,898	314,427,049	110,784,069
Short-term loan to related party	6	-	-	-	255,000,000
Current portion of long-term loan to related parties	6	-	-	2,035,604,060	1,240,138,310
Current tax assets		198,392,926	3,177,760	-	3,075,799
Total current assets		2,452,876,579	3,175,241,648	2,745,288,583	1,933,944,425
Non-current assets					
Investments in subsidiaries	6, 10	-	-	6,232,295,453	6,589,795,478
Investments in associates	11	13,623,768,489	13,500,703,702	11,889,196,670	11,956,425,502
Other receivables	6, 9	1,813,396	103,032,263	218,398,737	231,318,955
Long-term loan to related parties	6	151,982,807	-	7,997,585,449	3,883,174,097
Property, plant and equipment	12	13,675,581,013	12,945,349,357	3,221,873,460	3,194,989,216
Goodwill	5, 13	318,353,884	-	-	-
Intangible assets	14	6,683,725,943	1,765,576,832	63,700,467	72,790,767
Deferred tax assets		1,702,528	148,123	1,425,663	-
Other non-current assets		226,766,648	67,824,478	9,813,949	2,863,197
Total non-current assets		34,683,694,708	28,382,634,755	29,634,289,848	25,931,357,212
Total assets		37,136,571,287	31,557,876,403	32,379,578,431	27,865,301,637

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Statement of financial position

	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
Liabilities and equity		2019	2018	2019	2018
		<i>(in Baht)</i>			
Current liabilities					
Other payables	6, 15	398,445,610	337,853,393	212,455,837	89,414,455
Short-term borrowings from financial institutions	16	2,570,000,000	250,000,000	2,570,000,000	250,000,000
Current portion of long-term borrowings from financial institutions	16	1,285,004,538	1,270,576,044	1,070,886,171	1,063,514,728
Income tax payable		666,550	96,009,024	-	-
Other current provision	5	733,046,858	-	-	-
Total current liabilities		4,987,163,556	1,954,438,461	3,853,342,008	1,402,929,183
Non-current liabilities					
Long-term borrowings from related parties	6	-	-	-	500,000,000
Long-term borrowings from financial institutions	16	16,026,146,932	14,046,590,896	14,705,449,514	12,464,553,892
Deferred tax liabilities		508,403,419	362,224,308	-	3,352,443
Non-current provisions for employee benefit		20,921,037	13,803,566	14,751,621	9,129,812
Provision for the decommissioning cost		30,321,522	32,702,441	-	-
Other non-current liabilities		8,467,622	5,873,076	7,624,257	5,873,075
Total non-current liabilities		16,594,260,532	14,461,194,287	14,727,825,392	12,982,909,222
Total liabilities		21,581,424,088	16,415,632,748	18,581,167,400	14,385,838,405

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Statement of financial position

	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
Liabilities and equity		2019	2018	2019	2018
<i>(in Baht)</i>					
Equity					
Share capital:	17				
Authorised share capital		10,000,000,000	10,000,000,000	10,000,000,000	10,000,000,000
Issued and paid-up share capital		9,994,459,905	9,984,137,300	9,994,459,905	9,984,137,300
Share premium					
Share premium on ordinary shares	18	2,926,873,783	2,902,544,754	2,926,873,783	2,902,544,754
Surplus on business restructuring under common control	18	41,025,877	41,025,877	-	-
Warrants	18	2,934,803	11,890,726	2,934,803	11,890,726
Retained earnings					
Appropriated					
Legal reserve	18	305,544,342	226,935,419	305,544,342	226,935,419
Unappropriated		2,348,903,291	1,959,092,292	568,598,198	353,955,033
Other components of equity		(114,022,764)	16,470,333	-	-
Equity attributable to owners of the parent		15,505,719,237	15,142,096,701	13,798,411,031	13,479,463,232
Non-controlling interests		49,427,962	146,954	-	-
Total equity		15,555,147,199	15,142,243,655	13,798,411,031	13,479,463,232
Total liabilities and equity		37,136,571,287	31,557,876,403	32,379,578,431	27,865,301,637



(Pichai Chunchavajira)
Chairman



(Bundit Sapianchai)
President

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Statement of income

	Note	Consolidated financial statements		Separate financial statements	
		Year ended 31 December		Year ended 31 December	
		2019	2018	2019	2018
		<i>(in Baht)</i>			
Income					
Revenue from sale and rendering of services	6, 20, 27	3,426,611,580	3,320,322,723	820,598,063	755,112,708
Interest and dividend income	6, 21	6,004,892	4,768,722	1,826,249,597	1,678,563,404
Net gain on foreign exchange		95,431,501	-	104,625,709	-
Gain on disposal of assets		-	-	-	6,043
Gain on disposal of assets to infrastructure fund		-	792,959,362	-	-
Other income	6	14,048,991	111,763,466	21,024	570,897
Total income		3,542,096,964	4,229,814,273	2,751,494,393	2,434,253,052
Expenses					
Cost of sale and rendering of services	6	961,429,713	969,076,264	282,935,615	251,652,258
Administrative expenses	6, 22	575,033,814	591,443,110	401,105,964	353,696,650
Net loss on foreign exchange		-	27,618,908	-	53,011,258
Finance costs	6, 25	567,850,157	520,569,740	500,052,454	413,252,892
Total expenses		2,104,313,684	2,108,708,022	1,184,094,033	1,071,613,058
Share of profit of investment in associates	11	354,658,947	203,693,398	-	-
Profit before income tax expense		1,792,442,227	2,324,799,649	1,567,400,360	1,362,639,994
Tax expense (income)	26	(8,316,370)	105,571,385	(4,778,106)	13,197,569
Profit for the year		1,800,758,597	2,219,228,264	1,572,178,466	1,349,442,425
Profit (loss) attributable to:					
Owners of parent		1,801,423,594	2,219,228,264	1,572,178,466	1,349,442,425
Non-controlling interests		(664,997)	-	-	-
Profit for the year		1,800,758,597	2,219,228,264	1,572,178,466	1,349,442,425
Earnings per share					
	28				
Basic earnings per share <i>(Baht)</i>		0.90	1.11	0.79	0.68
Diluted earnings per share <i>(Baht)</i>		0.90	1.11	0.79	0.67

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Statement of comprehensive income

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2019	2018	2019	2018
	<i>(in Baht)</i>			
Profit for the year	1,800,758,597	2,219,228,264	1,572,178,466	1,349,442,425
Other comprehensive income				
<i>Item that will be reclassified</i>				
<i>subsequently to profit or loss</i>				
Exchange differences on translating financial statements	(126,157,564)	(24,222,134)	-	-
Total item that will be reclassified	(126,157,564)	(24,222,134)	-	-
<i>Item that will not be reclassified</i>				
<i>subsequently to profit or loss</i>				
Gains (losses) on remeasurements of defined benefit plans	-	9,219,134	-	(430,196)
Share of other comprehensive income (loss) of associates	(4,335,533)	28,020,286	-	-
Total item that will not be reclassified	(4,335,533)	37,239,420	-	(430,196)
Other comprehensive income (loss) for the year,				
net of tax	(130,493,097)	13,017,286	-	(430,196)
Total comprehensive income for the year	1,670,265,500	2,232,245,550	1,572,178,466	1,349,012,229
Total comprehensive income attribution to:				
Owners of the parent	1,670,930,497	2,232,245,550	1,572,178,466	1,349,012,229
Non-controlling interests	(664,997)	-	-	-
Total comprehensive income for the year	1,670,265,500	2,232,245,550	1,572,178,466	1,349,012,229

(Pichai Chunhavajira)
Chairman

(Bundit Sapianchai)
President

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries

Statement of changes in equity

		Consolidated financial statements										
		Retained earnings					Other components of shareholders' equity					
		Surplus on business restructuring under common control		Share of other components of shareholders' equity			Total other components of shareholders' equity		Equity attributable to owners of parent		Non-controlling interests	Total equity
		Issued and paid-up share capital	Share premium on ordinary shares	Warrants	Legal reserve	Unappropriated	Translating financial statements	Share of other comprehensive income (loss) of associates	Shareholders' equity	Equity attributable to owners of parent	Non-controlling interests	Total equity
		<i>(in Baht)</i>										
Year ended 31 December 2018		9,961,521,535	2,849,332,559	27,224,284	159,463,298	1,075,615,025	32,678,081	(20,005,900)	12,672,181	14,126,854,759	146,954	14,127,001,713
Balance at 1 January 2018												
Transactions with owners, recorded directly in equity												
<i>Contributions by and distributions to owners of the parent</i>												
	Shares options exercised	22,615,765	53,212,195	(22,230,466)	-	-	-	-	-	53,597,494	-	53,597,494
	Share-based payment transactions	-	-	6,896,908	-	-	-	-	-	6,896,908	-	6,896,908
	Dividends to owners of the Company	-	-	-	-	(1,277,498,010)	-	-	-	(1,277,498,010)	-	(1,277,498,010)
	Total transactions with owners, recorded directly in equity	22,615,765	53,212,195	(15,333,558)	-	(1,277,498,010)	-	-	-	(1,217,003,608)	-	(1,217,003,608)
Comprehensive income for the year												
	Profit	-	-	-	-	2,219,228,264	-	-	-	2,219,228,264	-	2,219,228,264
	Other comprehensive income (loss)	-	-	-	-	9,219,134	(24,222,134)	28,020,286	3,798,152	13,017,286	-	13,017,286
	Total comprehensive income (loss) for the year	-	-	-	-	2,228,447,398	(24,222,134)	28,020,286	3,798,152	2,232,245,550	-	2,232,245,550
	Transfer to legal reserve	-	-	-	67,472,121	(67,472,121)	-	-	-	-	-	-
	Balance at 31 December 2018	9,984,137,300	2,902,544,754	11,890,726	226,935,419	1,959,092,292	8,455,947	8,014,386	16,470,333	15,142,096,701	146,954	15,142,243,655

BCPG Public Company Limited and its Subsidiaries

Statement of changes in equity

		Consolidated financial statements											
		Retained earnings		Other components of shareholders' equity				Share of other comprehensive income (loss) of associates		Total other components of shareholders' equity			
		Surplus on business restructuring under common control	Legal reserve	Unappropriated	Translating financial statements	Share of other comprehensive income (loss) of associates	Equity attributable to owners of parent	Non-controlling interests	Total equity				
		<i>(in Baht)</i>											
Note	Year ended 31 December 2019	9,984,137,300	2,902,544,754	41,025,877	11,890,726	226,935,419	1,959,092,292	8,455,947	8,014,386	16,470,333	15,142,096,701	146,954	15,142,243,655
	Balance at 1 January 2019 - As previously reported	9,984,137,300	2,902,544,754	41,025,877	11,890,726	226,935,419	1,904,960,978	8,455,947	8,014,386	16,470,333	15,087,965,387	146,954	15,088,112,341
	Impact of changes in accounting policies (net of tax)	-	-	-	-	-	(54,131,314)	-	-	-	(54,131,314)	-	(54,131,314)
	Balance at 1 January 2019 - As restated	9,984,137,300	2,902,544,754	41,025,877	11,890,726	226,935,419	1,904,960,978	8,455,947	8,014,386	16,470,333	15,087,965,387	146,954	15,088,112,341
	Transactions with owners, recorded directly in equity												
	<i>Contributions by and distributions to owners of the parent</i>												
17, 18	Shares options exercised	10,322,605	24,329,029	-	(10,141,301)	-	-	-	-	-	24,510,333	-	24,510,333
17	Share-based payment transactions	-	-	-	1,185,378	-	-	-	-	-	1,185,378	-	1,185,378
29	Dividends to owners of the Company	-	-	-	-	(1,278,926,378)	-	-	-	-	(1,278,926,378)	-	(1,278,926,378)
	<i>Total transactions with owners, recorded directly in equity</i>	10,322,605	24,329,029	-	(8,955,923)	-	(1,278,926,378)	-	-	-	(1,253,230,667)	-	(1,253,230,667)
	<i>Changes in ownership interests in subsidiaries</i>												
	Changes in ownership interests in subsidiaries without a change in control	-	-	-	-	-	54,020	-	-	-	54,020	49,946,005	50,000,025
	<i>Total changes in ownership interests in subsidiaries</i>	-	-	-	-	-	54,020	-	-	-	54,020	49,946,005	50,000,025
	Total transactions with owners, recorded directly in equity	10,322,605	24,329,029	-	(8,955,923)	-	(1,278,872,358)	-	-	-	(1,253,176,647)	49,946,005	(1,203,230,642)
	Comprehensive income (loss) for the year												
	Profit (loss)	-	-	-	-	-	1,801,423,594	-	-	-	1,801,423,594	(664,997)	1,800,758,597
	Other comprehensive income (loss)	-	-	-	-	-	(126,157,564)	(4,335,533)	(4,335,533)	(130,493,097)	(130,493,097)	-	(130,493,097)
	Total comprehensive income (loss) for the year	-	-	-	-	-	1,801,423,594	(4,335,533)	(4,335,533)	(130,493,097)	1,670,930,497	(664,997)	1,670,265,500
	Transfer to legal reserve	-	-	-	-	78,608,923	(78,608,923)	-	-	-	-	-	-
	Balance at 31 December 2019	9,994,459,905	2,926,873,783	41,025,877	2,934,803	305,544,342	2,948,903,291	(117,701,617)	3,678,853	(114,022,764)	15,505,719,237	49,427,962	15,555,147,199

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Statement of changes in equity

	Note	Separate financial statements					Total equity
		Issued and paid-up share capital	Share premium on ordinary shares	Warrants	Retained earnings	Unappropriated	
				<i>(in Baht)</i>			
Year ended 31 December 2018							
Balance at 1 January 2018		9,961,521,535	2,849,332,559	27,224,284	159,463,298	349,912,935	13,347,454,611
Transactions with owners, recorded directly in equity							
<i>Contributions by and distributions to owners of the parent</i>							
Shares options exercised	17, 18	22,615,765	53,212,195	(22,230,466)	-	-	53,597,494
Share-based payment transactions	17	-	-	6,896,908	-	-	6,896,908
Dividends to owners of the Company	29	-	-	-	-	(1,277,498,010)	(1,277,498,010)
Total transactions with owners, recorded directly in equity		22,615,765	53,212,195	(15,333,558)	-	(1,277,498,010)	(1,217,003,608)
Comprehensive income for the year							
Profit		-	-	-	-	1,349,442,425	1,349,442,425
Other comprehensive income (loss)		-	-	-	-	(430,196)	(430,196)
Total comprehensive income for the year		-	-	-	-	1,349,012,229	1,349,012,229
Transfer to legal reserve	18	-	-	-	67,472,121	(67,472,121)	-
Balance at 31 December 2018		9,984,137,300	2,902,544,754	11,890,726	226,935,419	353,955,033	13,479,463,232

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries

Statement of changes in equity

	Note	Separate financial statements						Total equity
		Issued and paid-up share capital	Share premium on ordinary shares	Warrants	Retained earnings			
					Legal reserve	Unappropriated		
(in Baht)								
Year ended 31 December 2019								
Balance at 1 January 2019		9,984,137,300	2,902,544,754	11,890,726	226,935,419	353,955,033		13,479,463,232
Transactions with owners, recorded directly in equity								
<i>Contributions by and distributions to owners of the parent</i>								
Shares options exercised	17, 18	10,322,605	24,329,029	(10,141,301)	-	-		24,510,333
Share-based payment transactions	17	-	-	1,185,378	-	-		1,185,378
Dividends to owners of the Company	29	-	-	-	-	(1,278,926,378)		(1,278,926,378)
Total transactions with owners, recorded directly in equity		10,322,605	24,329,029	(8,955,923)	-	(1,278,926,378)		(1,253,230,667)
Comprehensive income for the year								
Profit		-	-	-	-	1,572,178,466		1,572,178,466
Other comprehensive income		-	-	-	-	-		-
Total comprehensive income for the year		-	-	-	-	1,572,178,466		1,572,178,466
Transfer to legal reserve	18	-	-	-	78,608,923	(78,608,923)		-
Balance at 31 December 2019		9,994,459,905	2,926,873,783	2,934,803	305,544,342	568,598,198		13,798,411,031

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Statements of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2019	2018	2019	2018
	<i>(in Baht)</i>			
<i>Cash flows from operating activities</i>				
Profit for the year	1,800,758,597	2,219,228,264	1,572,178,466	1,349,442,425
<i>Adjustments for</i>				
Income tax expense (income)	(8,316,370)	105,571,385	(4,778,106)	13,197,569
Finance costs	567,850,157	520,569,740	500,052,454	413,252,892
Depreciation and amortisation	690,247,986	693,151,101	198,172,759	179,026,527
Unrealised (gain) loss on foreign exchange	(31,356,230)	62,370,281	(60,606,678)	85,926,500
Provision for employee benefit	7,929,510	9,556,238	5,621,809	4,388,155
Share-based payment transactions	1,185,378	6,896,908	1,185,378	6,896,908
Interest income and dividend income	(6,004,892)	(4,768,722)	(1,826,249,597)	(1,678,563,404)
Share of profit of investment in associates, net of tax	(354,658,947)	(203,693,398)	-	-
Gain on disposal of assets	-	(789,936,719)	-	(6,043)
	<u>2,667,635,189</u>	<u>2,618,945,078</u>	<u>385,576,485</u>	<u>373,561,529</u>
<i>Changes in operating assets and liabilities</i>				
Trade accounts receivable	(50,193,539)	(16,258,248)	(536,375)	(13,260,994)
Other receivables	65,069,037	(37,063,589)	(10,363,765)	(9,318,573)
Other non-current assets	(161,063,545)	14,262,994	(362,039)	-
Other payables	(102,148,419)	(97,246,609)	6,850,996	(5,853,358)
Other non-current liabilities	<u>2,594,547</u>	<u>1,737,771</u>	<u>1,751,182</u>	<u>1,737,771</u>
Net cash generated from operating	2,421,893,270	2,484,377,397	382,916,484	346,866,375
Taxes paid	<u>(302,267,720)</u>	<u>(10,588,230)</u>	<u>(3,512,914)</u>	<u>(1,384,288)</u>
Net cash from operating activities	<u>2,119,625,550</u>	<u>2,473,789,167</u>	<u>379,403,570</u>	<u>345,482,087</u>
<i>Cash flows from investing activities</i>				
Interest received	4,173,149	4,997,148	28,193,644	12,428,933
Dividends received	-	-	1,617,362,500	1,609,412,500
Acquisition of property, plant and equipment	(1,297,743,340)	(1,391,074,383)	(102,400,682)	(384,119,016)
Proceeds from disposal of assets	1,399,065	137,850	-	137,850
Proceeds from disposal of assets to infrastructure fund	-	3,039,577,520	-	-
Acquisition of intangible assets	(9,077,654)	(107,640,593)	(1,154,250)	(22,956,443)
Short-term loans to related parties	-	-	-	(255,000,000)
Long-term loans to related parties	(153,634,773)	-	(5,287,465,777)	(643,381,421)
Proceeds from repayment short-term loans to related parties	-	-	335,000,000	-
Net cash outflow on acquisition of subsidiaries and associate	(4,613,298,508)	(204,086,137)	(135,000,318)	(236,459,103)
Proceeds from subsidiaries's capital increase	49,999,975	-	-	-
Proceeds from subsidiaries's capital reduction	-	-	492,500,000	-
Proceeds from associate's capital reduction	<u>67,229,200</u>	<u>-</u>	<u>67,229,200</u>	<u>-</u>
Net cash from (used in) investing activities	<u>(5,950,952,886)</u>	<u>1,341,911,405</u>	<u>(2,985,735,683)</u>	<u>80,063,300</u>

BCPG Public Company Limited and its Subsidiaries
Statements of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2019	2018	2019	2018
	<i>(in Baht)</i>			
<i>Cash flows from financing activities</i>				
Finance costs paid	(557,512,914)	(500,662,943)	(495,232,819)	(395,992,692)
Dividends paid	(1,278,926,378)	(1,277,498,010)	(1,278,926,378)	(1,277,498,010)
Repayment of short-term borrowings from financial institutions	-	(89,741,775)	-	-
Repayment of short-term borrowings from related parties	-	-	(500,000,000)	-
Proceeds from short-term borrowings from financial institutions	2,320,000,000	250,000,000	2,320,000,000	250,000,000
Proceeds from long-term borrowings from financial institutions	3,719,262,331	1,503,974,460	3,719,262,331	1,503,974,460
Proceeds from long-term borrowings from related parties	-	-	-	500,000,000
Repayment of long-term borrowings from financial institutions	(1,325,799,630)	(3,339,447,204)	(1,112,043,290)	(1,072,298,460)
Payment for reduction of the outstanding liability relating to a finance lease	-	(190,802)	-	-
Proceeds from exercise of shares options	24,510,333	53,597,494	24,510,333	53,597,494
Net cash from (used in) financing activities	2,901,533,742	(3,399,968,780)	2,677,570,177	(438,217,208)
Net increase (decrease) in cash and cash equivalents, before effect of exchange rates	(929,793,594)	415,731,792	71,238,064	(12,671,821)
Effect of exchange rate changes on cash and cash equivalents	(50,325,739)	5,596,501	(1,463,212)	1,441,899
Net increase (decrease) in cash and cash equivalents	(980,119,333)	421,328,293	69,774,852	(11,229,922)
Cash and cash equivalents at 1 January	2,425,311,808	2,003,983,515	194,467,866	205,697,788
Cash and cash equivalents at 31 December	1,445,192,475	2,425,311,808	264,242,718	194,467,866

The accompanying notes form an integral part of the financial statements.

BCPG Public Company Limited and its Subsidiaries
Notes to the financial statements
For the year ended 31 December 2019

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BCPG Public Company Limited and its Subsidiaries
Notes to the financial statements
For the year ended 31 December 2018

These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from Thai language statutory financial statements, and were approved and authorized for issue by the Board of Directors on 18 February 2020.

1 General information

BCPG Public Company Limited, the “Company”, is incorporated in Thailand and was listed on the Stock Exchange of Thailand. The Company’s registered office at 2098 M Tower Building, 12th Floor, Sukhumvit Road, Phra Khanong Tai, Phra Khanong, Bangkok Thailand.

The parent company during the financial year was Bangchak Corporation Public Company Limited which is incorporated in Thailand.

The principal activities of the Group are production and distribution of electricity from solar cell and investment in alternative energy business. Details of the Company’s subsidiaries as at 31 December 2019 and 2018 are given in note 10.

2 Basis of preparation of the financial statements

(a) Statement of compliance

The financial statements are prepared in accordance with Thai Financial Reporting Standards (“TFRS”), guidelines promulgated by the Federation of Accounting Professions and applicable rules and regulations of the Thai Securities and Exchange Commission.

New and revised TFRS are effective for annual accounting periods beginning on or after 1 January 2019. The initial application of these new and revised TFRS has resulted in changes uncertain of the Group’s accounting policies. There is no material impact on the Group’s financial statements except for initial applying TFRS 15 *Revenue from Contracts with Customers* which replaces TAS 18 *Revenue*, TAS 11 *Construction Contracts* and related interpretations. The effects of these changes, where such effects are considered material to the financial statements, are disclosed in note 3.

In addition, the Group has not early adopted a number of new and revised TFRS which are not yet effective for the current period in preparing these financial statements. Those new and revised TFRS that are relevant to the Group’s operations are disclosed in note 33.

(b) Functional and presentation currency

The financial statements are prepared in Thai Baht, which is the Company’s functional currency.

(c) Use of judgements and estimates

The preparation of financial statements in conformity with TFRS requires management to make judgements, estimates and assumptions that affect the application of the Group’s accounting policies. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

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Information about assumption and estimation uncertainties at 31 December 2019 that have a significant risk of resulting in a material adjustments to the carrying amounts of assets and liabilities in the next financial year is included in the following notes:

- 4(a), 5 Acquisition of subsidiary: fair value of the consideration transferred (including contingent consideration) and fair value of the assets acquired and liabilities assumed, measured on a provisional basis;
- 11 Impairment test of investment in associates: key assumptions underlying recoverable amounts.

3 Changes in accounting policies

From 1 January 2019, the Group has adopted TFRS 15 using the cumulative effect method, taking into account the effect of initially applying this standard only to contracts that were not completed before 1 January 2019 as an adjustment to the retained earnings at 1 January 2019. Therefore, the Group has not restated the information presented for 2018, as previously reported under TAS 18 and related interpretations. The disclosure requirements of TFRS 15 have not generally been applied to comparative information.

Under TFRS 15, the Group recognises revenue when a customer obtains control of the goods or services in an amount that reflects the consideration to which the Group expects to be entitled, excluding those amounts collected on behalf of third parties, value added tax and after deduction of any trade discounts and volume rebates. Judgement is required in determining the timing of the transfer of control for revenue recognition - at a point in time or over time. Under TAS 18, the Group recognised revenue from sale of goods when the significant risks and rewards of ownership of the goods were transferred to the buyer, and recognised revenue from rendering of services by reference to the stage of completion of the transaction at the end of the reporting period. No revenue was recognised if there was continuing management involvement with the goods or there were significant uncertainties regarding recovery of the consideration due.

The detail and quantitative impact of the changes in accounting policies are disclosed as follows:

Sale of steam under minimum take or pay arrangement

For the sale of steam under minimum take or pay arrangement of an associate in Indonesia. Under TFRS 15, revenue should be recognised upon fulfilment of the performance obligation.

TFRS 15 did not have any material impact on the Group's accounting policies with respect to other revenue streams.

The following table summarises the impact, net of tax, of adopting TFRS 15.

1 January 2019	Consolidated financial statements	Separate financial statements
	<i>(in thousand Baht)</i>	
<i>Assets</i>		
Decrease in investments in associates	(54,131)	-
Decrease in total assets	(54,131)	-
<i>Equity</i>		
Decrease in retained earnings	(54,131)	-
Decrease in total equity	(54,131)	-

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There is no material impacts on the consolidated and separate statement of cash flows for the year ended 31 December 2019 from the adoption of TFRS 15.

4 Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these financial statements except as explained in note 3.

(a) Basis of consolidation

The consolidated financial statements relate to the Company and its subsidiaries (together referred to as the “Group”) and the Group’s interests in associates.

Business combinations

The Group applies the acquisition method for all business combinations when control is transferred to the Group, as describe in subsidiaries section, other than those with entities under common control.

The acquisition date is the date on which control is transferred to the acquirer. Judgment is applied in determining the acquisition date and determining whether control is transferred from one party to another.

Goodwill is measured as the fair value of the consideration transferred including the recognised amount of any non-controlling interest in the acquiree, less the net recognised amount (generally fair value) of the identifiable assets acquired and liabilities assumed, all measured as of the acquisition date. Any gain on bargain purchase is recognised in profit or loss immediately.

Consideration transferred includes the fair values of the assets transferred, liabilities incurred by the Group to the previous owners of the acquiree, and equity interests issued by the Group. Consideration transferred also includes the fair value of any contingent consideration.

Any contingent consideration is measured at fair value at the date of acquisition, and remeasured at fair value at each reporting date. Subsequent changes in the fair value are recognised in profit or loss.

A contingent liability of the acquiree is assumed in a business combination only if such a liability represents a present obligation and arises from a past event, and its fair value can be measured reliably.

Transaction costs that the Group incurs in connection with a business combination, such as legal fees, and other professional and consulting fees are expensed as incurred.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period, or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

Acquisitions from entities under common control

Business combination under common control are accounted for using a method similar to the pooling of interest method. Under that method the acquirer recognizes assets and liabilities of the acquired businesses at their carrying amounts in the consolidated financial statements of the ultimate parent company at the moment of the transaction. The difference between the carrying amount of the acquired

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net assets and the consideration transferred is recognized as surplus or discount from business combinations under common control in shareholder's equity. The surplus or discount will be transferred to retained earnings upon divestment of the businesses acquired.

The results from operations of the acquired businesses will be included in the consolidated financial statements of the acquirer from the beginning of the comparative period or the moment the businesses came under common control, whichever date is later, until control ceases.

Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

Non-controlling interests

At the acquisition date, the Group measures any non-controlling interest at its proportionate interest in the identifiable net assets of the acquiree.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

Loss of control

When the Group loses control over a subsidiary, it derecognises the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates and a joint venture.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associates and joint ventures are accounted for using the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases.

Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income or expenses arising from intra-group transactions, are eliminated. Unrealised gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

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(b) Foreign currencies

Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies are translated to the functional currency at the exchange rate at the reporting date.

Non-monetary assets and liabilities measured at cost in foreign currencies are translated to the functional currency at the exchange rates at the dates of the transactions.

Foreign currency differences are generally recognized in profit or loss.

Foreign operations

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated to Thai Baht at the exchange rates at the reporting date.

The revenues and expenses of foreign operations are translated to Thai Baht at rates approximating the exchange rates at the dates of the transactions.

Foreign exchange differences are recognised in other comprehensive income and accumulated in the translation reserve, except to extent that the translation difference is allocated to non-controlling interest.

When a foreign operation is disposed of in its entirety or partially such that control, significant influence or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as part of the gain or loss on disposal. If the Group disposes of part of its interest in a subsidiary but retains control, then the relevant proportion of the cumulative amount is reattributed to non-controlling interests. When the Group disposes of only part of an associate or joint venture while retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

When the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, exchange gains and losses arising from such a monetary item are considered to form part of a net investment in a foreign operation and are recognised in other comprehensive income, and presented in the foreign currency translation reserve in equity until disposal of the investment.

(c) Derivatives

Derivatives are used to manage exposure to foreign exchange, interest rate arising from operational, financing and investment activities. Derivatives are not used for trading purposes. However, derivatives that do not qualify for hedge accounting are accounted for as trading instruments.

(d) Cash and cash equivalents

Cash and cash equivalents in the statements of cash flows comprise cash balances, call deposits and highly liquid short-term investments.

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(e) Trade and other accounts receivable

A receivable is recognised when the Group has an unconditional right to receive consideration. If revenue has been recognised before the group has an unconditional right to receive consideration, the amount is presented as a contract asset.

A receivable is stated at invoice value less allowance for doubtful which is determined based on an analysis of payment histories and future expectations of customer payments. Bad debts are written off when incurred.

(f) Investments

Investments in associates and subsidiaries

Investments in associates and subsidiaries in the separate financial statements of the Company are accounted for using the cost method. Investments in associates in the consolidated financial statements are accounted for using the equity method.

(g) Property, plant and equipment

Recognition and measurement

Owned assets

Property, plant and equipment are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the assets to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located, and capitalised borrowing costs. Cost also may include transfers from other comprehensive income of any gain or loss on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Any gains and losses on disposal of item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment, and are recognised in profit or loss.

Leased assets

Leases in terms of which the Group substantially assumes all the risk and rewards of ownership are classified as finance leases. Property, plant and equipment acquired by way of finance leases is capitalised at the lower of its fair value and the present value of the minimum lease payments at the inception of the lease, less accumulated depreciation and impairment losses. Lease payments are apportioned between the finance charges and reduction of the lease liability so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are charged directly to the profit or loss.

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Subsequent cost

The cost of replacing a part of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group, and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

Depreciation

Depreciation is calculated based on the depreciable amount, which is the cost of an asset, or other amount substituted for cost, less its residual value.

Depreciation is charged to profit or loss on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment. The estimated useful lives are as follows:

Buildings	10 - 25 years
Land Improvement and Infrastructure	5 - 25 years
Machinery and equipment	5 - 25 years
Office equipment	5 - 10 years
Vehicles	5 - 10 years

No depreciation is provided on freehold land or assets under construction.

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

(h) Intangible assets

Goodwill

Goodwill that arises upon the acquisition of subsidiaries is included in intangible assets. The measurement of goodwill at initial recognition is described in note 4(a). Subsequent to initial recognition, goodwill is measured at cost less accumulated impairment losses. In respect of equity-accounted investee, the carrying amount of goodwill is included in the carrying amount of the investment, and an impairment loss on such an investment is not allocated to any asset, including goodwill, that forms part of the carrying amount of the equity-accounted investee.

Other intangible assets

Other intangible assets that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortisation and accumulated impairment losses.

Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognised in profit or loss as incurred.

Amortisation

Amortisation is based on the cost of the asset, or other amount substituted for cost, less its residual value.

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Amortisation is recognised in profit or loss on a straight-line basis over the estimated useful lives of intangible assets, other than goodwill, from the date that they are available for use, since this most closely reflects the expected pattern of consumption of the future economic benefits embodied in the asset.

The estimated useful lives for the current and comparative periods are as follows:

Right to use and cost of development of computer software	3 - 25 years
The right to connect power distribution system	20 - 25 years
Feed-in Tariff power purchase agreement	20 years
Power purchase agreements under concession agreement	28 years
Land right	25 years

Amortisation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

(i) Impairment

The carrying amounts of the Group's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the assets' recoverable amounts are estimated. For goodwill, the recoverable amount is estimated each year at the same time.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. The impairment loss is recognised in profit or loss.

Calculation of recoverable amount

The recoverable amount of a non-financial asset is the greater of the asset's value in use and fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

Reversal of impairment

An impairment loss in respect of a financial asset is reversed if the subsequent increase in recoverable amount can be related objectively to an event occurring after the impairment loss was recognised in profit or loss.

Impairment losses recognised in prior periods in respect of other non-financial assets are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(j) Interest-bearing liabilities

Interest-bearing liabilities are recognised initially at fair value less attributable transaction charges. Subsequent to initial recognition, interest-bearing liabilities are stated at amortised cost with any difference between cost and redemption value being recognised in profit or loss over the period of the borrowings on an effective interest basis.

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(k) Other accounts payable

Other accounts payable are stated at cost.

(l) Employee benefits

Defined contribution plan

Obligations for contributions to defined contribution plans are expensed as the related service is provided.

Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount.

The calculation of defined benefit obligations is performed every 3 year by a qualified actuary using the projected unit credit method.

Remeasurements of the net defined benefit liability, actuarial gain or loss are recognized immediately in OCI. The Group determines the interest expense on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period, taking into account any changes in the net defined benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in profit or loss. The Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Short-term employee benefits

Short-term employee benefits are expensed as the related service is provided. A liability is recognised for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

(m) Share-based payments

The grant-date fair value of equity-settled share-based payment awards granted to employees is generally recognised as an expense, with a corresponding increase in equity, over the vesting period of the awards. The amount recognised as an expense is adjusted to reflect the number of awards for which the related service and non-market performance conditions are expected to be met, such that the amount ultimately recognised is based on the number of awards that meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant-date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

(n) Provisions

A provision is recognised if, as a result of a past event, the group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash

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flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as a finance cost.

(o) Measurement of fair values

When measuring the fair value of an asset or a liability, the Group uses observable market data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- *Level 1*: quoted prices in active markets for identical assets or liabilities.
- *Level 2*: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly.
- *Level 3*: inputs for the asset or liability that are based on unobservable input.

If the inputs used to measure the fair value of an asset or liability might be categorised in different levels of the fair value hierarchy, then the fair value measurement is categorised in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement.

(p) Share capital

Ordinary shares

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of ordinary shares and share options are recognised as a deduction from equity.

(q) Revenue

Revenue is recognised when a customer obtains control of the goods or services in an amount that reflects the consideration to which the group expects to be entitled, excluding those amounts collected on behalf of third parties and value added tax.

Sale of electricity

Income from the sale of electricity is recognised in profit or loss in accordance with delivery units supplied as stipulated in the contract. Income from the sale of electricity for some entities within Thailand is entitled to receive ADDER for a period of 10 years from the commencement of commercial sales. Thereafter, subsequent to this initial period income from sale of electricity is recognised at normal rates.

Sale of steam under minimum take or pay arrangement

For the sale of steam under minimum take or pay arrangement of an associate in Indonesia. Under TFRS 15, revenue should be recognised upon fulfilment of the performance obligation.

Services rendered

Revenue for rendering of services is recognised over time. The related costs are recognized in profit or loss when they are incurred.

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(r) Investment income

Investment income comprises dividend and interest income from investments and bank deposits. Dividend income is recognised in profit or loss on the date the Group's right to receive payments is established. Interest income is recognised in profit or loss as it accrues.

(s) Finance costs

Finance costs is recognised using the effective interest method and comprises interest expense on borrowings, unwinding of the discount on provisions and contingent consideration.

Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognised in profit or loss using the effective interest method.

(t) Lease payments

Payments made under operating leases are recognised in profit or loss on a straight line basis over the term of the lease. Lease incentives received are recognised in profit or loss as an integral part of the total lease expense, over the term of the lease.

Contingent lease payments are accounted for by revising the minimum lease payments over the remaining term of the lease when the lease adjustment is confirmed.

(u) Income tax

Income tax expense for the year comprises current and deferred tax. Current and deferred tax are recognised in profit or loss except to the extent that they relate to a business combination, or items recognised directly in equity or in other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for the following temporary differences: the initial recognition of goodwill; the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss; and differences relating to investments in subsidiaries and joint ventures to the extent that it is probable that they will not reverse in the foreseeable future.

The measurement of deferred tax reflects the tax consequences that would follow the manner in which the group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date.

In determining the amount of current and deferred tax, the Group takes into account the impact of uncertain tax positions and whether additional taxes and interest may be due. The Group believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience. This assessment relies on estimates and assumptions and may involve a series of judgements about future events. New information may become

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available that causes the Group to change its judgement regarding the adequacy of existing tax liabilities; such changes to tax liabilities will impact tax expense in the period that such a determination is made.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. Future taxable profits are determined based on the reversal of relevant taxable temporary differences. If the amount of taxable temporary differences is insufficient to recognise a deferred tax asset in full, then future taxable profits, adjusted for reversals of existing temporary differences, are considered, based on the business plans for individual subsidiaries in the Group. Deferred tax assets are reviewed at each reporting date and reduced to the extent that it is no longer probable that the related tax benefit will be realised.

(v) Earnings per share

The Group presents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of ordinary shares outstanding, adjusted for own shares held, for the effects of all dilutive potential ordinary shares, which comprise convertible notes and share options granted to employees.

(w) Related parties

A related party is a person or entity that has direct or indirect control or joint control, or has significant influence over the financial and managerial decision-making of the Group; a person or entity that are under common control or under the same significant influence as the Group; or the Group has direct or indirect control or joint control or has significant influence over the financial and managerial decision-making of a person or entity.

(x) Segment reporting

Segment results that are reported to the Group's CEO (the chief operating decision maker) include items directly attributable to a segment.

5 Acquisition of subsidiary

On 20 September 2019, BCPG Biopower 2 Co., Ltd. (a subsidiary of the Company which subsequently changed its name to BCPG Indochina Co., Ltd.) invested in a hydropower plant project in Laos PDR with total installed capacity of 69 megawatts. The subsidiary acquired 100% share of Nam San 3A Power Sole Co., Ltd. (Nam San 3A) from Phongsubthavy Roads and Bridges Construction and Irrigation Sole Co., Ltd. (Phongsubthavy) for an amount of not exceeding USD 174.04 million (approximately Baht 5,351.50 million) or including net working capital adjustments to be repaid to the seller the amount shall not exceed USD 174.23 million (approximately Baht 5,357.34 million) which consists of USD 96.19 million (approximately Baht 2,957.68 million) for the shares and USD 78.04 million (approximately Baht 2,399.66 million) for a repayment of loan which the hydropower plant company owed to Phongsubthavy. Currently, BCPG Indochina Co., Ltd. has already completed the share transfer from Phongsubthavy. During the period of acquisition date until 31 December 2019, the business contributed revenue of USD 4.98 million (approximately Baht 150.83 million) and net profit

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of USD 2.68 million (approximately Baht 81.08 million) to the Group's results. If the acquisition had occurred on 1 January 2019, management estimates that consolidated revenue would have increased by Baht 401.60 million and consolidated profit from normal operation for the year ended 31 December 2019 would have increased by Baht 236.48 million. In determining these amounts, management has assumed that the fair value adjustments, determined provisionally, that arose on the date of acquisition would have been the same if the acquisition had occurred on 1 January 2019.

Management believes that acquisition of this business will enable the Group to increase the Group's potential to expand their investment, development and operating renewable energy business within Asia.

The Group has hired an independent appraiser to determine the fair value of net assets acquired at acquisition date. However, the report on the review has not yet been finalised, and the fair value of net assets acquired from the acquisition of investment in subsidiary is provisionally recognised at value based on management estimates. The result of the appraisal will be subsequently used to amend the fair value of net assets acquired.

The following summarises the major classes of consideration transferred, and the recognized amounts of assets acquired and liabilities assumed at the acquisition date:

Consideration transferred

	Recognized value <i>(in thousand Baht)</i>
Cash	4,460,279
Contingent consideration	896,878
Total	<u>5,357,157</u>

As at 31 December 2019, the Group had settled the payment of totaling USD 150.06 million (approximately Baht 4,614.02 million). Subsequently, in January 2020, the Group additionally settled the payment of USD 23.17 million (approximately Baht 712.39 million)

Contingent consideration

In January 2020, the Group had entered into new power purchase agreement with Vietnam Electricity for Nam San 3A project, which is considered to be a completion of a contingent consideration at the amount of USD 23.14 million (approximately Baht 711.46 million), resulting in an increase in fair value of the power purchase agreement and a decrease in goodwill from the first assessment in September 2019.

In addition, with reference to the share purchase agreement, the Group has additional contingent consideration to be paid based on stipulated condition at the amount of USD 6.03 million (approximately Baht 185.42 million).

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Identifiable assets acquired and liabilities assumed

	Book value	Adjustment	Recognized value
		<i>(in thousand Baht)</i>	
Cash and cash equivalents	725	-	725
Trade accounts receivable	68,747	-	68,747
Other receivables	24	-	24
Property, plant and equipment	8,770	-	8,770
Intangible asset	3,129,828	2,066,702	5,196,530
Other payables	(63,658)	-	(63,658)
Long-term loan from Phongsubthavy group	(2,399,659)	-	(2,399,659)
Deferred tax liabilities	-	(178,614)	(178,614)
Total identifiable assets and liabilities	744,777	1,888,088	2,632,865
Repayment of loan from Phongsubthavy group under the condition of business acquisition	2,399,659		2,399,659
Net assets and liabilities acquired by the Group	3,144,436		5,032,524
Goodwill			324,633
Consideration transferred			5,357,157

The fair value of power purchase agreements under concession agreement which was classified as intangible asset was determined based on income approach using Multi-period Excess Earning Method (MEEM) with remaining operating period 28 years under power purchase agreement and related conditions. Key assumptions included forecast revenue and discount rate.

The investment in Nam San 3A creates an opportunity to expand the Group's business in Laos and its neighboring countries. This is a main factor that causes the goodwill arising from the acquisition.

Acquisition-related costs

The Group incurred acquisition-related costs of Baht 23.27 million related to external legal fees, due diligence, technical advisor and other costs which were included in administrative expenses in the consolidated statement of income for the Group's period which incurred.

6 Related parties

Relationships with subsidiaries, associates and other related parties were as follows:

Name of entities	Country of incorporation/ nationality	Nature of relationships
Parent		
Bangchak Corporation Public Company Limited	Thailand	Some common directors
Subsidiaries		
Bangchak Solar Energy Co., Ltd.	Thailand	Some common directors
Bangchak Solar Energy (Prachinburi) Co., Ltd.	Thailand	Some common directors
Bangchak Solar Energy (Chaiyaphum1) Co., Ltd.	Thailand	Some common directors

BCPG Public Company Limited and its Subsidiaries
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Name of entities	Country of incorporation/ nationality	Nature of relationships
<i>Subsidiaries (Continue)</i>		
Bangchak Solar Energy (Buriram) Co., Ltd.	Thailand	Some common directors
Bangchak Solar Energy (Buriram1) Co., Ltd.	Thailand	Some common directors
Bangchak Solar Energy (Nakhon Ratchasima) Co., Ltd.	Thailand	Some common directors
Thai Digital Development Company Limited (Formerly : BCPG Biopower 1 Co., Ltd.)	Thailand	Some common directors
BCPG Indochina Company Limited (Formerly : BCPG Biopower 2 Co., Ltd.)	Thailand	Some common directors
Lomligor Co., Ltd.	Thailand	Some common directors
BCPG Investment Holdings Pte. Ltd.	Singapore	Representative from the Company as director
<i>Indirect Subsidiaries</i>		
BSE Energy Holdings Pte. Ltd.	Singapore	Representative from the Company as director
BCPG Japan Corporation	Japan	Representative from the Company as director
Greenergy Holdings Pte. Ltd.	Singapore	Representative from the Company as director
Greenergy Power Pte. Ltd.	Singapore	Representative from the Company as director
Tarumizu Solar Solutions Godo Kaisha	Japan	Representative from the Subsidiary as director
Nakatsugawa PV Godo Kaisha	Japan	Affiliate in TK investment
Godo Kaisha Inti	Japan	Representative from the Subsidiary as director
Takamori PV Godo Kaisha	Japan	Affiliate in TK investment
Nojiri PV Godo Kaisha	Japan	Affiliate in TK investment
Godo Kaisha Aten	Japan	Representative from the Subsidiary as director
Nikaho PV Godo Kaisha	Japan	Representative from the Subsidiary as director
Gotenba 2 PV Godo Kaisha	Japan	Representative from the Subsidiary as director
Godo Kaisha Horus	Japan	Representative from the Subsidiary as director
Yabuki PV Godo Kaisha	Japan	Representative from the Subsidiary as director
Komagane PV Godo Kaisha	Japan	Representative from the Subsidiary as director
Godo Kaisha Helios	Japan	Representative from the Subsidiary as director
Godo Kaisha Lugh	Japan	Representative from the Subsidiary as director
Godo Kaisha Phoenix	Japan	Representative from the Subsidiary as director
Gotenba 1 PV Godo Kaisha	Japan	Representative from the Subsidiary as director
Komagane Land Lease Godo Kaisha	Japan	Representative from the Subsidiary as director
Nagi PV Godo Kaisha	Japan	Representative from the Subsidiary as director
Godo Kaisha Natosi	Japan	Representative from the Subsidiary as director
Godo Kaisha Amaterasu	Japan	Representative from the Subsidiary as director
Godo Kaisha Mithra	Japan	Representative from the Subsidiary as director
Godo Kaisha Sol	Japan	Representative from the Subsidiary as director
Godo Kaisha Saule	Japan	Representative from the Subsidiary as director
Godo Kaisha Shamash	Japan	Representative from the Subsidiary as director
Godo Kaisha Pusan	Japan	Representative from the Subsidiary as director
Godo Kaisha Apolo	Japan	Representative from the Subsidiary as director
Godo Kaisha Surya	Japan	Representative from the Subsidiary as director
Nagi Land Lease Godo Kaisha	Japan	Representative from the Subsidiary as director
Godo Kaisha Rangi	Japan	Representative from the Subsidiary as director
Godo Kaisha Dazbog	Japan	Representative from the Subsidiary as director

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Name of entities	Country of incorporation/ nationality	Nature of relationships
<i>Indirect Subsidiaries (Continue)</i>		
Godo Kaisha Narang	Japan	Representative from the Subsidiary as director
Godo Kaisha Malina	Japan	Representative from the Subsidiary as director
Godo Kaisha Legba	Japan	Representative from the Subsidiary as director
J2 Investor Godo Kaisha	Japan	Representative from the Subsidiary as director
J1 Investor Godo Kaisha	Japan	Representative from the Subsidiary as director
BCPG Engineering Company	Japan	Representative from the Company as director
Godo Kaisha Tarumi Takatoge	Japan	Affiliate in TK investment
Huang Ming Japan Company Limited	Japan	Representative from the Company as director
BCPG Wind Cooperatief U.A.	Netherland	Representative from the Company as director
Nam San 3A Power Sole Co., Ltd.	Laos	Director and management from the Company as director and management
<i>Associates</i>		
Star Energy Group Holdings Pte. Ltd.	Singapore	Representative from the Company as director
Impact Energy Asia Development Limited	Hongkong	Director and management from the Company as director
<i>Indirect Associate</i>		
PetroWind Energy Inc.	Philippines	Representative from the Company as director
<i>Others related parties</i>		
Bangchak Retail Co., Ltd.	Thailand	Subsidiary of the Parent
Bangchak Biofuel Co., Ltd.	Thailand	Indirect subsidiary of the Parent
Key management personnel	Thailand/Japan	Persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including any director (whether executive or otherwise) of the Group.

The pricing policies for transactions with related parties are explained further below:

Transactions	Transactions
Revenue from rendering of services	Contractual price
Management service expenses	Contractual price
Rental expense	Contractual price
Purchase of fixed assets and other assets	Contractual price
Interest expense	Contractually agreed rate with reference to market rate and average Company's finance cost

BCPG Public Company Limited and its Subsidiaries
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Significant transactions for the year ended 31 December with related parties were as follows:

<i>Year ended 31 December</i>	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Parent				
Other income	21	246	21	246
Management service expenses	22,110	27,600	22,110	27,600
Rental expense	6,983	7,673	6,983	7,673
Dividend paid	896,000	896,000	896,000	896,000
Other expenses	4,378	5,151	4,378	5,151
Purchases of property and other assets	41,850	-	41,850	-
Subsidiaries				
Revenue from rendering of services	-	-	42,000	42,000
Management service expenses	-	-	3,276	3,311
Dividends income	-	-	1,622,363	1,517,012
Interest income	-	-	110,154	57,687
Interest expense	-	-	2,746	634
Purchases of property and other assets	-	-	15,450	-
Indirect Subsidiaries				
Interest income	-	-	90,329	102,557
Indirect Associate				
Interest income	1,813	-	1,813	-
Other related party				
Revenue from sale and rendering of services	1,118	-	1,118	-
Other expenses	161	253	161	253
Key management personnel compensation				
Short-term employee benefit	66,759	70,352	53,927	59,035
Post-employment benefits	3,305	3,287	2,462	2,401
Share-based payments	460	1,332	460	1,332
Total key management personnel compensation	70,524	74,971	56,849	62,768

BCPG Public Company Limited and its Subsidiaries
Notes to the financial statements
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Balances as at 31 December with related parties were as follows:

<i>Trade receivable</i>	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Other related party	778	-	778	-
<i>Other receivables</i>	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Current				
Dividend receivable				
Subsidiaries	-	-	5,000	-
Indirect associate	23,617	-	-	-
Total	23,617	-	5,000	-
Other receivables				
Parent	5,811	6,043	5,811	6,043
Subsidiaries	-	-	146,100	343
Indirect subsidiaries	-	-	134,549	87,334
Indirect associate	26	-	26	-
Total	5,837	6,043	286,486	93,720
Total current	29,454	6,043	291,486	93,720
Non-Current				
Subsidiaries	-	-	26,824	85,464
Indirect subsidiaries	-	-	189,762	145,855
Associate	1,813	-	1,813	-
Total non-current	1,813	-	218,399	231,319

BCPG Public Company Limited and its Subsidiaries
Notes to the financial statements
For the year ended 31 December 2018

	Interest rate		Consolidated financial statement					Separate financial statement				
	At 31 December	At 1 January	At 1 January	Increase	Decrease	Effect of movement in exchange rate	At 31 December	At 1 January	Increase	Decrease	Effect of movement in exchange rate	At 31 December
<i>Movement of loans to</i>												
	(% per annum)	(in thousand Baht)										
2019												
Subsidiaries	2.88 – 4.50	-	-	-	-	-	-	1,624,765	4,878,830	(80,000)	(76,095)	6,347,500
Indirect subsidiaries	2.88 – 3.00	-	-	-	-	-	-	3,753,547	-	-	(219,841)	3,533,706
Associate	4.71	-	153,635	-	-	(1,652)	151,983	-	-	-	(1,652)	151,983
Total		-	153,635	-	-	(1,652)	151,983	5,378,312	5,032,465	(80,000)	(297,588)	10,033,189
<i>Less Current portion due</i>												
within one year		-	-	-	-	-	-	(1,240,138)	-	-	-	(2,035,604)
Short-term loan to		-	-	-	-	-	-	(255,000)	-	-	-	-
Long-term loan to related parties		-	-	-	-	-	151,983	3,883,174	-	-	-	7,997,585
2018												
Subsidiaries	2.88 – 4.50	-	-	-	-	-	-	1,373,072	255,000	-	(3,307)	1,624,765
Indirect subsidiaries	2.88 – 3.00	-	-	-	-	-	-	3,090,693	673,381	-	19,473	3,653,347
Total		-	-	-	-	-	-	4,463,765	898,381	-	16,166	5,378,312
<i>Less Current portion due</i>												
within one year		-	-	-	-	-	-	-	-	-	-	(1,240,138)
Short-term loan to		-	-	-	-	-	-	-	-	-	-	(255,000)
Long-term loan to related parties		-	-	-	-	-	-	4,463,765	-	-	-	3,883,174

BCPG Public Company Limited and its Subsidiaries
Notes to the financial statements
For the year ended 31 December 2018

<i>Other payables</i>	Consolidated		Separate	
	financial statements		financial statements	
	2019	2018	2019	2018
Parent	9,040	3,501	9,040	3,108
Other related party	-	-	-	634
Total	9,040	3,501	9,040	3,742

BCPG Public Company Limited and its Subsidiaries
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	Interest rate		Consolidated financial statement				Separate financial statement				
	At 31 December (% per annum)	At 1 January	Increase	Decrease	Effect of movement in exchange rate	At 31 December	At 1 January	Increase	Decrease	Effect of movement in exchange rate	At 31 December
Movement of loans from											
2019											
Subsidiaries	2.57	-	-	-	-	-	500,000	-	(500,000)	-	-
Total		-	-	-	-	-	500,000	-	(500,000)	-	-
Less Current portion due within one year		-				-	-				-
Short-term loan from related parties		-				-	-				-
Long-term loan from related parties		-				-	500,000				-
2018											
Subsidiaries	2.57	-	-	-	-	-	-	500,000	-	-	500,000
Total		-	-	-	-	-	-	500,000	-	-	500,000
Less Current portion due within one year		-				-	-				-
Short-term loan from related parties		-				-	-				-
Long-term loan from related parties		-				-	-				500,000

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Significant agreement with related party

Significant agreement with related party during years ended 31 December is as follows:

Land rental agreements

The Company has entered into land rental agreement with Bangchak Corporation Public Company Limited, parent company for the purpose of 38 MW solar farm project at Bang Pa-In establishment and related objectives. The agreement term is for a period of 22 years effective from 1 December 2015 to 30 November 2037. The rental fee is stipulated in the agreement.

The Company has entered into additional land rental agreement with Bangchak Corporation Public Company Limited, parent company for the purpose of related objectives of solar farm project. The agreement term is for a period of 21 years and 2 months effective from 1 October 2016 to 30 November 2037. The rental fee is stipulated in the agreement.

Management service and solar farm operation agreements

The Company has entered into management service and operation for the solar farm project agreement with certain subsidiary. The subsidiary is responsible for employee recruitment and provides the equipment for solar electricity production. The agreement term is for a period of 1 year effective from 1 January 2019 to 31 December 2019. The service fee is stipulated in the agreement.

Management service agreements

The Company has entered into management service agreement with Bangchak Corporation Public Company Limited, parent company. The parent company is responsible for employee recruiting for general administration to the Company. The agreement term is for a period of 3 years effective date 1 January 2017 to 31 December 2019. The service fee is stipulated in the agreement.

The Company has entered into management service agreements with subsidiaries in Thailand. The company is responsible for employee recruiting for general administration to the subsidiaries. The agreement term is for a period of 1 year effective date 1 January 2019 to 31 December 2019. The service fee is stipulated in the agreement.

The Company has entered into Information Technology service agreement with Bangchak Corporation Public Company Limited, parent company. The parent company is responsible for managing information system, information technology service and to perform as stipulated. The agreement term is for a period of 1 January 2019 to 31 December 2019 totally 1 year. The service fee is stipulated in the agreement.

Power purchase agreement

The Company has entered into power purchase agreement to sell electricity with Bangchak Biofuel Company, a related party. The agreement term is effective from 8 November 2018 to 7 November 2023 and the agreement shall be automatically renewed for a period of 5 year with a total duration not over 25 years from the commercial operation date. The electricity tariff is stipulated in the agreement.

BCPG Public Company Limited and its Subsidiaries
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Loan agreements

The Company has an unsecured loan agreements with BCPG Investment Holdings Pte. Ltd., a subsidiary of the Company for the purpose of group's business acquisition with a repayment schedule, interest and conditions as stipulated in the agreements. The outstanding balance of loans are JPY 868 million (approximately Baht 236 million) and USD 27 million (approximately Baht 797 million).

The Company has an unsecured loan agreements with BSE Energy Holdings Pte. Ltd., an indirect subsidiary of the Company for the purpose of group's business acquisition with a repayment schedule, interest and conditions as stipulated in the agreements. The outstanding balance of loan is JPY 4,548 million (approximately Baht 1,238 million).

The Company has an unsecured loan agreements with BCPG Japan Corporation, an indirect subsidiary of the Company with a repayment schedule, interest and conditions as stipulated in the agreement. The outstanding balance of loan is JPY 6,407 million (approximately Baht 1,744 million).

The Company has an unsecured loan agreements with Huang Ming Japan Company Limited, an indirect subsidiary of the Company with a repayment schedule, interest and conditions as stipulated in the agreements. The outstanding balance of loan is JPY 2,024 million (approximately Baht 551 million).

The Company has an unsecured loan agreement with Bangchak Solar Energy (Prachinburi) Co., Ltd., subsidiary of the Company with a repayment schedule, interest and conditions as stipulated in the agreement. The outstanding balance of loan is Baht 180 million.

The Company has cancelled the existing short term loan agreement with Lomligor Co., Ltd., an subsidiary of the Company with outstanding balance of loan is Baht 590 million and the Company has a new unsecured long term loan agreement with Lomligor Co., Ltd. The outstanding balance of loan is Baht 590 million with a repayment schedule, interest and conditions as stipulated in the agreement. The outstanding balance of loan is Baht 555 million.

The Company has an unsecured loan agreement with BCPG Indochina Company Limited, an subsidiary of the Company with outstanding balance of loan is Baht 5,500 million for the purpose of group's business acquisition with a repayment schedule, interest and conditions as stipulated in the agreement. The outstanding balance of loan is Baht 4,579 million.

The Company has an unsecured loan agreement with Impact Energy Asia Development Limited, an associate of the Company with outstanding balance of loan is USD 6.36 million with a repayment schedule. The outstanding balance of loan is USD 5 million (approximately Baht 152 million).

Guarantee agreements

The Company entered into guarantee agreement with BCPG Engineering Company in accordance with solar power system operation and maintenance contract which BCPG Engineering Company has with Tarumizu Solar Solutions Godo Kaisha in the event that BCPG Engineering Company causes damage to the assets within the power plant of Tarumizu Solar Solutions Godo Kaisha and is not able to compensate. The guarantee agreement is JPY 28.02 million per annum respectively, with a guarantee facility totaling JPY 280.20 million, covering the period of operation and maintenance of power system from solar energy contract. Under the conditions within the loan agreement between Tarumizu Solar Solutions Godo Kaisha and certain financial institution, it is specified that the parent company is responsible for the guarantee of possible damage loss.

BCPG Public Company Limited and its Subsidiaries
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The Company signed the Amendment and Restatement and Novation Agreement (Sponsor Support Agreement) for the purpose of changing the sponsor for Bangchak Solar Energy Company Limited under Sponsor Support Agreement from Bangchak Corporation Public Company Limited to the Company, with a facility of Baht 700 million. Through the Sponsor Support Agreement, the Company guarantees the facility.

7 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Cash on hand	7	6	-	-
Cash at banks - current accounts	183,252	218,305	900	14,092
Cash at banks - savings accounts	1,261,933	2,207,001	263,343	180,376
Total	<u>1,445,192</u>	<u>2,425,312</u>	<u>264,243</u>	<u>194,468</u>

As at 31 December 2019, certain subsidiaries and indirect subsidiaries have a restricted deposit at financial institution totaling Baht 259.11 million (*13 December 2018: Baht 230.38 million*) under the long-term loan agreement with several financial institutions which required such subsidiary and indirect subsidiaries to obtain a permission on withdrawal of restricted deposits with the financial institution.

8 Trade accounts receivable

	<i>Note</i>	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
		<i>(in thousand Baht)</i>			
Related party	6	778	-	778	-
Other parties		639,658	523,816	130,237	130,478
Less: allowance for doubtful accounts		-	-	-	-
Net		<u>640,436</u>	<u>523,816</u>	<u>131,015</u>	<u>130,478</u>
		2019	2018	2019	2018
		<i>(in thousand Baht)</i>			
Bad and doubtful debts expense for the year ended		<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

BCPG Public Company Limited and its Subsidiaries
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For the year ended 31 December 2018

Aging analyses for trade accounts receivable were as follows:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Related party				
Within credit terms	778	-	778	-
Less: allowance for doubtful accounts	-	-	-	-
	<u>778</u>	<u>-</u>	<u>778</u>	<u>-</u>
Other parties				
Within credit terms	639,658	523,816	130,237	130,478
Less: allowance for doubtful accounts	-	-	-	-
	<u>639,658</u>	<u>523,816</u>	<u>130,237</u>	<u>130,478</u>
Net	<u>640,436</u>	<u>523,816</u>	<u>131,015</u>	<u>130,478</u>

The normal credit term granted by the Group ranges from 20 days to 45 days.

9 Other receivables

	<i>Note</i>	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
		<i>(in thousand Baht)</i>			
Current					
Related parties	6	29,454	6,043	291,486	93,720
Other parties					
Other receivable		49,328	159	-	17
Interest receivable		70	53	32	30
Prepaid insurance expenses		17,986	5,403	11	-
Receivable from revenue department		18,071	145,421	5,673	-
Others		53,946	65,857	17,225	17,017
Total		<u>168,855</u>	<u>222,936</u>	<u>314,427</u>	<u>110,784</u>
Non-current					
Related parties	6	1,813	-	218,399	231,319
Other parties					
Deposits for machinery		-	103,032	-	-
Total		<u>1,813</u>	<u>103,032</u>	<u>218,399</u>	<u>231,319</u>

BCPG Public Company Limited and its Subsidiaries
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10 Investments in subsidiaries

	Separate financial statements	
	2019	2018
	<i>(in thousand Baht)</i>	
<i>Subsidiaries</i>		
At 1 January	6,589,795	6,353,336
Acquisitions	135,000	236,459
Disposals	(492,500)	-
At 31 December	<u>6,232,295</u>	<u>6,589,795</u>

BCPG Public Company Limited and its Subsidiaries

Notes to the financial statements

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Investments in subsidiaries as at 31 December 2019 and 2018, and dividend income from those investments for the year ended 31 December were as follows:

Separate financial statement													
	Type of business	Ownership interest (%)		Paid-up capital		Cost		Impairment		At cost - net		Dividend income for the year	
		2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Subsidiaries													
Bangchak Solar Energy Co., Ltd.	Production and distribution of electricity	100	100	1,800,000	1,800,000	1,930,500	1,930,500	-	-	1,930,500	1,930,500	612,000	583,200
Bangchak Solar Energy (Prachinburi) Co., Ltd.	Production and distribution of electricity	100	100	1,400,000	1,400,000	1,429,785	1,429,785	-	-	1,429,785	1,429,785	368,200	327,600
Bangchak Solar Energy (Chaiyaphum) Co., Ltd.	Production and distribution of electricity	100	100	585,000	705,000	600,545	720,545	-	-	600,545	720,545	164,190	154,440
Bangchak Solar Energy (Buriram) Co., Ltd.	Production and distribution of electricity	100	100	626,650	755,000	642,713	771,063	-	-	642,713	771,063	164,213	153,265
Bangchak Solar Energy (Buriram) Co., Ltd.	Production and distribution of electricity	100	100	634,950	765,000	651,225	781,275	-	-	651,225	781,275	156,060	148,027
Bangchak Solar Energy (Nakhonratchasima) Co., Ltd.	Production and distribution of electricity	100	100	570,000	684,100	586,069	700,169	-	-	586,069	700,169	157,700	150,480
BCPG Investment Holdings Pte. Ltd.	Holding company	100	100	-	-	-	-	-	-	-	-	-	-
Thai Digital Energy Development Co., Ltd. (Formerly: BCPG Biopower 1 Co., Ltd.)	Holding company	75	100	200,000	15,000	149,999	14,999	-	-	149,999	14,999	-	-
BCPG Indochina Co., Ltd. (Formerly: BCPG Biopower 2 Co., Ltd.)	Holding company	100	100	5,000	5,000	5,000	5,000	-	-	5,000	5,000	-	-
Lomligor Co., Ltd.	Production and distribution of wind electricity	100	100	250,000	250,000	236,459	236,459	-	-	236,459	236,459	-	-
Total				6,232,295	6,232,295	6,589,795	6,589,795	-	-	6,232,295	6,589,795	1,622,363	1,517,012

All subsidiaries were incorporated in Thailand except BCPG Investment Holding Pte. Ltd. was incorporated in Singapore.

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At the extraordinary shareholders' meeting of subsidiaries held on 7 January 2019, the shareholders approved a reduction of registered share capital of 4 subsidiaries. The reduction in share capital was registered with the Ministry of Commerce on 20 March 2019 as follows;

- Bangchak Solar Energy (Chaiyaphum1) Co., Ltd. reduced its paid-up share capital from Baht 705 million to Baht 585 million.
- Bangchak Solar Energy (Buriram) Co., Ltd. reduced its paid-up share capital from Baht 755 million to Baht 627 million.
- Bangchak Solar Energy (Buriram1) Co., Ltd. reduced its paid-up share capital from Baht 765 million to Baht 635 million.
- Bangchak Solar Energy (Nakhonratchasima) Co., Ltd. reduced its paid-up share capital from Baht 684 million to Baht 570 million.

At the extraordinary shareholders' meeting of Thai Digital Development Company Limited ("TDED") a subsidiary of the Company, on 22 October 2019, the shareholders approved the increase of the registered capital by Baht 140 million, from Baht 60 million to Baht 200 million, by issuing additional 1.40 million shares at a par value of Baht 100 each. On 24 October 2019, the Company paid for the call-up share capital amounting to Baht 45 million (75% of former register share capital for 0.6 million shares) and the additional shares of Baht 90 million (calculated as 0.9 million shares). As a result, the Company's ownership interest in TDED has decreased from 100% to 75%.

11 Investments in associates

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
		<i>(in thousand Baht)</i>			
Direct and Indirect associates					
At 1 January - As previously reported		13,500,704	13,287,784	11,956,425	11,956,425
Adjustment Accounting Policy	3	(54,131)	-	-	-
At 1 January - As restated		13,446,573	13,287,784	11,956,425	11,956,425
Increase		-	-	-	-
Decrease		(67,229)	-	(67,229)	-
Dividend income		(24,088)	-	-	-
Share of net profit of associates		354,659	203,693	-	-
Share of other comprehensive income (loss) of associates		(4,336)	28,021	-	-
Effect of movements in exchange rate		(81,811)	(18,794)	-	-
At 31 December		13,623,768	13,500,704	11,889,196	11,956,425

BCPG Public Company Limited and its Subsidiaries
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For the year ended 31 December 2018

Investments in associates as at 31 December 2019 and 2018, and dividend income from those investments for the year ended 31 December were as follows:

		Consolidated financial statements										Dividend income for the year					
		Ownership interest (%)		Paid-up capital		Cost method		Equity method		Impairment		At equity - net		2019		2018	
Type of business		2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
<i>(in thousand Baht)</i>																	
Direct associates																	
	Production and distribution of geothermal electricity	33.33	33.33	28,169,371	28,236,600	11,889,196	11,956,425	12,497,362	12,295,044	-	-	12,497,362	12,295,044	-	-	-	-
	Production and distribution of wind electricity	45.00	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Indirect associate																
	PetroWind Energy Inc.	40.00	40.00	894,790	894,790	921,573	921,573	1,126,406	1,205,660	-	-	1,126,406	1,205,660	24,088	24,088	-	-
						12,810,769	12,877,998	13,623,768	13,500,704			13,623,768	13,500,704	24,088	24,088		

None of the Group's associates are publicly listed and consequently do not have published price quotations.

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	Type of business	Ownership interest (%)		Paid-up capital		Cost method		Impairment		At cost - net		Dividend income for the year	
		2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
		<i>(in thousand Baht)</i>											
Direct associate													
Star Energy Group Holdings Pte. Ltd.	Production and distribution of geothermal electricity	33.33	33.33	28,169,371	28,236,600	11,889,196	11,956,425	-	-	11,889,196	11,956,425	-	-
Impact Energy Asia Development Limited	Production and distribution of wind electricity	45.00	-	1	-	-	-	-	-	-	-	-	-
				<u>11,889,196</u>	<u>11,956,425</u>	<u>11,889,196</u>	<u>11,956,425</u>	<u>-</u>	<u>-</u>	<u>11,889,196</u>	<u>11,956,425</u>	<u>-</u>	<u>-</u>

None of the Company's equity-accounted investee is publicly listed and consequently does not have published price quotations.

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Change in investment in associate

On 8 April 2019, the Company co-established Impact Energy Asia Development Limited (“IEAD”) which registered at Hong Kong Special Administrative Region of the People's Republic of China with an initial registered capital of HKD 200 and a purpose to operate a renewable energy power plant development project in the future. The Company acquired 90 shares with HKD 1 per share, totaling HKD 90 (equivalent to Baht 369). The Company has 45% of shareholding in the total issued and paid up shares of IEAD.

During the year ended December 31, 2019, Star Energy Group Holding Pte. Ltd. reduced its registered share capital from USD 840.01 million to USD 834.01 million and distributed USD 6 million back to its shareholders. The Group received a distribution based on the Group’s ownership interest at 33.33%, calculated as USD 2.00 million (approximately Baht 67.23 million).

Impairment testing for cash generating unit containing goodwill in investment in associate, Star Energy Group Holdings Pte. Ltd.

The recoverable amount of investment in associate, Star Energy Group Holdings Pte. Ltd., which contained goodwill, was value-in-use by discounted future cash flow from the continuing operation of power plants in Indonesia.

The key assumptions used in the estimation of the future cash flows were based on the concession agreements, power purchase agreements, estimated selling price and production unit of electricity and steam, with reference to historical data and external source such as exchange rate and inflation.

The key assumption used in the estimation of value in use are as set out below.

	Consolidated financial statements	
	2019	2018
		(%)
Discount rate – Geothermal power plants	7.1 - 7.6	7.2 - 7.6

The discount rate was weighted average after-tax cost of capital by using Capital Asset Pricing Model (CAPM). Risk free rate was derived from long-term U.S. treasury bond yield. The adjustment for market risk premium to reflect risk of equity investment and country risk premium is also taking into consideration.

Revenue projection

The total revenue projections for the power plant assets was determined in accordance with the power purchase agreements, concession agreements and related announcements. The assumptions included electricity and steam selling price from thermal power plants, production unit, electricity unit, exchange rate, inflation and other related factors.

The impairment testing has been prepared by the Company’s management. The estimate revenue and expenses were based on historical data, external source and other related factors which included management’s estimate and long term business plan. The management have also conducted sensitivity test by increasing discount rate 0.6% – 0.7% and found no impairment for investment in associate, Star Energy Group Holdings Pte. Ltd.

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Dispute with Government authority of Indonesia

As at 31 December 2019, an affiliate of Star Energy Group Holding Pte. Ltd. (“SEGHPL”) has a dispute with Directorate General of Budget (“DGB”), the Bureau of the Budget under the Ministry of Finance Indonesia regarding the calculation of profit sharing distributed to the government. There is a different interpretation on the definition of expenditure relating to profit sharing calculation. SEGHPL paid additional profit sharing and recorded as a refundable tax. SEGHPL submitted an objection letter to request for a refund. This dispute is currently under resolution process. However, the Group has already reserved the allowance for doubtful account on the refundable tax in full in the consolidated financial statements.

The following table summarises the financial information of the associates as included in their own financial statements, adjusted for fair value adjustments at acquisition and differences in accounting policies. The table also reconciles the summarized financial information to the carrying amount of the Group’s interest in these companies.

	<i>PetroWind Energy Inc.</i>		<i>Star Energy Group Holdings Pte.Ltd.</i>	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
For the year ended 31 December				
Statement of income				
Revenue	488,568	520,442	15,860,072	16,939,423
Net profit	146,694	181,648	3,860,769	3,632,594
Other comprehensive income (loss)	-	-	(484,583)	484,053
Total comprehensive income	146,694	181,648	3,376,186	4,116,647
Fair value adjustment and accounting policies difference	(80,081)	(83,336)	(1,585,307)	(1,780,891)
Total comprehensive income (100%)	66,613	98,312	1,790,879	2,335,756
Group’s share of total comprehensive income	26,645	39,324	323,678	192,390
At 31 December				
Statement of financial position				
Current assets	457,262	496,964	9,028,861	10,960,536
Non-current assets	3,859,498	4,272,418	103,064,353	110,385,060
Current liabilities	(269,521)	(282,666)	(4,835,103)	(6,421,329)
Non-current liabilities	(983,887)	(1,591,797)	(71,169,541)	(78,839,975)
Net assets (100%)	3,063,352	2,894,919	36,088,570	36,084,292
Group’s share of net assets	1,126,406	1,205,660	8,124,054	7,921,736
Goodwill	-	-	4,373,308	4,373,308
Carrying amount of interest in associates	1,126,406	1,205,660	12,497,362	12,295,044

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Immaterial associate

The following is summarized financial information for the Group's interest in immaterial associate based on the amounts reported in the Group's consolidated financial statements:

	Immaterial associate	
	2019	2018
	<i>(in thousand Baht)</i>	
Carrying amount of interests in immaterial associate	369	-
Group's share of:		
- Profit from continuing operations	(369)	-
- Other comprehensive income	-	-
- Total comprehensive income	<u>-</u>	<u>-</u>

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12 Property, plant and equipment

	Consolidated financial statements							
	Land	Building	Improvement and Infrastructure	Machinery and equipment <i>(in thousand Baht)</i>	Office equipment	Vehicle	Assets under construction	Total
Cost								
At 1 January 2018	689,490	225,117	1,193,277	12,758,007	181,764	18,580	760,333	15,826,568
Additions	104,873	-	2,722	635	169	3,275	1,481,460	1,593,134
Transfers in/(out)	-	17,225	28,094	578,049	6,596	619	(630,909)	(326)
Disposals	-	(3,369)	(32,022)	(2,098,955)	(138)	-	-	(2,134,484)
Effect of movements in exchange rates	3,718	52	757	31,393	142	14	9,313	45,389
At 31 December 2018 and								
1 January 2019	798,081	239,025	1,192,828	11,269,129	188,533	22,488	1,620,197	15,330,281
Additions	8,860	38,705	-	740	6,518	4,010	1,451,905	1,510,738
Acquired through business acquisition (Note 5)	-	3,198	-	5,450	122	-	-	8,770
Transfers in/(out)	3,866	51,148	25,529	639,828	43,770	-	(764,244)	(103)
Disposals	-	-	-	(2,383)	(403)	(5,150)	-	(7,936)
Effect of movements in exchange rates	(22,187)	(304)	(2,399)	(71,807)	(557)	(106)	(101,507)	(198,867)
At 31 December 2019	788,620	331,772	1,215,958	11,840,957	237,983	21,242	2,206,351	16,642,883

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	Land	Building	Improvement and Infrastructure	Machinery and equipment (in thousand Baht)	Office equipment	Vehicle	Assets under construction	Total
Depreciation								
At 1 January 2018	-	30,962	172,826	1,612,545	108,429	11,482	-	1,936,244
Depreciation charge for the year	-	9,926	56,217	563,225	20,101	3,195	-	652,664
Disposals	-	(292)	(6,296)	(200,008)	(6)	-	-	(206,602)
Effect of movements in exchange rates	-	3	139	2,384	95	5	-	2,626
At 31 December 2018 and								
1 January 2019	-	40,599	222,886	1,978,146	128,619	14,682	-	2,384,932
Depreciation charge for the year	-	13,330	55,136	514,139	15,695	2,976	-	601,276
Disposals	-	-	-	(634)	(403)	(5,150)	-	(6,187)
Effect of movements in exchange rates	-	(23)	(879)	(11,179)	(589)	(49)	-	(12,719)
At 31 December 2019	-	53,906	277,143	2,480,472	143,322	12,459	-	2,967,302

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Consolidated financial statements								
	Land	Building	Land improvement and infrastructure	Machinery and equipment	Office equipment	Vehicle	Assets under construction	Total
	<i>(in thousand Baht)</i>							
Net book value								
At 1 January 2018								
Owned assets	689,490	194,155	1,020,451	11,145,462	73,335	7,098	760,333	13,890,324
Assets under finance leases	-	-	-	-	-	-	-	-
	689,490	194,155	1,020,451	11,145,462	73,335	7,098	760,333	13,890,324
At 31 December 2018 and 1 January 2019								
Owned assets	798,081	198,426	969,942	9,290,983	59,914	6,188	1,620,197	12,943,731
Assets under finance leases	-	-	-	-	-	1,618	-	1,618
	798,081	198,426	969,942	9,290,983	59,914	7,806	1,620,197	12,945,349
At 31 December 2019								
Owned assets	788,620	277,866	938,815	9,360,485	94,661	8,783	2,206,351	13,675,581
Assets under finance leases	-	-	-	-	-	-	-	-
	788,620	277,866	938,815	9,360,485	94,661	8,783	2,206,351	13,675,581

Security

At 31 December 2019, the Group's land, buildings, machinery and equipment with a net book value of Baht 9,721.77 million (2018: Baht 10,457.15 million) were used as collateral to secure loans from financial institutions. (See note 16)

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	Separate financial statements							Total
	Land	Building	Land Improvement and Infrastructure	Machinery and equipment <i>(in thousand Baht)</i>	Office equipment	Vehicle	Assets under construction	
Cost								
At 1 January 2018	-	17,593	244,543	3,004,674	38,056	3,787	11,654	3,320,307
Additions	-	-	-	405	-	818	382,898	384,121
Transfers in/(out)	-	14,468	26,735	325,884	6,547	-	(373,634)	-
Disposals	-	-	-	-	(138)	-	-	(138)
At 31 December 2018 and 1 January 2019	-	32,061	271,278	3,330,963	44,465	4,605	20,918	3,704,290
Additions	-	38,705	-	117	3,842	-	172,148	214,812
Transfers in/(out)	-	-	2,464	63,470	120	-	(66,054)	-
Disposals	-	-	-	-	-	-	-	-
At 31 December 2019	-	70,766	273,742	3,394,550	48,427	4,605	127,012	3,919,102

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	Separate financial statements							
	Land	Building	Land improvement and infrastructure	Machinery and equipment	Office equipment	Vehicle	Assets under construction	Total
				<i>(in thousand Baht)</i>				
Depreciation								
At 1 January 2018	-	1,688	22,266	303,427	8,455	1,433	-	337,269
Depreciation charge for the year	-	1,110	13,138	151,049	5,939	802	-	172,038
Disposals	-	-	-	-	(6)	-	-	(6)
At 31 December 2018 and 1 January 2019	-	2,798	35,404	454,476	14,388	2,235	-	509,301
Depreciation charge for the year	-	4,420	14,199	159,821	8,594	894	-	187,928
Disposals	-	-	-	-	-	-	-	-
At 31 December 2019	-	7,218	49,603	614,297	22,982	3,129	-	697,229
Net book value								
At 1 January 2018	-	15,905	222,277	2,701,247	29,601	2,354	11,654	2,983,038
At 31 December 2018 and 1 January 2019	-	29,263	235,874	2,876,487	30,077	2,370	20,918	3,194,989
At 31 December 2019	-	63,548	224,139	2,780,253	25,445	1,476	127,012	3,221,873

Security

At 31 December 2019, the Company's buildings, machinery and equipment with a net book value of Baht 2,738.37 million (2018: Baht 2,823.15 million) were used as collateral to secure loans from financial institutions. (See note 16)

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13 Goodwill

		Consolidated financial statements		Separate financial statements	
	<i>Note</i>	2019	2018	2019	2018
		<i>(in million Baht)</i>			
<i>Cost</i>					
At 1 January		-	-	-	-
Acquired through business combinations	5	324,633	-	-	-
Effect of foreign currency exchange differences		(6,279)	-	-	-
At 31 December		<u>318,354</u>	<u>-</u>	<u>-</u>	<u>-</u>
<i>Impairment losses</i>					
At 1 January		-	-	-	-
Impairment loss		-	-	-	-
At 31 December		<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<i>Net book value</i>					
At 31 December		<u>318,354</u>	<u>-</u>	<u>-</u>	<u>-</u>

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14 Intangible assets

		Consolidated financial statements						
		(in thousand Baht)						
<i>Note</i>		Right to use and cost of development of computer software	The right to connect power distribution system	Feed-in Tariff power purchase agreement	Power purchase agreements under concession agreement	Land and right	Intangible assets under development	Total
Cost								
	At 1 January 2018	25,324	91,921	1,606,886	-	22,082	205,869	1,952,082
	Additions	-	2,353	-	-	-	105,307	107,660
	Transfers in/(out)	18,254	5,637	-	-	-	(23,891)	-
	Disposals	-	(43,198)	(190,308)	-	-	(6)	(233,512)
	Effect of movements on exchange rate	47	772	17,887	-	-	2,459	21,165
	At 31 December 2018	43,625	57,485	1,434,465	-	22,082	289,738	1,847,395
	and 1 January 2019	60	8,098	-	-	-	1,186	9,344
	Acquisition through business combinations	-	-	-	5,196,530	-	-	5,196,530
	Transfers in/(out)	794	-	-	-	-	(794)	-
	Disposals	-	-	-	-	-	(266)	(266)
	Effect of movements on exchange rate	(246)	(1,991)	(83,932)	(100,504)	-	(16,940)	(203,613)
	At 31 December 2019	44,233	63,592	1,350,533	5,096,026	22,082	272,924	6,849,390

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	Right to use and cost of development of computer software	The right to connect power distribution system	Feed-in Tariff purchase agreement	Power purchase agreements under concession agreement	Land right	Intangible assets under development	Total
Amortisation							
At 1 January 2018	4,140	7,649	48,026	-	-	-	59,815
Amortisation for the year	6,687	4,252	29,323	-	225	-	40,487
Disposals	-	(4,375)	(14,754)	-	-	-	(19,129)
Effect of movements on exchange rate	12	65	568	-	-	-	645
At 31 December 2018	10,839	7,591	63,163	-	225	-	81,818
At 1 January 2019	9,133	3,002	22,453	53,501	883	-	88,972
Amortisation for the year	-	-	-	-	-	-	-
Effect of movements on exchange rate	(123)	(343)	(4,398)	(262)	-	-	(5,126)
At 31 December 2019	19,849	10,250	81,218	53,239	1,108	-	165,664
Net Book Value							
At 1 January 2018	21,184	84,272	1,558,860	-	22,082	205,869	1,892,267
At 31 December 2018	32,786	49,894	1,371,302	-	21,857	289,738	1,765,577
At 1 January 2019	24,384	53,342	1,269,315	5,042,787	20,974	272,924	6,683,726

The accompanying notes form an integral part of the financial statements.

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	Separate financial statements				Total
	Right to use and cost of development of computer software	The right to connect power distribution system	Land right <i>(in thousand Baht)</i>	Intangible assets under development	
Cost					
At 1 January 2018	19,512	17,823	22,082	815	60,232
Addition	-	-	-	22,956	22,956
Transfers in/(out)	18,134	5,637	-	(23,771)	-
At 31 December 2018 and 1 January 2019	37,646	23,460	22,082	-	83,188
Addition	59	-	-	1,095	1,154
Transfers in/(out)	794	-	-	(794)	-
At 31 December 2019	38,499	23,460	22,082	301	84,342
Amortisation					
At 1 January 2018	1,688	1,720	-	-	3,408
Amortisation for the year	5,839	925	225	-	6,989
At 31 December 2018 and 1 January 2019	7,527	2,645	225	-	10,397
Amortisation for the year	8,312	1,050	883	-	10,245
At 31 December 2019	15,839	3,695	1,108	-	20,642
Net Book Value					
At 1 January 2018	17,824	16,103	22,082	815	56,824
At 31 December 2018 and 1 January 2019	30,119	20,815	21,857	-	72,791
At 31 December 2019	22,660	19,765	20,974	301	63,700

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15 Other payables

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
		<i>(in thousand Baht)</i>			
Related parties	6	9,040	3,501	9,040	3,742
Other parties					
Construction payable		149,409	39,160	112,412	-
Interest payable		25,003	23,156	9,146	4,676
Accrued expenses		116,805	100,989	36,656	48,541
Payable to revenue department		27,993	69,144	6,846	9,153
Retention payable		4,009	3,136	716	500
Other account payable		66,187	98,767	37,640	22,802
Total		398,446	337,853	212,456	89,414

16 Interest-bearing liabilities

	2019		Consolidated financial statements		2018	
	Secure	Unsecure	Total	Secure	Unsecure	Total
	<i>(in thousand Baht)</i>					
Short-term loans from financial institutions	2,320,000	250,000	2,570,000	-	250,000	250,000
Current portion of long-term loan from financial institutions	1,285,004	-	1,285,004	1,270,576	-	1,270,576
Long-term loans from financial institutions	16,026,147	-	16,026,147	14,046,591	-	14,046,591
Total interest- bearing liabilities	19,631,151	250,000	19,881,151	15,317,167	250,000	15,567,167

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	Note	2019		Separate financial statements		2018	
		Secure	Unsecure	Total	Secure	Unsecure	Total
Short-term loans from financial institutions		2,320,000	250,000	2,570,000	-	250,000	250,000
Current portion of long-term loan from financial institutions		1,070,886	-	1,070,886	1,063,515	-	1,063,515
Long-term loans from financial institutions		14,705,450	-	14,705,450	12,464,554	-	12,464,554
Long-term loans from related parties	6	-	-	-	-	500,000	500,000
Total interest-bearing liabilities		<u>18,096,336</u>	<u>250,000</u>	<u>18,346,336</u>	<u>13,528,069</u>	<u>750,000</u>	<u>14,278,069</u>

The periods to maturity of interest-bearing liabilities as at 31 December were as follows:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Within one year	3,855,004	1,520,576	3,640,886	1,313,515
After one year but within five years	14,069,240	11,430,064	13,384,514	11,110,629
After five years	1,956,907	2,616,527	1,320,936	1,853,925
Total	<u>19,881,151</u>	<u>15,567,167</u>	<u>18,346,336</u>	<u>14,278,069</u>

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As at 31 December 2019, the Group entered into loan agreements with financial institutions, the details are as follows:

	Facilities (million)	Currency	Interest Interest Rates (%) p.a.	Repayment Terms
Short-term borrowings from financial institutions				
The Company	300	Baht	MRR	Interest is payable monthly and at maturity date along with principal repayment. Promissory note period is not over 180 days.
The Company	2,500	Baht	BIBOR plus a margin	Interest is payable monthly and at maturity date along with principal repayment. Promissory note period is not over 12 months.
Long-term borrowings from financial institutions				
The Company	450	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually in 17 instalments starting in December 2016
The Company	270	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually in 17 instalments starting in December 2016
The Company	750	Baht	FDR 6M plus a margin	Interest is payable semi-annually in 29 instalments starting in December 2016
The Company	1,050	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually in 15 instalments starting in December 2017
The Company	630	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually in 15 instalments starting in December 2017
The Company	1,750	Baht	FDR 6M plus a margin	Interest is payable semi-annually in 27 instalments starting in December 2017
The Company	2,400	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually principal repayment at year 6 from agreement signing date
The Company	2,740	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually, principal repayment at year 6 from agreement signing date
The Company	4,200	JPY	JPYTIBOR 6M plus a margin	Interest is payable semi-annually in 17 instalments starting in December 2016
The Company	570	JPY	JPYTIBOR 6M plus a margin	Interest is payable semi-annually in 17 instalments starting in December 2016
The Company	9,800	JPY	JPYTIBOR 6M plus a margin	Interest is payable semi-annually in 15 instalments starting in December 2017
The Company	1,330	JPY	JPYTIBOR 6M plus a margin	Interest is payable semi-annually in 15 instalments starting in December 2017

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	Facilities (million)	Currency	Interest Interest Rates (%) p.a.	Repayment Terms
<i>Long-term borrowings from financial institutions (Continue)</i>				
The Company	7,896	JPY	JPYTIBOR 6M plus a margin	Interest is payable semi- principal repayment at year 6 from agreement signing date
The Company	1,128	JPY	JPYTIBOR 6M plus a margin	Interest is payable semi-annually, principal repayment at year 6 from agreement signing date
The Company	8,310	JPY	JPYTIBOR 6M plus a margin	Interest is payable monthly, principal repayment at year 3 from agreement signing date
The Company	10	USD	USDLIBOR 6M plus a margin	Interest is payable semi-annually principal repayment at year 6 from agreement signing date
The Company	40	USD	USDLIBOR 6M plus a margin	Interest is payable semi-annually, principal repayment at year 6 from agreement signing date
The Company	20	USD	USDLIBOR 6M plus a margin	Interest is payable semi-annually, principal repayment at year 6 from agreement signing date
Direct subsidiary	754	Baht	THBFIX 6M plus a margin	Interest is payable semi-annually in 20 instalments starting in August 2013
Direct subsidiary	754	Baht	Fixed Interest Rate for 6 years	Interest is payable semi-annually in 34 instalments starting in August 2013
Direct subsidiary	12	USD	Fixed Interest Rate	Interest is payable semi-annually in 34 instalments starting in August 2013
Indirect subsidiary	254	JPY	Fixed Interest Rate	Interest is payable quarterly in 68 instalments starting in April 2015
Indirect subsidiary	355	JPY	Fixed Interest Rate	Interest is payable quarterly in 68 instalments starting in July 2015
Indirect subsidiary	349	JPY	Fixed Interest Rate	Interest is payable quarterly in 68 instalments starting in July 2015
Indirect subsidiary	2,578	JPY	Fixed Interest Rate	Interest is payable quarterly in 68 instalments starting in March 2016

These loan agreements contain certain conditions such as maintaining certain level of financial ratios and right transfer, loans are secured by pledging of land, building, infrastructure, machinery, 33.33% shares of issued and paid up capital of Star Energy Group Holdings Pte. Ltd. and total shares of issued and paid up capital of BCPG Indochina Company Limited, a subsidiary of the company.

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17 Share capital

	Par value per share (in Baht)	2019		2018	
		Number	Baht	Number	Baht
Authorised shares at 31 December	5	<u>2,000,000</u>	<u>10,000,000</u>	<u>2,000,000</u>	<u>10,000,000</u>
Issued and paid-up					
At 1 January					
- Ordinary shares	5	1,996,827	9,984,137	1,992,304	9,961,522
Issue of new shares	5	<u>2,065</u>	<u>10,323</u>	<u>4,523</u>	<u>22,615</u>
At 31 December					
- Ordinary shares	5	<u>1,998,892</u>	<u>9,994,460</u>	<u>1,996,827</u>	<u>9,984,137</u>

Warrants

At the Annual General Meeting of the Shareholders of the Company, held on 4 April 2017, the shareholders approved the issuance and offering of the warrants of the Company to directors, executives and employees of Company and its subsidiaries (BCPG ESOP Warrant Scheme) of not exceeding 10 million units equivalent to the ordinary shares allocated to accommodate to the exercise of rights not exceeding 10 million shares (approximately 0.50% of the total issued shares of the Company) within 5 years term and can be exercised to purchase the Company's shares in accordance with the specified terms and conditions. For the year ended 31 December 2019, the 2.07 million unit of warrants were exercised to 2.07 million ordinary shares.

18 Surplus and reserves

Surplus on business restructuring under common control

The difference between net book value of asset of subsidiaries as at the business restructuring date and the cost of business combination under common control recognised in surplus on business combination under common control within equity.

Share premium

Section 51 of the Public Companies Act B.E. 2535 requires companies to set aside share subscription monies received in excess of the par value of the shares issued to a reserve account ("share premium"). Share premium is not available for dividend distribution.

Legal reserve

Section 116 of the Public Companies Act B.E. 2535 Section 116 requires that a public company shall allocate not less than 5% of its annual net profit, less any accumulated losses brought forward, to a reserve account ("legal reserve"), until this account reaches an amount not less than 10% of the registered authorised capital. The legal reserve is not available for dividend distribution.

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Other components of equity

Currency translation differences

The currency translation differences account within equity comprises all foreign currency differences arising from the translation of the financial statements of foreign operations.

19 Segment information

Business segment

Management considers that the Group operates in a single line of business, production and distribution of electricity. Therefore, the group has only one reportable segment.

Disaggregation of revenue

Timing of revenue recognition of major revenues of the Group and the Company are over time.

Geographical segment

In presenting information on the basis of geographical segments, segment sales are based on the entity's country of domicile. Segment non-current assets (exclude derivatives and deferred tax) are based on the geographical location of the assets.

	Revenues		Non-current assets	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Thailand	3,059,743	2,869,217	10,528,617	10,381,794
Japan	218,634	451,106	5,159,822	4,499,989
Laos	148,235	-	5,369,785	-
Philippines	-	-	1,126,406	1,205,660
Indonesia	-	-	12,497,362	12,295,044
Total	3,426,612	3,320,323	34,681,992	28,382,487

Major customers

The Group has revenue from 1 major customer group which contributes equal or over 10% of the Group's total revenue (2018: 2 major customer groups). The revenue from this major customer group which is the Electricity Generating Authority of Thailand and Provincial Electricity Authority is Baht 3,059.74 million (2018: Baht 2,869.22 million).

20 Revenue from sale and rendering of services

	Consolidated financial statements		Separate financial statements	
Note	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Revenue from sale of electricity	1,361,672	1,363,188	271,554	223,936
Revenue from adder	2,039,376	1,950,625	507,044	489,177
Rendering of services	6 25,564	6,510	42,000	42,000
Total	3,426,612	3,320,323	820,598	755,113

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21 Interest and dividend income

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
<i>(in thousand Baht)</i>					
Dividend income					
Subsidiaries	6	-	-	1,622,363	1,517,012
		<u>-</u>	<u>-</u>	<u>1,622,363</u>	<u>1,517,012</u>
Interest income					
Subsidiaries and indirect subsidiaries	6	-	-	200,483	160,244
Associate	6	1,813	-	1,813	-
Financial institutions		4,192	4,769	1,591	1,307
		<u>6,005</u>	<u>4,769</u>	<u>203,887</u>	<u>161,551</u>
Total		<u>6,005</u>	<u>4,769</u>	<u>1,826,250</u>	<u>1,678,563</u>

22 Administrative expenses

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<i>(in thousand Baht)</i>				
Personnel expenses	230,625	238,799	153,131	144,202
Depreciation and amortisation	23,694	16,835	18,371	10,968
Management service expense	16,418	20,257	16,419	19,670
Transportation expense	23,015	23,470	15,328	13,898
Consultancy fee	118,295	86,936	84,887	53,398
Other tax related to disposal of assets to infrastructure fund	-	43,247	-	-
Others	162,987	161,899	112,970	111,561
Total	<u>575,034</u>	<u>591,443</u>	<u>401,106</u>	<u>353,697</u>

23 Employee benefit expenses

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<i>(in thousand Baht)</i>				
Wages and salaries	173,538	159,598	102,757	87,128
Defined contribution plans	8,135	7,716	7,369	7,029
Share-base payment transaction	1,186	6,897	1,186	6,897
Others	99,998	102,534	78,413	69,886
Total	<u>282,857</u>	<u>276,745</u>	<u>189,725</u>	<u>170,940</u>

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Defined contribution plans

The company established provident funds for its employees. Membership to the funds is on a voluntary basis. Contributions are made monthly by the employees at rates ranging from 5% or 10% of their basic salaries and by the Company at rates ranging from 5% or 10% of the employees' basic salaries. The provident funds are registered with the Ministry of Finance as juristic entities and are managed by a licensed Fund Manager

24 Expenses by nature

The statements of income include an analysis of expenses by function. Expenses by nature disclosed in accordance with the requirements of various TFRS were as follows:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
<i>Included in cost of sales of goods and rendering of services:</i>				
Depreciation	585,433	641,318	176,592	165,712
Amortisation	81,121	34,998	3,210	2,347
<i>Included in administrative expenses:</i>				
Depreciation	15,843	11,346	11,336	6,326
Amortisation	7,851	5,489	7,035	4,642

25 Financial Costs

	<i>Note</i>	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
		<i>(in thousand Baht)</i>			
<i>Interest expense:</i>					
Related parties	6	-	-	2,746	634
Financial institutions		531,293	475,562	469,919	378,986
Total interest expense		531,293	475,562	472,665	379,620
Amortisation of transaction costs capitalised		36,463	44,909	27,387	33,633
Other finance costs		94	99	-	-
Total		567,850	520,570	500,052	413,253

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26 Income tax

<i>Income tax recognised in profit or loss</i>	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Current tax expense				
Current year	1,147	96,715	-	-
Adjustment for prior years	223	2,420	-	-
	<u>1,370</u>	<u>99,135</u>	<u>-</u>	<u>-</u>
Deferred tax expense				
Movements in temporary differences	(9,686)	6,436	(4,778)	13,198
	<u>(9,686)</u>	<u>6,436</u>	<u>(4,778)</u>	<u>13,198</u>
Total tax expense (income)	<u>(8,316)</u>	<u>105,571</u>	<u>(4,778)</u>	<u>13,198</u>
Reconciliation of effective tax rate		Consolidated financial statements		
		2019		2018
	<i>Rate (%)</i>	<i>(in thousand Baht)</i>	<i>Rate (%)</i>	<i>(in thousand Baht)</i>
Profit before income tax expense		<u>1,792,442</u>		<u>2,324,800</u>
Income tax using the Thai corporation tax rate	20	358,488	20	464,960
Effect of different tax rates in foreign jurisdictions		(272)		16,559
Income not subject to tax/ Expenses that are deductible at a greater amount		(567,981)		(507,401)
Expenses not deductible for tax purposes/ other adjustments		87,555		153,230
Recognition of previously unrecognised tax losses		-		(95,875)
Current year losses for which no deferred tax asset was recognised		113,668		71,964
Over provided in prior years		223		2,420
Others		3		(286)
Total tax expense (income)	<u>(0.46)</u>	<u>(8,316)</u>	<u>4.54</u>	<u>105,571</u>

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<i>Reconciliation of effective tax rate</i>	Separate financial statements			
		2019		2018
	<i>Rate (%)</i>	<i>(in thousand Baht)</i>	<i>Rate (%)</i>	<i>(in thousand Baht)</i>
Profit before income tax expense		<u>1,567,400</u>		<u>1,362,640</u>
Income tax using the Thai corporation tax rate	20	313,480	20	272,528
Income not subject to tax/ Expenses that are deductible at a greater amount		(373,340)		(344,499)
Expenses not deductible for tax purposes/ other adjustments		680		22,797
Current year losses for which no deferred tax asset was recognised		<u>54,402</u>		<u>62,372</u>
Total tax expense (income)	<u>(0.30)</u>	<u>(4,778)</u>	<u>0.97</u>	<u>13,198</u>

27 Promotional Privileges

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the Company has been granted privileges by the Board of Investment relating to production of electricity from solar cell. The privileges granted include:

- exemption from payment of import duty on machinery approved by the Board.
- exemption from payment of income tax for certain operations for a period of eight years from the date on which the income is first derived from such operations.
- a 50% reduction in the normal income tax rate on the net profit derived from certain operations for a period of five years, commencing from the expiry date in (b) above.

As promoted company, the Company must comply with certain terms and conditions prescribed in the promotional certificates.

Summary of revenue from promoted and non-promoted businesses:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht)</i>			
Promoted businesses	3,059,743	2,869,217	778,598	713,113
Non - promoted businesses	<u>366,869</u>	<u>451,106</u>	<u>42,000</u>	<u>42,000</u>
Total	<u>3,426,612</u>	<u>3,320,323</u>	<u>820,598</u>	<u>755,113</u>

Revenue from promoted businesses is entirely domestic sales.

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28 Earnings per share

Basic earnings per share

The calculations of basic earnings per share for the year ended 31 December 2019 and 2018 were based on the profit for the year attributable to ordinary shareholders of the Company and the weighted average number of ordinary shares outstanding during the year as follows;

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand shares/thousand Baht)</i>			
Profit attributable to ordinary shareholders of the Company	<u>1,801,424</u>	<u>2,219,228</u>	<u>1,572,178</u>	<u>1,349,442</u>
Number of ordinary shares issued at the beginning of the year	1,996,827	1,992,304	1,996,827	1,992,304
Effect of shares issued and paid-up	<u>1,183</u>	<u>3,097</u>	<u>1,183</u>	<u>3,097</u>
Weighted average number of ordinary shares outstanding (basic)	<u>1,998,010</u>	<u>1,995,401</u>	<u>1,998,010</u>	<u>1,995,401</u>
Basic earnings per share (in Baht)	<u>0.90</u>	<u>1.11</u>	<u>0.79</u>	<u>0.68</u>

Diluted earnings per share

The calculations of diluted earnings per share for the year ended 31 December 2019 and 2018 were based on the profit for the year attributable to ordinary shareholders of the Company and the weighted average number of ordinary shares outstanding during the year after adjusting for the effects of all dilutive potential ordinary shares as follows:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	<i>(in thousand Baht/thousand shares)</i>			
Profit for the period attributable to ordinary shareholders of the Company (basic)	<u>1,801,424</u>	<u>2,219,228</u>	<u>1,572,178</u>	<u>1,349,442</u>
Weighted average number of ordinary shares outstanding (basic)	1,998,010	1,995,401	1,998,010	1,995,401
Effect of issuance of shares option	<u>224</u>	<u>4,501</u>	<u>224</u>	<u>4,501</u>
Weighted average number of ordinary shares outstanding (diluted)	<u>1,998,234</u>	<u>1,999,902</u>	<u>1,998,234</u>	<u>1,999,902</u>
Earnings per share (diluted) (in Baht)	<u>0.90</u>	<u>1.11</u>	<u>0.79</u>	<u>0.67</u>

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29 Dividends

The dividends paid by the Group to the shareholders are as follows:

	Approval date	Payment schedule	Dividend rate per share (Baht)	Amount (in million Baht)
Interim dividend 2019 for the third quarter performance	19 November 2019	17 December 2019	0.16	319.82
Interim dividend 2019 for the second quarter performance	20 August 2019	13 September 2019	0.16	319.82
Interim dividend 2019 for the first quarter performance	21 May 2019	14 June 2019	0.16	319.77
Annual dividend 2018 - net from interim dividend	9 April 2019	22 April 2019	0.16	319.52
Additional dividend			0.64	1,278.93
Interim dividend 2018 for the third quarter performance	27 November 2018	20 December 2018	0.16	319.49
Interim dividend 2018 for the second quarter performance	21 August 2018	13 September 2018	0.16	319.48
Interim dividend 2018 for the first quarter performance	22 May 2018	15 June 2018	0.16	319.44
Annual dividend 2017 - net from interim dividend	27 April 2018	8 May 2018	0.16	319.09
Additional dividend			0.64	1,277.50

30 Financial instruments

Financial risk management policies

The Group is exposed to normal business risks from changes in market interest rates and currency exchange rates and from non-performance of contractual obligations by counterparties. The Group does not hold or issue derivatives for speculative or trading purposes.

Risk management is integral to the whole business of the Group. The Group has a system of controls in place to create an acceptable balance between the cost of risks occurring and the cost of managing the risks. The management continually monitors the Group risk management process to ensure that an appropriate balance between risk and control is achieved.

Capital management

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board monitors the return on capital, which the Group defines as result from operating activities divided by total shareholders' equity, excluding non-controlling interests and also monitors the level of dividends to ordinary shareholders.

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Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows. The Group is primarily exposed to interest rate risk from its borrowings (see note 16). The Group mitigates this risk by ensuring that the majority of its borrowings are at fixed interest rates.

	Effective Interest rate (% per annum)	Consolidated financial statements			Total
		Maturity period			
<i>At 31 December</i>		Within 1 year	After 1 year but within 5 years (in thousand Baht)	After 5 years	
2019					
<i>Financial asset</i>					
Current					
Loans to related party	4.71	-	151,983	-	151,983
Total		-	151,983	-	151,983
<i>Financial liabilities</i>					
Current					
Loans from financial institutions	1.32 - 5.26	3,855,004	-	-	3,855,004
Non-current					
Loans from financial institutions	1.32 - 5.26	-	14,069,240	1,956,907	16,026,147
Total		3,855,004	14,069,240	1,956,907	19,881,151
2018					
<i>Financial liabilities</i>					
Current					
Loans from financial institutions	1.86 - 5.25	1,520,576	-	-	1,520,576
Non-current					
Loans from financial institutions	1.86 - 5.66	-	11,430,064	2,616,527	14,046,591
Total		1,520,576	11,430,064	2,616,527	15,567,167

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<i>At 31 December</i>	Effective Interest rate <i>(% per annum)</i>	Separate financial statements			
		Maturity period			Total
		Within 1 year	After 1 year but within 5 years <i>(in thousand Baht)</i>	After 5 years	
2019					
Financial Assets					
Current					
Loans to related parties	2.88 - 3.00	2,035,604	-	-	2,035,604
Non-current					
Loans to related parties	2.88 - 4.71	-	7,997,585	-	7,997,585
Total		2,035,604	7,997,585	-	10,033,189
Financial liabilities					
Current					
Loans from financial institutions	1.32 - 5.26	3,640,886	-	-	3,640,886
Non-current					
Loans from financial institutions	1.32 - 5.26	-	13,384,514	1,320,936	14,705,450
Total		3,640,886	13,384,514	1,320,936	18,346,336
2018					
Financial Assets					
Current					
Loans to related parties	2.88 - 3.64	1,495,138	-	-	1,495,138
Non-current					
Loans to related parties	2.88 - 4.50	-	3,883,174	-	3,883,174
Total		1,495,138	3,883,174	-	5,378,312
Financial liabilities					
Current					
Loans from financial institutions	1.60 - 4.23	1,313,515	-	-	1,313,515
Non-current					
Loans from financial institutions	1.60 - 5.66	-	10,610,629	1,853,925	12,464,554
Loans from related parties	2.57	-	500,000	-	500,000
Total		1,313,515	11,110,629	1,853,925	14,278,069

Foreign currency risk

The Group is exposed to foreign currency risk primarily from long-term loans from financial institutions outstanding in foreign currencies.

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Credit risk

Credit risk is the potential financial loss resulting from the failure of a customer or counterparty to settle its financial and contractual obligations to the Group and when they fall due. The Group has concentrations of credit risk since most of its revenues are contracted under long-term agreements with a small number of parties. However, counterparties are generally government authorities and large public or private corporations and the risk perceived is low.

Liquidity risk

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Group operations and to mitigate the effects of fluctuations in cash flows.

Fair values of financial assets and liabilities

As at 31 December 2019 and 2018, fair value of financial assets and liabilities is taken to approximately the carrying value, except the following items;

	Carrying value	Consolidated financial statements			
		Fair value			Total
		Level 1	Level 2	Level 3	
		<i>(in thousand Baht)</i>			
31 December 2019					
<i>Financial asset</i>					
Loans from related party (fixed rate)	153,796	-	164,322	-	164,322
<i>Financial liabilities</i>					
Cross currency swap contracts	-	-	6,401	-	6,401
Interest rate swap contract	-	-	65,079	-	65,079
Loans from financial institutions (fixed rate)	697,025	-	803,730	-	803,730
31 December 2018					
<i>Financial asset</i>					
Cross currency swap contracts	-	-	5,321	-	5,321
<i>Financial liabilities</i>					
Interest rate swap contract	-	-	41,740	-	41,740
Loans from financial institutions (fixed rate)	830,829	-	877,727	-	877,727

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	Carrying value	Seperate financial statements			
		Fair value			Total
		Level 1	Level 2	Level 3	
<i>(in thousand Baht)</i>					
31 December 2019					
Financial asset					
Loan to related parties (fixed rate)	10,511,039	-	11,800,662	-	11,800,662
Financial liability					
Interest rate swap contract	-	-	26,365	-	26,365
31 December 2018					
Financial asset					
Loan to related parties (fixed rate)	5,378,312	-	4,700,150	-	4,700,150
Financial liability					
Loan from related party (fixed rate)	500,000	-	489,330	-	489,330

Level 2 fair values for simple over-the-counter derivative financial instruments are based on broker quotes. Those quotes are tested for reasonableness by discounting expected future cash flows using market interest rate for a similar instrument at the measurement date. Fair values reflect the credit risk of the instrument and include adjustments to take account of the credit risk of the Group and counterparty when appropriate.

31 Commitments with non-related parties

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<i>(in thousand Baht)</i>				
Capital commitment				
Project management fee	4,397	169,995	-	-
Buildings, equipment, machinery and other constructions	909,298	1,480,875	222,880	-
Others	-	10,567	-	10,567
Total	913,695	1,661,437	222,880	10,567
Future minimum lease payments under non-cancellable operating leases				
Within one year	22,203	18,894	5,226	4,539
After one year but within five years	93,886	54,222	19,818	16,184
After five years	165,334	172,694	11,230	15,656
Total	281,423	245,810	36,274	36,379
Other commitment				
Bank guarantee	68,585	61,097	68,585	61,097
Total	68,585	61,097	68,585	61,097

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Cross currency swap contracts

The Group entered into cross currency swap contracts to buy U.S. Dollars currency of USD 11.60 million and sell Thai Baht currency of Baht 334.02 million. The contract expires in 2030. All counterparties agree to pay the interest and the notional amount in accordance with the terms and conditions specified in the contract.

Interest Rate Swap Agreements

The Group entered into interest rate swap agreements for loans from bank with a floating interest rate of 3M TIBOR+180BPS per annum, to a fixed rate of 2.94% per annum. The total principal amount is JPY 2,577.42 million with interest payments due every three months and the contracts end in 2022.

The Company entered into interest rate swap agreement for loans from bank with a floating interest rate of 6M USDLIBOR plus margin, the swap portion is only 6M USDLIBOR to a fixed rate of 2.60% per annum. The total principal amount is USD 28.00 million with interest payments due every six months and the contract ends in 2023.

32 Events after the reporting period

At the Board of Director's meeting of the Company held on 18 February 2020, the Board approved to submit for approval at the Annual General Meeting of the Shareholders, a full year 2019 dividend payment at the rate of Baht 0.64 per share, of which Baht 0.48 per share was paid as interim dividend as disclosed in note 29. Thus, the remaining dividend will be at the rate of Baht 0.16 per share payable to the shareholders entitled to receive dividend. This dividend is subject to the approval of Shareholders at the Annual General Meeting to be held on 9 April 2020.

On 13 February 2020, the Company has entered into the Credit Facility Agreement with Export-Import Bank of Thailand for the credit facility of USD 3 million. The credit facility period is 5 years. The interest rate is USDLIBOR 6M plus a margin per annum. This credit facility will be used for foreign investments in the energy sector.

On 30 January 2020, BCPG Indochina Co., Ltd., a subsidiary of the Company, has entered into the Credit Facility Agreement with Industrial and Commercial Bank of China (Thai) Plc. and Export-Import Bank of Thailand for the credit facility of USD 100 million. The credit facility period is 10 years. The interest rate is USDLIBOR 6M plus a margin per annum. This credit facility will be used for the acquisition of Nam San 3A as disclosed in note 5.

At the Board of Director's meeting No. 2/2020 of the Company held on 20 January 2020, the board approve BCPG Indochina Co., Ltd. ("BIC"), a subsidiary of the Company, to invest in hydro power plant project in the Lao People's Democratic Republic and investment in the construction and operation of transmission line system and electrical substation to the Socialist Republic of Vietnam by acquiring 100% shares of Nam San 3B Power Sole Co., Ltd. Subsequently, on 10 February 2020, BIC entered into the share purchase agreement to invest in such project. In this regards, the Company and the seller are in progress of completing the condition precedents stipulated in the share purchase agreement. Once all of the condition precedents have been satisfied, the shares shall be transferred to the purchaser and the payment shall be made to the seller.

BCPG Public Company Limited and its Subsidiaries
Notes to the financial statements
For the year ended 31 December 2018

33 That Financial Reporting Standards (TFRS) not yet adopted

New and revised TFRS, which are relevant to the Group's operations, expected to have material impact on the consolidated and separate financial statements when initially adopted, and will become effective for the financial statements in annual reporting periods beginning on or after 1 January 2020, are as follows:

TFRS	Topic
TFRS 7*	Financial Instruments: Disclosures
TFRS 9*	Financial Instruments
TFRS 16	Leases
TAS 32*	Financial Instruments: Presentation
TFRIC 16*	Hedges of a Net Investment in a Foreign Operation
TFRIC 19*	Extinguishing Financial Liabilities with Equity Instruments

* TFRS - Financial instruments standards

(a) TFRS - Financial instruments standards

These TFRS - Financial instruments standards establish requirements related to definition, recognition, measurement, impairment and derecognition of financial assets and financial liabilities, including accounting for derivatives and hedge accounting. When these TFRS are effective, some accounting standards, interpretations and guidance will be cancelled. The Group will adopt these TFRS by recognising the cumulative effects as an adjustment to retained earnings and other components of equity as at 1 January 2020 and the impact can be summarized as below:

Statement of financial position As at 1 January 2020	Consolidated financial statements	Separate financial statements
	<i>(in million Baht)</i>	
Decrease in total assets	49	98
Increase in total liabilities	81	26
Decrease in total equity	130	124

(b) TFRS 16 Leases

TFRS 16 introduces a single lessee accounting model for lessees. A lessee recognises a right-of-use asset and a lease liability, with recognition exemptions for short-term leases and leases of low-value items. Lessor accounting remains similar to the current standard, i.e. lessors continue to classify leases as finance or operating leases. When this TFRS is effective, some accounting standards and interpretations will be cancelled. The Group will adopt this TFRS by applying the cumulative effects as at 1 January 2020 as an adjustment to right-of-use assets equal to lease liabilities and will not restate comparative information. The impacts of the adoption of TFRS 16 in the consolidated financial statements and the separate financial statements as at 1 January 2020 and the impact can be summarized as below:

Statement of financial position As at 1 January 2020	Consolidated financial statements	Separate financial statements
	<i>(in million Baht)</i>	
Increase in total assets	373	143
Increase in total liabilities	373	143

GENERAL INFORMATION AND OTHER KEY INFORMATION

Company Information

BCPG PUBLIC COMPANY LIMITED
Registration No. 0107559000095

Company Establishment and Commercial Operation

July 17, 2015

Business

Operating and distributing electrical power from renewable resources including invest in renewable power company.

Customers

- Electricity Generating Authority of Thailand
- Provincial Electricity Authority
- Electric Power Company



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Website : www.bcpggroup.com

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Tambon Bang Krasan, Bang Pa-in District,
Phra Nakorn Sri Ayudthaya 13160

Bangchak Solar Energy (Buriram) Co., Ltd.

245-246 Moo 3 Tambon Salangtone,
Prakhon Chai District, Buriram 31140

Bangchak Solar Energy (Buriram1) Co., Ltd.

120 - 120/2 Moo 7, Tambon Bukkrasang,
Nong Kri District, Buriram 31210

Bangchak Solar Energy (Nakhonratchasima) Co., Ltd.

111 - 111/2 Moo 9, Tambon Takien,
Dan Khun Thot District, Nakhonratchasima 30210

Bangchak Solar Energy (Chaiyaphum1) Co., Ltd.

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Bamnet Narong District, Chaiyaphum 36220

Bangchak Solar Energy (Prachinburi) Co., Ltd.

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Kabin Buri District, Prachinburi 2511

BCPG Indochina Co., Ltd.

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Bang Pahan District,
Phra Nakorn Si Ayudthaya 13220

Thai Digital Energy Development Co., Ltd.

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Sukhumvit Road, Phrakhanongtai,
Phrakhanong, Bangkok 10260

Lom Ligor Co., Ltd.

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Centre, Singapore 018981

BSE Energy Holding Pte. Ltd. (BSEH)

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Centre, Singapore 018981

BCPG Wind Cooperatief U.A.

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PetroWind Energy Company Limited

7/F JMT Building, ADB Avenue, Ortigas Business
Center, Pasig City, The Philippines

Star Energy Group Holding

9 Battery Road #15-01 MYP Centre, Singapore (049910)

Nam San 3A Sole Company Limited

Phongtongsavath Village, Chanthabouly District,
Vientiane, Lao PDR

Impact Energy Asia Development Limited

9/F York HSE The Landmark 15 Queen's Rd.
Central, Hong Kong

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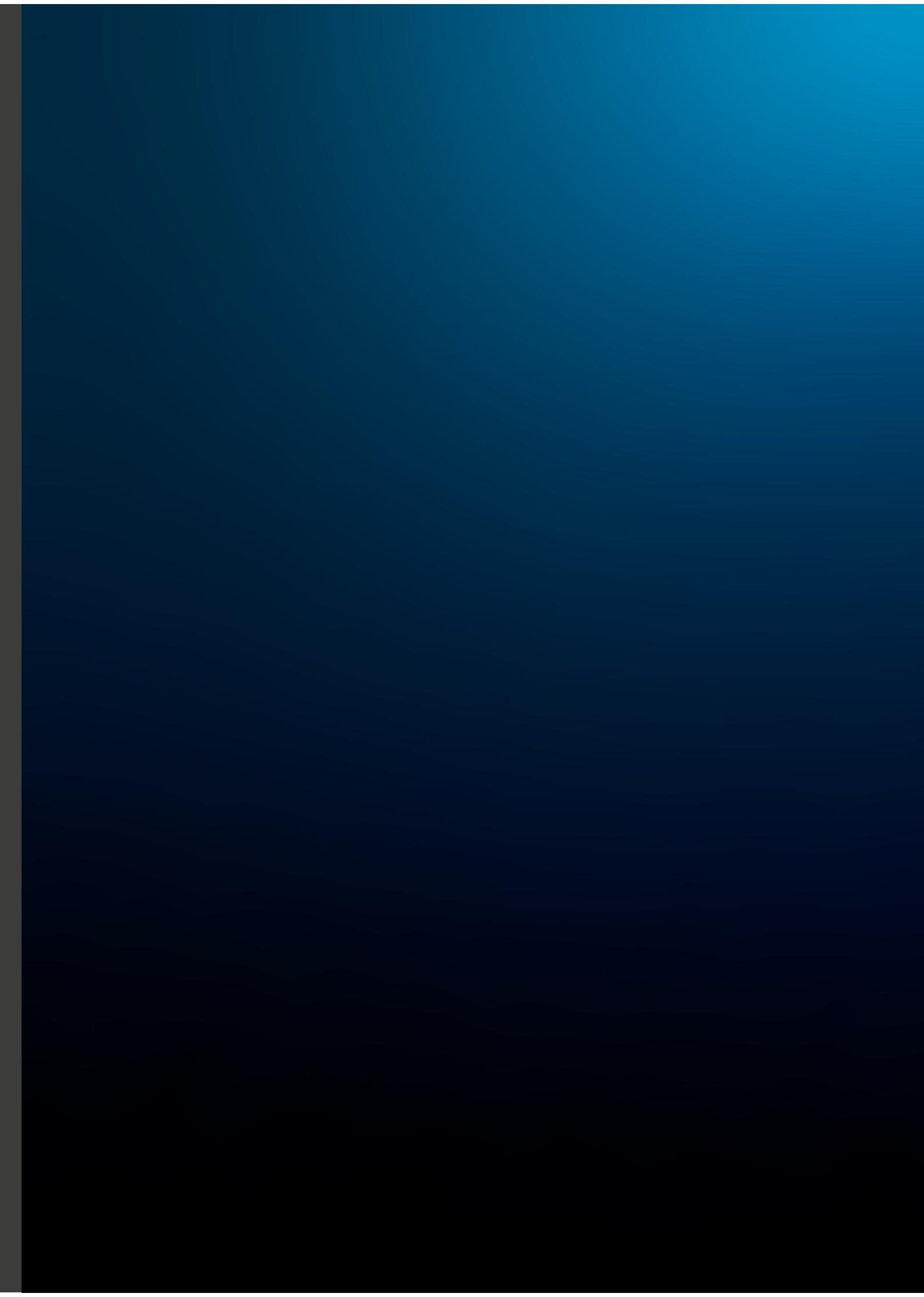
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Others

- Investor support
- Reporting losses of share certificates
- Shareholders' information change

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