RATCH GROUP

NEW FRONTIER ENERGY



Annual Report 2020

RATCH Group Public Company Limited

Annual Report 2020 RATCH Group Public Company Limited


Assessment of Corporate
Governance Report
of Thai Listed Companies in 2020
"Excellent"


To the
sustainable future
2020
2019
2018
2017
2016
2015
2014
Dividend per Share
(Baht)
2.40
2.40
2.40
2018
2019
2020

Vision

To become a leading value-oriented energy and infrastructure company in Asia Pacific.

Core Strategy

- **S1** Optimize current asset efficiency and manage project in development to meet goals and budget
- **S2** Further development of new power and infrastructure projects in established markets
- **S3** Seek partners for business expansion of the power and infrastructure business in emerging markets
- **S4** Increase value through business expansion in related and other businesses
- **S5** Strengthen organizational capability



Goal 2025

- **G1** To seek new investment to maintain production capacity of 10,000 megawatts to compensate the expired production capacity or to increase enterprise value to Baht 200,000 million
- **G2** To expand investment in business that is in value chain and other infrastructure business for optimum benefit
- **G3** To generate revenue from overseas investment to no less than 50 percent of the Company's total revenue
- **G4** To increase production capacity from renewable energy business by no less than 25 percent of the total capacity
- **G5** To be a high performance organization

Corporate Value

BE ENTREPRENEURIAL
COMMIT TO INTEGRITY



BOOST AGILITY ENCOURAGE INNOVATION

EXCEL SYNERGY & COLLABORATION
STRENGTHEN PARTNERSHIP

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Definition

Full Name	Abbrivated Name
RATCH Group Public Company Limited	The Company
RATCH Group Public Company Limited, subsidiaries, and associates	The Group
The Company's Group Power Plants	
Domestic Power Plants	
IPPs and SPPs	
Ratchaburi Power Plant, Ratchaburi Electricity Generating Company Limited	Ratchaburi Power Plant
Tri Energy Power Plant, Ratchaburi Electricity Generating Company Limited	Tri Energy Power Plant
Ratchaburi Power's Power Plant, Ratchaburi Power Company Limited	Ratchaburi Power's Power Plant
Hin Kong Combined-Cycle Power Plant, Hin Kong Power Company Limited	Hin Kong Combined-Cycle Power Plant
Ratchaburi World Cogeneration Company Limited's SPP Power Plant	Ratchaburi World SPP Power Plant
Nava Nakorn Electricity Generating Company Limited's SPP Power Plant	Nava Nakorn SPP Power Plant
Nava Nakorn Electricity Generating Company Limited's SPP Power Plant (Expansion)	Nava Nakorn SPP Power Plant (Expansion)
Berkprai Cogeneration Company Limited's SPP Power Plant	Berkprai Cogeneration SPP Power Plant
RATCH Cogeneration Company Limited's SPP Power Plant	RATCH Cogeneration SPP Power Plant
RATCH Cogeneration Company Limited's SPP Power Plant (Expansion)	RATCH Cogeneration SPP Power Plant (Expansion)
Nexif RATCH Energy Rayong SPP Power Plant, Nexif RATCH Energy Rayong Company Limited	Nexif RATCH Energy Rayong SPP Power Plant
Independent Power Supply Project, R E N Korat Energy Company Limited	R E N Korat Energy Power Plant
Renewable Energy Power Plant	
Solarta Solar Farm, Solarta Company Limited	Solarta Solar Farm
Solar Power Korat 3 Solar Farm, Solar Power (Korat 3) Company Limited	Solar Power Korat 3 Solar Farm
Solar Power Korat 4 Solar Farm, Solar Power (Korat 4) Company Limited	Solar Power Korat 4 Solar Farm
Solar Power Korat 7 Solar Farm, Solar Power (Korat 7) Company Limited	Solar Power Korat 7 Solar Farm
Huay Bong 2 Wind Farm, K. R. Two Company Limited	Huay Bong 2 Wind Farm
Huay Bong 3 Wind Farm, First Korat Wind Company Limited	Huay Bong 3 Wind Farm
Songkhla Biomass Power Plant, Songkhla Biomass Company Limited	Songkhla Biomass Power Plant

Full Name	Abbrivated Name
Overseas Power Plants	
Hongsa Thermal Power Plant, Hongsa Power Company Limited in Lao PDR	Hongsa Thermal Power Plant
Riau Combined-Cycle Power Plant, PT Medco Ratch Power Riau in the Republic of Indonesia	Riau Combined-Cycle Power Plant
Thang Long Coal-Fired Power Plant in the Socialisit Republic of Vietnam	Thang Long Coal-Fired Power Plant
Fangchenggang II Nuclear Power Plant, Guangxi Fangchenggang Nuclear Power (II) Company Limited in the People's Republic of China	Fangchenggang II Nuclear Power Plant
Xe-Pian Xe-Namnoy Hydroelectric Power Plant, Xe-Pian Xe-Namnoy Power Company Limited in Lao PDR	Xe-Pian Xe-Namnoy Hydroelectric Power Plant
Nam Ngum 2 Hydroelectric Power Plant, Nam Ngum 2 Power Company Limited in Lao PDR	Nam Ngum 2 Hydroelectric Power Plant
Asahan-1 Hydroelectric Power Plant, Fareast Renewable Development Pte. Limited in the Republic of Indonesia	Asahan-1 Hydroelectric Power Plant
Thanh Phong Wind Farm in the Socialist Republic of Vietnam	Thanh Phong Wind Power Plant
RATCH-Australia Corporation Limited's power plants in the Commonwealth of Australia	RATCH-Australia Power Plants
Infrastructure Projects	
Sandin Tap Water Project, Asia Water Company Limited in Lao PDR	Sandin Tap Water Project
MRT Pink Line Project (Khae Rai - Min Buri), Northern Bangkok Monorail Company Limited	MRT Pink Line Project
MRT Yellow Line Project (Lat Phrao - Samrong), Eastern Bangkok Monorail Company Limited	MRT Yellow Line Project
Internet of Things Project, Things On Net Company Limited	Internet of Things Project
Optic Fiber Network Project, Smart Infranet Company Limited	Optic Fiber Network Project
Other Organizations	
Securities and Exchange Commission	SEC
Stock Exchange of Thailand	SET
Thailand Securities Depository Company Limited	TSD
Thai Institute of Directors Association	IOD
Metropolitan Electricity Authority	MEA
Electricity Generating Authority of Thailand	EGAT
Provincial Electricity Authority	PEA
Mass Rapid Transit Authority of Thailand	MRTA
Technical Terms	
A company whose ordinary shares are listed in the Stock Exchange of Thailand	Listed Company
Power Development Plan	PDP
Independent Power Producer	IPP
Small Power Producer	SPP
Very Small Power Producer	VSPP

Board of Directors



06 04 03 01 05 02

01. **Mr. Boonyanit Wongrukmit**
Chairman
(EGAT's Representative Director)
Chairman of the Investment Committee

02. **Mr. Samack Chouvaparnante**
Independent Director
Chairman of the Risk
Management Committee

03. **Mr. Chartchai Rojanaratanangkule**
Independent Director
Chairman of the Audit Committee
Member of the Corporate Governance
and Social Responsibility Committee

04. **Mr. Apichart Chinwanno**
Independent Director
Chairman of the Human Resources
and Remuneration Committee
Chairman of the Corporate Governance
and Social Responsibility Committee

05. **Mr. Suthon Boonprasong**
Director
(EGAT's Representative Director)
Member of the Investment Committee
Member of the Risk
Management Committee

06. **Mr. Boonsong Kerdklang**
Independent Director
Member of the Audit Committee



07 08 09 11 10 12

07. **Mr. Somboon Nhookeaw**
Independent Director
Member of the Audit Committee

08. **Mr. Kriengkrai Rukkulchon**
Independent Director
Member of the Human Resources and Remuneration Committee

09. **Miss Nantika Thangsuphanich**
Director
(EGAT's Representative Director)
Member of the Human Resources and Remuneration Committee
Member of the Risk Management Committee

10. **Mr. Nutthavutthi Chamchang**
Director
(EGAT's Representative Director)
Member of the Investment Committee

11. **Miss Niramarn Laisathit**
Director
(EGAT's Representative Director)
Member of the Investment Committee

12. **Mr. Kijja Sripatthangkura**
Director
(EGAT's Representative Director and Executive Director)
Chief Executive Officer
Secretary to the Board of Directors

Management Team and Company Secretary



01. Mr. Kijja Sripatthangkura
Chief Executive Officer



02. Mr. Peerawat Pumthong
Deputy Chief Executive Officer



03. Mr. Sakarin Tangkavachiranon
Chief Business Development Officer



04. Mr. Boonchai Jarunwaraphan
Chief Project Development Officer



05. Mr. Nimit Lekcharoensuk
Chief Asset Management Officer



06. Mrs. Wadeerat Charoencoop
Chief Financial Officer
(Top Responsible Person
in Accounting and Finance)



07. Mrs. Boontiva Dansamasatid
Executive Vice President -
Corporate Administration

08. Mrs. Supatra Thongkarn
Executive Vice President - Financial





09. Miss Suwannee Sirisajjawat
Vice President -
Head of General Accounting Division
(Directly Responsible Person
for the Accounting Supervision)



10. Miss Phavika Smanratana
Vice President -
Head of Financial Planning
and Management Division



11. Miss Puthachard Smitamegha
Vice President -
Head of Tax Management
and General Ledger Division



12. Miss Titiporn Komsartra
Vice President -
Head of Accounting Control
and Analysis Division



13. Miss Wanphen Chamkham
Vice President -
Head of Company Secretary Office
and Company Secretary



14. Miss Kamolkarn Hinviman
Vice President -
Head of Internal Audit Division



Message from the Chairman

(Mr. Boonyanit Wongrukmit)
Chairman

> Our concerns in overall social and national interests will lead us to become a leading value-orientated energy and infrastructure company in Asia-Pacific in a firm and sustainable manner.

Dear all shareholders and stakeholders,

The outbreak of the Coronavirus Disease 2019 (COVID-19) brought about multiple challenges in 2020 as the world has been gripped with its impacts on health and economic performance. It is one of major challenges that disrupted the Company's business travel, while the Company is experiencing a significant drop in earnings in 5 years from now as Ratchaburi Power Plant's Power Purchase Agreements gradually reach expiration dates. Nevertheless, the Company is rushing on investing in more projects in Thailand and abroad from which we can immediately realize revenue, aside from operational adjustments under Business Continuity Plan to keep business going and least affected despite disruptions. This is to compensate the missing revenue from expired PPAs as much as possible. The Board of Directors, the Management and employees have a strong will to push forward the business with our best capabilities and to achieve our goal to "become a leading value-oriented energy and infrastructure company in Asia-Pacific". We maintain the business strategies in creating added enterprise value, mainly through development and partnership in support of our expansion in energy, infrastructure, and other related businesses; and maximizing revenue from asset management. Along the way, we are ensuring that all targets involving the schedules, quality and investment cost of under-construction projects will be achieved, to create fair and sustainable growth and returns to shareholders and stakeholders. The Company upholds governance and social and environmental responsibility to be a good neighbor of society and community with respect to human rights; strict compliance with safety, occupational health and environmental standards, relevant laws and regulations; and fight against all forms of corruption. Being on the path towards High Performance Organization, we have been continually strengthening the operations and competitiveness and promoting innovations. The Company is thus highly confident that this will be strong foundation in further enhancing the organization's capabilities and strengths in adjusting to business trends amid increasing competition. At times of crises from the COVID-19 pandemic, economic, social and environmental turbulences to cyber threats associated with rapid technological changes, we must remind ourself of and give importance to responsible business operations. That said, we must think about social and national interests in the overall picture: while we are ensuring energy security, we must safeguard information technology and further raise our operations closer to international standards.

The Company proceeds with its strategy to explore investment opportunities, particularly concerning electricity generation which is the Company's main business. The Company currently sits on 8,174.00 MW in installed capacity, contributed by commercially-operated power plants in Thailand and abroad (6,599.89 MW) and power plants under development and construction (1,574.11 MW). The 160.70 MW capacity was added on during 2020, following the indirect investment in Thang Long Coal-Fired Power Plant in the Socialist Republic of Vietnam through An Bihn Energy and Infrastructure Fund which emphasizes investment in energy and infrastructure projects in the Socialist Republic of Vietnam; and Nava Nakorn SPP Power Plant (Expansion) in Pathum Thani Province which commenced operations

in the year. The Company also invested in several more projects. To commence commercial operations in 2021 are Yandin Wind Farm and Collector Wind Farm in Australia, Riau Combined-Cycle Power Plant in Indonesia, and Thanh Phong Wind Farm in the Socialist Republic of Vietnam; in 2022 are Nexif RATCH Energy Rayong SPP Power Plant in Rayong Province, RATCH Cogeneration Power Plant (Expansion) in Pathum Thani Province and Fangchenggang (II) Nuclear Power Plant in the People's Republic of China; in 2023 is R E N Korat Energy Power Plant in Nakhon Ratchasima Province; and in 2024 and 2025 is Hin Kong Combined-Cycle Power Plant in Ratchaburi Province.

In response to rapid changes in technology, lifestyle and consumer expectations in the Digital Age and under the New Normal way of living, the Company has stepped up its investment in infrastructure, related and other businesses. Some projects are operating and generating income such as fiber optic network projects. Among the investment projects to generate revenue in 2021 is the investment in shares of Bangkok Aviation Fuel Services Public Company Limited ("BAFS"). The Company purchased 15.53 percent of BAFS total issued and paid-up shares from Thai Airways International Public Company Limited, making it a major shareholder in BAFS. The Company also expects to start realizing revenue from the investment in the Internet of Things network in 2021. Meanwhile, MRT Pink Line Project (Khae Rai-Min Buri) and MRT Yellow Line Project (Lat Phrao-Samrong) and a wood pellet manufacturing project in Lao PDR are expected to start generating revenue in 2022.

Furthermore, the Company is considering a number of additional investments, which involve electricity generation, infrastructure, related and other businesses, to achieve its mission, strategy and sustainable growth goals. They include Quang Tri 1 Thermal Power Plant Project and Nexif Ben Tre Wind Farm Project in the Socialist Republic of Vietnam, and Public Private Partnerships for Operation and Maintenance (O&M) of Bang Pa-In - Nakhon Ratchasima (M6) and Bang Yai - Kanchanaburi (M81) Intercity Motorway Projects, etc.

In 2020, the Company received satisfactory level of profit as the Company and its subsidiaries showed Baht 39,521.99 million in consolidated revenue and Baht 6,286.68 million in consolidated net profit, which increased from the previous year by 5.42 percent. The Company still maintains financial strengths, reflecting in unchanged credit ratings at "AAA", "Baa1" and "BBB+" by TRIS Rating, Moody's Investors Service and S&P Global Ratings, respectively. TRIS Rating and Moody's Investors Service maintained the "Stable Outlook". S&P Global Ratings revised the outlook from "Stable" to "Negative" on expectation that the Company would demand huge investment in the next 3-5 years which may raise debt to equity ratio to 3.1-3.5 times in the next 2 years, against previous forecast of 2.5-2.7 times. In addition, the Company received "Deal of the Year" and "Environmental, Social and Governance Bond (ESG Bond) Private Sector" awards from Best Bond Award 2020, and also received "Best Local Currency Green Bond" - regional level, due to the Company's fundraising by the first issuance of green debentures, from "The Asset Triple A Sustainable Capital Markets Regional Awards 2020.

The Company has continually reviewed and improved governance practices to achieve global standards. In executing any activities, we aim to create sustainable enterprise values with fairness, ethics, integrity, transparency, zero corruption, social and environmental responsibility, and equitable treatment of stakeholders. All that has been embedded in the corporate culture, which resulted in accolades and awards on good governance including ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard) Assessment at "Excellent" level for 6 consecutive years, "Outstanding" in Corporate Governance Report of Thai Listed Companies Assessment for 13 consecutive years, continually receiving 100 full scores from Annual General Meeting Assessment, Best Innovative Company Awards, Sustainability Disclosure Award 2020, and inclusion in Thailand Sustainability Investment Index (THSI) for six consecutive years. Meanwhile, RATCH Group Building was bestowed ASEAN Building Fire Safety Awards 2020, organized by Engineering Institute of Thailand under HM the King's patronage in collaboration with ASEAN Federation of Engineering Institutions.

Social and environmental stewardship has also been the Company's emphasis since its inception. The stewardship was demonstrated through projects and activities, aimed to promote the quality of life, ease or solve problems, and support society and the environment in several dimensions. They included Love the Forests and the Community Project, Community Energy Project, Project in support of the Royal initiative of HRH Princess Maha Chakri Sirindhorn (RSPG), @CareLine Happy Community Network Project, employee volunteer activities, and Education for Career Empowerment Project in Lao PDR. Through the initiatives, the Company targets to conserve and rehabilitate natural resources and the environment by utilizing resources efficiently. We have supported community forests as they can be natural carbon sinks and ease global warming. We aim to improve people's quality of life, promote efficient learning among children and the elderly, and instil sense of sharing among employees who should do good deeds as a good citizen, for the Company's sustainable growth and good corporate image.

On behalf of the Board of Directors, the Management and all employees, I would like to thank shareholders and stakeholders for their continued supports, recommendations and trust in the Company's operations. We are highly confident the Company's vision to become a leading value-oriented energy and infrastructure company in Asia-Pacific will definitely be achieved in a sustainable manner thanks to careful execution of business plans with concerns in the balance of economic, social and environmental dimensions; governance best practices; social and environmental responsibility; safety, occupational health, work environment; cyber threats; corruption; and overall social and national interests.

Audit Committee's Report



(Mr. Chartchai Rojanaratanangkule)
Chairman of the Audit Committee

The Company Limited's Audit Committee comprises 3 independent directors namely (1) Mr. Chartchai Rojanaratanangkule as chairman of the committee, (2) Mr. Boonsong Kerdklang and (3) Mr. Somboon Nhookeaw as the committee's members. All three members performed their duties as the Audit Committee with Miss Kamolkarn Hinviman, Vice President - Head of Internal Audit Division, serving as the committee's secretary.

All members of the Audit Committee performed independently and had complete qualifications as stated in the Company's regulation on the Board of Directors B.E. 2562 and the Company's regulation on the Audit Committee B.E. 2563. Both regulations are compliant with the regulations of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand.

In 2020, the Audit Committee convened all 6 meetings as scheduled in advance, each attended by all members. The Committee held 1 meeting with the auditors without the presence of the Management to assure the auditor's freedom in obtaining information and scrutinizing the information significant for the preparation of financial statements. The Committee also held 1 meeting with the Risk Management Committee to exchange opinions on risk management. (Details of the Audit Committee's individual members' meeting attendance appeared in the Meeting Attendance Table in the Management Structure Section.) The Managements of the Company and subsidiaries and auditors participated in the Audit Committee's meetings to present information, listen to opinions and suggestions useful for the Company's operations. The results of each meeting were reported to the Company's Board of Directors on a regular basis.

In the past year, the Audit Committee's significant activities can be summarized as follows:

- Reviewing the accuracy, completeness and credibility of the quarterly and annual financial statements of the Company and its subsidiaries, to ensure compliance with financial reporting standards. The review covered significant issues and extraordinary items as well as the explanations from auditors and the Managements, to ensure the statements were prepared accordingly to legal requirements and financial reporting standards before submission to the Board of Directors.

- Reviewing and assessing the sufficiency of the internal control system including IT-related control, to ensure the Company's effective and efficient operations that would enable goal achievements. The review found the Company's directors, the Management and employees strictly followed and actively applied the anti-corruption policy through participation with Thailand's Private Sector Collective Action Coalition Against Corruption (CAC).

- Reviewing the Company's compliance with the securities and exchange law, the Stock Exchange of Thailand's rules and regulations, related business laws, corporate governance best practices, the Company's regulations and policies, and anti-corruption policy.

- Reviewing transactions that may involve conflict of interest and ensuring that they comply with laws and regulations specified by the Capital Market Supervisory Board and related organizations. Connected transactions or other transactions that may involve conflict of interest must be reported to the Audit Committee for approval before submission to the Board of Directors for further consideration. The Management reported transactions in these categories to the Audit Committee for acknowledgment on a quarterly basis.

- Overseeing the accounting system and financial reports to ensure appropriate internal control in the entire operation process covering risks related to fraud and corruption as well as complete and efficient implementation.

- Reviewing risk management, risk management policy, compliance with the policy and risk management guidelines together with the Management. A meeting with the Risk Management Committee was held to ensure effective and efficient risk management and alignment with the internal audit, taking into account the Company's Key Corporate Performance Appraisal and the assessment of organization-level risks in terms of production target, new business target, performance target, financial target, sustainability target, and etc.

- Supervising the internal audit to ensure efficiency and effectiveness by approving the annual audit plan and long-term audit plan, acknowledging audit results and giving comments so that the internal control is effective in preventing or mitigating possible risks. Suggestions were made on the implementation, follow-up and improvement along with the review on the internal control division's budget, personnel and human resources development. The Committee also proposed improvements to the internal control, by improving the internal control's efficiency and effectiveness with the results of Quality Assurance Review completed by external experts and ensuring the internal control meet professional audit standards and international best practices.

The Audit Committee conclusively considered that the financial statements of the Company and subsidiaries met the generally accepted accounting standard; that the disclosed information was adequate, accurate, complete and credible; and that the internal control as well as risk management was sufficiently efficient and effective and has clear separation of authority and duty. No significant weakness or deficiency was found in the internal control system. There was no observation or any issue related to fraud and corruption. The operations of the Company and subsidiaries and connected transactions fully complied with the securities and exchange law, the Stock Exchange of Thailand's regulations and relevant laws, consistent with the auditor's assessment. The Audit Committee's opinions appearing in meeting minutes were forwarded to the Board of Directors for further consideration.

The Audit Committee consented the appointment of Mr. Vairoj Jindamaneepitak (CPA (Thailand) No. 3565) or Mr. Nattapong Tantichattanond (CPA (Thailand) No. 8829) or Miss Dussanee Yimsuwan (CPA (Thailand) No. 10235) of KPMG Poomchai Audit Limited as the auditor of the Company and its subsidiaries in 2021. The named auditors are independent, qualified and certified by the Office of Securities and Exchange Commission. The total audit fee is Baht 3.93 million (excluding Out-of-Pocket expenses at actual amount but not exceeding Baht 0.17 million). The Company's audit fee is Baht 1.90 million (excluding Out-of-Pocket expenses at actual amount but not exceeding Baht 0.05 million). The Audit Committee submitted the matter to the Board of Directors, to further seek shareholders' approval at the annual general meeting.

Human Resources and Remuneration Committee's Report



(Mr. Apichart Chinwanno)
Chairman of the Human Resources
and Remuneration Committee

The Human Resources and Remuneration Committee comprises Mr. Apichart Chinwanno as its chairman and Mr. Kriengkrai Rukkulchon and Miss Nantika Thangsuphanich as its members. In 2020, there were changes in the committee's members as new members were appointed to replace the members who retired or resigned from their positions as the Company's directors. Mr. Kriengkrai Rukkulchon was appointed the committee's member on 20 July 2020 (replacing Mr. Ratanachai Namwong whose tenure ended on 10 July 2020) and Miss Nantika Thangsuphanich was appointed the committee's member on 18 December 2020 (replacing Mr. Chuan Sirinunporn who resigned on 18 December 2020.)

The Human Resources and Remuneration Committee held 11 meetings in 2020, each attended by the incumbent members. All members served with their best knowledge, cautiousness, capability, and independence. They expressed opinions and made recommendations for the Company's benefits. In 2020, the Committee considered several proposals prior to seeking the Board of Directors' approval. They are summarized below:

1. **Appoint directors, sub-committees' members and high-ranking officers as well as appoint the secondment to serve as directors and executives of subsidiaries, affiliates and joint venture companies**

Beside qualifications and prohibited characteristics as specified by laws or the Company's regulations, and the definition of independent directors, in recruiting and appointing directors in replacement of those who retired or resigned, the Committee considered the nominated individuals' knowledge and relevant experience accordingly to the "Board Skills Matrix". The matrix, proposed by the Committee and approved by the Board of Directors, looked into the nominated individuals' required experience in business and/or industry, skills, knowledge and experiences in related areas. Also specified in the matrix is that at least 3 directors must have experience in electricity/energy business and/or infrastructure business and at least 1 director each must have knowledge, skills and/or experiences in the legal and accounting/finance areas.

In support of the growth strategy as outlined by Vision and Mission, the Company invests in electricity generating, infrastructure and other businesses in Thailand and abroad. It also needs an effective asset management mechanism. In this regard, the Board of Directors monitored the operations through the secondment serving as directors and executives of the Company's subsidiaries, affiliates and joint ventures. This demanded the Human Resources and Remuneration Committee to work with the Management in nominating qualified, knowledgeable, skilled and experienced individuals fit for efficient and successful management of each asset. The nominations for such posts in Thailand and abroad were for the Board of Directors' approval. Aside from asset management, the secondment's appointment is a means to enhance the knowledge,

capability and potential of the Company's personnel and serves as a career development path and part of the Company's succession plan.

For efficient and effective business management, high-level executives play a key role in executing the Company's strategies. They are tasked to complete their assignments and propel success in the short, medium and long term. The Company organizes a capacity building program for high-level executives in support of the succession plan. The Human Resources and Remuneration Committee also consulted with the Management on the appointment of designates to replace retiring executives, taking into account preliminary qualifications, such as age, years of work, education and training record, and other factors such as experience, performance, knowledge and understanding in the business, leadership, personality, enthusiasm, relation building skill and teamwork spirit.

2. Determine the remunerations of directors, executives and employees

The Human Resources and Remuneration Committee proposed the Board of Directors a director remuneration plan on an annual basis, pending for shareholders' vote at the shareholders' annual general meeting. The proposal contained the type of remunerations, rates and criteria, taking into account the Company's financial performance and directors' responsibility as well as comparative rates offered by the same industry/companies in the same business and of the same size. It also considered incentives to attract and retain individuals with the right knowledge and capacity in driving the organization towards business goals and fulfilling long-term benefits for the Company and shareholders.

Per executives and employees' remuneration, the Committee proposed an annual pay increase and bonus payment based on individual performance against his/her assignments and contributions to respective departments and the organization. The country's economic condition and prospect was also a factor in the consideration, as well as the actions of the industry/companies in the same business and of the same size. The process is to retain and attract capable individuals who are wanted to drive the Company's sustainable growth.

3. Performance evaluation

The Company requires the Board of Directors' and sub-committee's self-assessment in December of each year, on an individual basis and in a group format, on various dimensions such as directors' preparedness, the Board of Directors' meetings and the Board of Directors' responsibilities.

The evaluation of the top executive, or Chief Executive Officer, is carried out in June and December of each year by each director. They fill up an evaluation form pre-designed accordingly to 2 assessment criteria - execution of the Company's plans as approved by the Board of Directors (70 percent) and capabilities (30 percent).

The Human Resources and Remuneration Committee submitted the Board of Directors' and sub-committees' self-assessment along with the result of Chief Executive Officer's evaluation. They will support further improvement on efficiency and alignment with the effectiveness enhancement of the Board of Directors and the Management under good corporate governance principles for listed companies. The results also influence the consideration on executives' remuneration.

The Human Resources and Remuneration Committee fully performed its duties as stipulated in the Company's regulations on the Human Resources and Remuneration Committee, as approved by the Board of Directors. All tasks were executed to ensure that the Management has the desirable knowledge, capability, experience and other characters that will benefit the organization in terms of efficiency, effectiveness and sustainable growth.

Corporate Governance and Social Responsibility Committee's Report



(Mr. Chuan Sirinunporn)
Chairman of the Corporate Governance
and Social Responsibility Committee

In 2020, the Corporate Governance and Social Responsibility Committee held 3 meetings to consider and execute its responsibilities as stated in the Company's regulations on the Corporate Governance and Social Responsibility Committee. In the year, the Committee ensured compliance to the Company's policies and/or regulations relating to governance and social responsibility, by reviewing and endorsing the annual corporate governance plan and the social and environmental responsibility plan as well as ordering quarterly reports on the progress.

Corporate Governance: The Good Corporate Governance Working Group, consisting of all functions' executives, monitored and executed the plan and regularly reported the progress to the Management and the Corporate Governance and Social Responsibility Committee, to ascertain the Company's and personnel's compliance to the corporate governance policy revised last year. The process is to ensure the alignment to the corporate governance principles for listed companies and further raise the bar to an international level. Conclusively, the Company executed all plans regarding to the education and communication, to raise the awareness on the importance of governance and actions against fraud and corruption, through various tools and channels such as orientation for the newly-recruited, E-Learning, E-Newsletters, banners, exhibitions and activities. The Company's representatives serving the management teams of subsidiaries, affiliates and joint venture companies were informed of the same messages for streamlined actions.

The Corporate Governance and Social Responsibility Committee reviewed the issues and recommendations raised during a corporate governance assessment, to consider improvements to the Company's practices. The Committee thereafter recommended the following key actions:

1. Educate and train personnel on governance and the environment. The Management accordingly extended the *Corporate Sustainability Development Policy* to include an employee training on corporate governance practices, and social and environmental responsibility, which must be organized at least once a year. This is aimed at a more concrete move in making morals, ethics and responsibility for society and the environment a corporate culture. It further highlights the Company's emphasis on top of the relevant rules appearing in Code of Conduct, orders and policies and announcements.

2. Authorize the Audit Committee to abolish auditors' contract. The Board of Directors approved this recommendation and amended the Company's regulations on the Audit Committee which previously limited the Committee's roles to the selection and nomination of auditors.

3. Extend whistleblowing channels to further facilitate employees and non-employees' filing of fraud and corruption-related complaints. Such channels are (1) Chairman or directors (2) independent directors or the Audit Committee (3) Chief Executive Officer (4) Vice President - Head of Internal Audit Division and (5) supervisors. This enables outsiders and the Company's personnel to easily access whistle blowing channels, especially through the Company's website.

The Committee also gave a priority to preventive anti-corruption measures, through regular monitoring on compliance with the Company's Code of Conduct, Anti-Fraud Corruption Policy and Declaration of intent to join Thailand Private Sector Collective Action Coalition Against Corruption (CAC).

Social and Environmental Responsibility: The Corporate Governance and Social Responsibility Committee reviewed and approved the Company's social and environmental projects as well as budgets, in pursuant to the Company's mission in establishing community and public confidence and trust. Environmental projects' main goal is to conserve and rehabilitate natural resources and the environment and reduce carbon dioxide to help relieve global warming. The main goal of social projects is to improve the quality of life. These projects contributed to the fulfillment of the United Nations' Sustainable Development Goals, including "Life on Land" to promote sustainable use of terrestrial ecosystem, "Climate Action" to urgently tackle the climate change, "Responsible Consumption and Production", "Good Health and Well-being" and "Quality Education".

The Company initiated social and environmental projects to address national issues on these fronts and to help prevent and mitigate impacts. The projects encompass attempts to sustainably conserve and maximize natural resources and the environment; energy conservation; youth's education; the elderly's quality of life; and etc. The promotion and strengthening of community forest management has been its primary emphasis and carried out for 13 years, to conserve national forests and increase green areas.

The Corporate Governance and Social Responsibility Committee has a firm belief in *sustainability development principles,* as guided by good governance practices and international standards. The Committee places a great emphasis on the balance of economic growth and social and environmental conservation. The focus has landed the Company a number of accolades including "Excellence" level for 13 consecutive years from the Assessment of Corporate Governance Report of Thai Listed Companies, "Outstanding" level from ASEAN CG Scorecard assessment for 6 consecutive years; full scores from Annual General Shareholders' Meeting Assessment; SET Award 2020 (Best Innovative Company Award); Sustainability Disclosure Award 2020; and ASEAN Building Fire Safety Awards 2020 for its headquarters. RATCH is also 1 of 124 listed companies in Thailand Sustainability Investment (THSI) 2020, for the 6th consecutive year. Such performance confirms public recognition and confidence, which will be a key force driving the organization towards solid and sustainable success.

Investment Committee's Report



(Mr. Boonyanit Wongrukmit)
Chairman of the Investment Committee

As of 31 December 2020, the Investment Committee comprised 4 members namely 1) Mr. Boonyanit Wongrukmit, Chairman of the Investment Committee, 2) Mr. Suthon Boonprasong 3) Mr. Nutthavutthi Chamchang and 4) Miss Niramarn Laisathit, the Investment Committee's members. Mr. Sakarin Tangkavachiranon, Chief Business Development Officer served as the committee's secretary.

In 2020, there were 4 changes of the Investment Committee's members: 1) On 10 July 2020 when Mr. Ratanachai Namwong retired at the end of his director tenure and no replacement was appointed; 2) On 1 October 2020 when Mr. Sutat Patmasiriwat vacated his position as the chairman due to resignation and no replacement was appointed, and on the same day, Mr. Tawatchai Jakpaisal vacated his position a director due to resignation and was replaced by Mr. Nutthavutthi Chamchang; 3) On 19 October 2020, Mr. Boonyanit Wongrukmit was appointed chairman in replacement of Mr. Sutat Patmasiriwat and Mr. Suthon Boonprasong was appointed a director in replacement of Mr. Boonyanit Wongrukmit; and 4) On 18 December 2020, Miss Niramarn Laisathit was appointed a director. The Investment Committee's duties and responsibilities are as follows:

1. Determining strategies, objectives, investment plans, investment budgets, return on investment and other benefits from investment projects, to grow business in a sustainable manner.
2. Screening investment projects proposed by the Management, to ensure that all power plant projects (Greenfield, Brownfield, and those acquired through mergers and acquisitions), related businesses including infrastructure and new businesses in Thailand and abroad are interconnected, support and are aligned with the Company's investment policy and objectives as well as the Company's vision to become a leading value-oriented energy and infrastructure company in Asia Pacific. The process takes into return on investment and the management of risks according to risk appetite.
3. Examining, monitoring and evaluating the approved projects and reporting to the Board of Directors for its acknowledgement.

In 2020, the Investment Committee convened 9 meetings, attended by all incumbent directors. At the meetings, members independently discussed, asked questions and expressed opinions, acting in favor of the Company's overall interests. The members reviewed, followed up and assessed the Company's investment projects, to ensure that they generated the expected returns. The members also helped prevent and clear obstacles that might affect project development and operations. The Investment Committee viewed that the Company's investment decision should be based on prudent, careful and cautious study and analysis of circumstantial factors, in depth and breadth, by internal and external experts in line with corporate good governance principles, anti-corruption policy and equitable treatment of all stakeholders, for the Company's stable and sustainable growth.

Risk Management Committee's Report



(Mr. Samack Chouvaparnante)
Chairman of the Risk Management Committee

As guided by the vision to become a leading value-oriented energy and infrastructure company in Asia Pacific, the Company reviewed and identified corporate goals in short (1 year), medium (3 years), and long term (5 years) in consistent with business circumstances and competition. The task was to achieve growth through capacity target, enterprise value (EV) increase, investment in new businesses and infrastructure as well as better financial performance, for example. Along the journey towards the targets, the Company witnesses volatilities and changes driven by internal and external factors as well as emerging risks. Handling the risks leading to both opportunities and impacts that may derail corporate goals cannot be ignored. In this regard, the Company applied the following 4 risk response strategies:

(1) Reduce: Additional measures are exercised to reduce and keep the likelihood or impact of a risk at an acceptable level. (2) Transfer: Delegate or transfer some risks to a third-party. (3) Avoid: Quit or avoid a particular activity that may cause risks. (4) Accept: Accept the risk as-is but keep it accordingly to risk appetite and risk tolerance, to achieve corporate objectives and goals.

In 2020, the Company experienced multiple challenges from uncertainties of risk factors. Those uncertainties posed risks to commercial assets (operation risk), business growth (business growth risk), financial performance (financial risk), compliance to relevant laws and regulations (compliance risk) and management of long-term strategies (strategic risk). The Company tackled those risks accordingly to COSO: ERM 2017 Framework, as advised by the Stock Exchange of Thailand for all listed companies. The framework integrates business strategies with performance in determining business objectives accordingly to risks which are monitored and assessed on a quarterly basis. The following 3 types of risk assessment are applied:

1) Project Risk Management: Covering projects in operation phase and in construction and development phase. All risks of each project are assessed and risk management plans are determined, to achieve the goals and objectives of each project.

2) Corporate Risk Management: Scheduling assessment of risks against short-term and long-term targets, in terms of likelihood and impact when the targets are achieved or cannot be achieved, so that actions can be devised to eventually achieve the targets.

3) Emerging Risk Management: In 2020, the outbreak of Coronavirus Disease 2019 (COVID-19) was an emerging risk that affected overall corporate goals. The Company thus reviewed the likelihood and impact and concurrently considered actions to mitigate the likelihood and impacts in project and corporate level. The actions were designed chiefly according to the government's disease prevention and control measures. They included the screening and testing for COVID-19 for all entering Head Office or other premises, through temperature check, face mask requirement and self-quarantine rules for those suspected of contracting the disease; work from home scheme; and the identification of risk countries. The Company also prepared to exercise the Emergency Plan and Business Continuity Plan (BCP) if the pandemic causes significant disruptions. Another severe emerging risk concerns the computer and computer network (IT Security Risk). Many forms of threats prevail and they are more complex, having caused immense damage to many organizations. The Company realizes the importance of this issue and has given it great importance. The Company announced the Cyber Security Policy and devised a basic protection scheme along with periodic alerts and the building of awareness in such threats.

Amid these future challenges and uncertainties, the Risk Management Committee and the Management vow to maintain and improve the risk management efficiency, to help the Company achieve business objectives as planned for the organization's stability and sustainability.

Top 10 Major Shareholders

As at 8 September 2020 (Record Date)

No.	Major Shareholders	No. of Shares	%
1	ELECTRICITY GENERATING AUTHORITY OF THAILAND	652,500,000	45.00
2	THAI NVDR COMPANY LIMITED	109,451,277	7.55
3	SOCIAL SECURITY OFFICE	57,719,800	3.98
4	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	37,417,499	2.58
5	EGAT SAVING AND CREDIT COOPERATIVE LIMITED	27,905,500	1.92
6	MR. MIN TIENWORN	20,300,000	1.40
7	STATE STREET EUROPE LIMITED	18,471,756	1.27
8	KRUNGSRI DIVIDEND STOCK LTF	13,749,600	0.95
9	VAYUPAK FUND 1 BY MFC ASSET MANAGEMENT PUBLIC COMPANY LIMITED	9,474,450	0.65
10	VAYUPAK FUND 1 BY KRUNGTHAI ASSET MANAGEMENT PUBLIC COMPANY LIMITED	9,474,450	0.65
	Total	**956,464,332**	**65.96**
	Other Shareholders	**493,535,668**	**34.04**
	Grand Total	**1,450,000,000**	**100.00**

Notes

1. List of Shareholders was compiled by Thailand Securities Depository Company Limited, the Company's registrar.
2. Electricity Generating Authority of Thailand is a state enterprise operating in electricity business and related businesses, including investing with other in operating such businesses, and is a major shareholder of the Company with 6 representatives sitting in the Company's 12-member Board of Directors.
3. Thai NVDR Company Limited is a company that is 99.99 percent owned by the SET, operating business by automatically issuing Non-Voting Depository Receipts (NVDRs), which are securities listed in the SET, to investors then using the income from the sale of NVDR to invest in the underlying Thai stock, which was a security listed in the SET. NVDR holders receive the same financial benefits as they would receive if they directly invested in listed shares, but they do not have voting rights in shareholders' meetings. (For more information, please visit the SET's website: www.set.or.th.)
   As at 8 September 2020, the details of major investors who held NVDR which used the Company's shares as underlying stock are as follows:

No.	Major Investors	NDVR Issues	% of Underlying Stock
1	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	26,264,768	1.81
2	STATE STREET EUROPE LIMITED	14,244,851	0.98
3	STATE STREET BANK AND TRUST COMPANY	13,552,804	0.93

4. As at 8 September 2020, there were 159 foreign shareholders out of the total 28,762 shareholders. The foreign shareholders held 112,149,599 shares or equivalent to 7.73 percent of the total shares, not exceeding the limit in the Company's Articles of Association which states, "Non-Thai shareholders shall not exceed 25 percent of the total shares sold."
5. As at 2 June 2020, the Company has 22,444 shareholders that fit the Free Float criteria or equivalent to 54.99 percent of the total shares.

General Information of the Company and References

Company's Name
RATCH Group Public Company Limited

Registeration No.
0107543000031

Industry
Resources

Sector
Energy and Utilities

Nature of Business
Invest, develop and operate in electricity generating and related businesses

Establishment
7 March 2000

Listed Date
13 October 2000

Symbol
RATCH

First Trade Date
2 November 2000

Registered Capital
Baht 14,500 million (1,450 ordinary shares)

Par Value
Baht 10

Paid-up Capital
Baht 14,500 million (as at 26 October 2000)

Contact Information

Head Office
72 Ngam Wong Wan Road, Bang Khen, Muang Nonthaburi, Nonthaburi 11000 Thailand

+66 2794 9999
+66 2794 9998
contactinfo@ratch.co.th
www.ratch.co.th

Company Secretary
+66 2794 9510
+66 2794 9888 Ext. 9510
CS@ratch.co.th

Corporate Relations Division
+66 2794 9940
+66 2794 9888 Ext. 9940
PR@ratch.co.th

Internal Audit Division
+66 2794 9520
+66 2794 9888 Ext. 9520
internalaudit@ratch.co.th

Investor Relations Division
+66 2794 9841-2
+66 2794 9888 Ext. 9841
IR@ratch.co.th

Annual Report Information
+66 2794 9510
+66 2794 9888 Ext. 9510
CS@ratch.co.th

Sustainability Report Information
+66 2794 9940
+66 2794 9888 Ext. 9940
sustainability@ratch.co.th

References

Registrar
Thailand Securities Depository Company Limited
Stock Exchange of Thailand Building, 1st Floor
93 Ratchadaphisek Road, Dindaeng, Dindeang, Bangkok 10400
+66 2009 9999

Auditor
KPMG Poomchai Audit Limited
Empire Tower, 50th-51st Floor
1 South Sathorn Road, Yannawa, Sathorn, Bangkok 10120
+66 2677 2000 +66 2677 2222

Legal Advisor
Baker & McKensie Limited
990 Abdul Rahim Place, 5th Floor and 21st-25th Floor
Rama IV Road, Silom, Bang Rak, Bangkok 10500
+66 2636 2000 +66 2636 2111

Linklaters (Thailand) Limited
87/1 Capital Tower, All Seasons Place, 20th Floor
Wireless Road, Lumpini, Pathumwan, Bangkok 10330
+66 2305 8000 +66 2305 8010

Frequently Contacted Financial Insitution
Bangkok Bank Public Company Limited
Bank of Ayudhya Public Company Limited
Siam Commercial Bank Public Company Limited
Standard Chartered Bank (Thai) Public Company Limited
Krung Thai Bank Public Company Limited
Mizuho Bank Limited
Oversea-Chinese Banking Corporation Limited
The Hongkong and Shanghai Banking Corporation Limited
ANZ Bank (Thai) Public Company Limited
TMB Bank Public Company Limited

Financial Overview

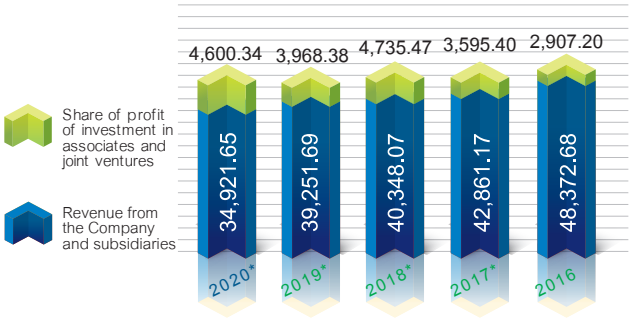
		2020 *	2019 *	2018 *	2017 *	2016
Statement of comprehensive income						
Total revenue	Million Baht	39,521.99	43,220.07	45,083.54	46,456.57	51,279.88
Earnings before Interest, Tax, Depreciation and Amortization (EBITDA)**	Million Baht	9,664.80	9,996.24	9,599.80	9,236.32	9,323.54
Annualized company profit	Million Baht	6,286.68	5,963.28	5,587.60	6,038.55	6,165.72
Statement of financial position						
Assets	Million Baht	112,132.25	100,229.43	101,251.90	93,794.41	96,391.09
Liabilities	Million Baht	51,610.68	40,815.50	41,315.88	34,784.91	33,938.32
Shareholders' equity	Million Baht	60,521.57	59,413.93	59,936.02	59,009.50	62,452.77
Stock information						
Book value	Baht	41.74	40.97	41.34	41.16	42.98
Earnings per share	Baht	4.34	4.11	3.85	4.16	4.25
Dividend	Baht	***2.40	2.40	2.40	2.40	2.35
Dividend payout ratio	%	55.36	58.36	62.28	57.63	55.27
Year-end share price	Baht	53.00	68.75	50.75	54.25	50.00
Financial ratios (excluding foreign exchange effects)						
Current ratio	Times	2.69	2.70	2.22	2.44	2.42
Profit to total revenue (excluding fuel costs)	%	37.03	38.90	43.53	36.15	40.85
Return on equity	%	9.98	10.21	10.79	9.43	9.81
Return on assets	%	7.24	8.33	8.53	8.34	8.66
EBITDA to total assets	%	9.10	9.92	9.84	9.73	9.87
Debt to equity ratio	Times	0.85	0.69	0.69	0.59	0.54
Net debt to equity ratio	Times	0.57	0.38	0.32	0.20	0.19
Change in lease receivables	Million Baht	3,346.05	1,359.51	3,654.89	3,920.38	3,313.03

Note * 2017 - 2020 data was prepared accordingly to Accounting Policy for Derivative Financial Instruments and Hedging Accounting

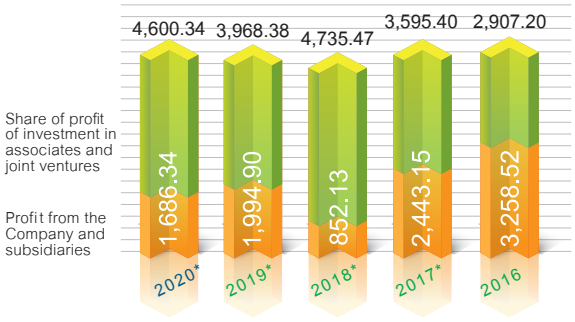
** Excluding foreign exchange effects and change in lease receivables

*** Proposed for shareholders' consideration at 2021 AGM on 5 April 2021

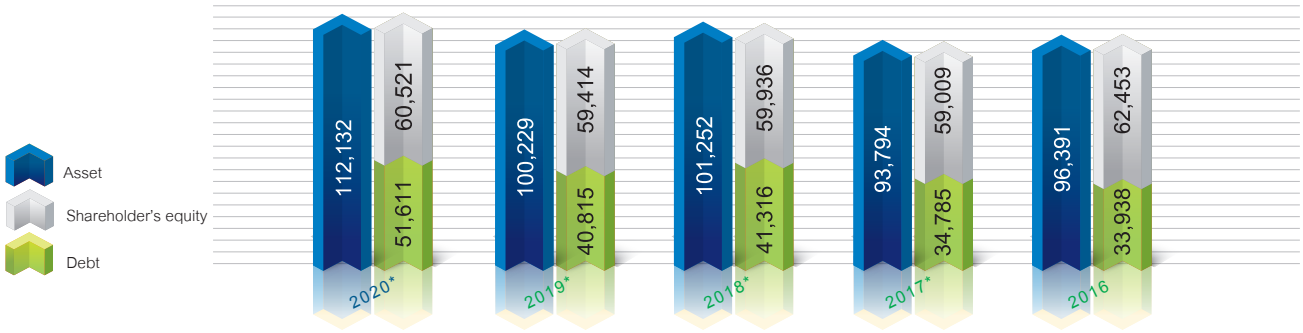
Total revenue (Million Baht)



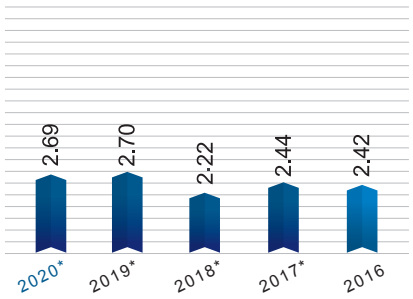
The Company's Profit (Million Baht)



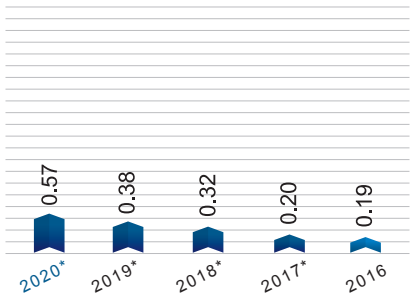
Statement of Financial Position (Million Baht)



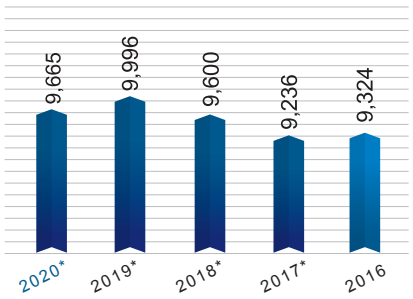
Current Ratio (Times)



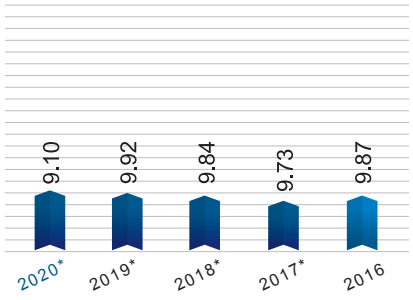
Net Debt to Equity (Times)



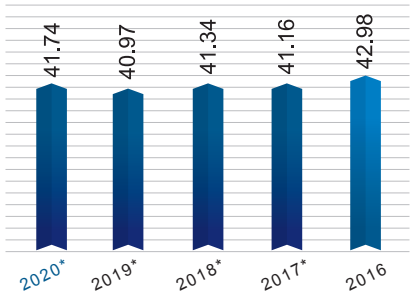
EBITDA (Million Baht)



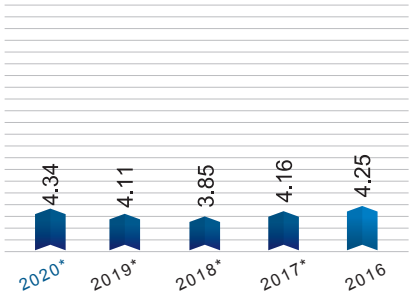
EBITDA to Total Asset (%)



Book Value per Share (Baht)



Earnings per Share (Baht)



Note * 2017-2020 data was prepared accordingly to Accounting Policy for Derivative Financial Instruments and Hedging Accounting

Performance and Major Changes

1. Electricity Generation Business

As of 31 December 2020, the Company's equity installed capacity reached 8,174.00 MW, contributed by:

1. Commercially-operated power plants		2. Power plants under development and construction	
Power plant	Equity installed capacity (MW)	Power plant construction projects	Equity installed capacity (MW)
Domestic power plants			
• Fossil-fuel power plants			
1) Independent Power Producers			
1. Ratchaburi Power Plant	3,645.00	1. Hin Kong Combined-Cycle Power Plant	714.00
2. Ratchaburi Power's Power Plant	372.50		
2) Small Power Producers			
1. Ratchaburi World	93.60	1. RATCH Cogeneration SPP (Expansion)	29.99
2. Nava Nakorn	55.65	2. Nexif RATCH Energy Rayong SPP	45.08
3. Nava Nakorn (Expansion)	23.99	3. R E N Korat Energy	12.00
4. Berkprai Cogeneration	34.73		
5. RATCH Cogeneration	119.11		
• Renewable power plants			
1) Solar power			
1. Solarta	20.73	-	
2. Solar Power Korat 3	2.88		
3. Solar Power Korat 4	2.88		
4. Solar Power Korat 7	2.88		
2) Wind power			
1. Huay Bong 2	20.70	-	
2. Huay Bong 3	20.70		
3) Biomass			
1. Songkhla Biomass	3.96	-	-
Sub-Total	4,419.31	Sub-Total	801.07

1. Commercially-operated power plants		2. Power plants under development and construction	
Power plant	Equity installed capacity (MW)	Power plant construction projects	Equity installed capacity (MW)
Overseas power plants			
• Lao PDR			
1. Hongsa Thermal	751.20		
2. Nam Ngum 2 Hydroelectric	153.75	-	
3. Xe-Pian Xe-Namnoy Hydroelectric	102.50		
4. Investment in EDL - Generation Company's securities through Lao Securities Exchange	114.97		
• Commonwealth of Australia			
1. RATCH-Australia	873.55	1. RATCH-Australia	376.74
- Townsville Power Station	234.00	- Collector Wind Farm	226.80
- Kemerton Power Station	315.20	- Yandin Wind Farm	149.94
- Mount Emerald Wind Farm	180.45		
- Collinsville Solar Farm	42.50		
- Kwinana Power Station	35.40		
- Starfish Hill Wind Wind Farm	33.00		
- Toora Wind Farm	21.00		
- Windy Hill Wind Farm	12.00		
• People's Republic of China			
-		1. Fangchenggang II Nuclear	236.00
• Republic of Indonesia			
1. Asahan-1 Hydroelectric	47.90	1. Riau Combined-Cycle	145.15
• Vietnam			
1. Thang Long Coal-Fired	136.71	1. Thanh Phong Wind Farm	15.15
Sub-Total	2,180.58	Sub-Total	773.04
Total	6,599.89	Total	1,574.11

2. Infrastructure Business comprises:

1. Commercially-serviced business	2. Businesses under development and construction
1) Tap water production	
1. Sandin Water Supply Project Asia Water Company Limited	-
2) Electric train services	
-	1. MRT Pink Line Project (Khae Rai - Min Buri) Northern Bangkoko Monorail Company Limited 2. MRT Yellow Line Project (Lat Phrao - Samrong) Eastern Bangkok Monorail Company Limited
3) Telecom and digital technology	
1. Internet of Things Project Things On Net Company Limited 2. Optic Fiber Network Project Smart Infranet Company Limited	-

3. Related and Other Businesses comprises:

1. Commercially-serviced business	2. Businesses under development and construction
1) Operation and maintenance	
1. RATCH O&M Company Limited 2. RATCH-Lao Services Company Limited 3. Chubu Ratchaburi Electric Services Company Limited	-
2) Gas-turbine parts maintenance service	
1. EGAT Diamond Service Company Limited	-
3) Coal mining	
1. Phu Fai Mining Company Limited	-
4) Fuel supply	
1. Songkhla Biomass Company Limited	1. Wood pellet production and distribution project in Lao PDR
5) Investment in Securities	
1. EDL-Generation Public Company	-

Performance and Major Changes

In growing business, the Company remains adhered to governance and sustainable development, with responsibility for society and the environment. In 2020, when the outbreak of Coronavirus Disease 2019 (COVID-19) hit all corners of the world, widespread impacts in many dimensions have been witnessed. To minimize the impacts on the organization, the Company adjusted operational plans while maintaining our vision to diversify from electricity generation to infrastructure and to become "a leading value-oriented energy and infrastructure company in Asia-Pacific". The Company's performance and major changes in each business throughout 2020 is summarized below:

1. Electricity Generation Business

Electricity generation is the Company's core business with investment in Thailand and overseas. The business covers commercially-operated power plants as well as those under development and construction. The performance of the power plants as well as major developments are as follows:

1) Commercially-operated Power Plants

➢ Domestic Power Plants sorted by type of fuel are:

- Fossil Fuel Power Plants

(1) Independent Power Producers (IPPs)

- **Ratchaburi Power Plant:** Operations and maintenance continued as planned. It generated and distributed 12,643.67 million units of electricity to Electricity Generating Authority of Thailand (EGAT). It registered Equivalent Availability Factor (EAF) at 93.82 percent, Contracted Available Hours Index (CAH Index) at 1.0410 times and fuel ratio at 1.0060 times. The safety, occupational health and environment management met OHSAS 18001:2007 and ISO 14001:2015 international standards. In 2020, Ratchaburi Electricity Generating Company Limited was praised for its exemplary moral operations at the Moral Promotion Center (Public Organization)'s Moral Business Forum 2020, thanks to its governance practices that put it on the paths towards a moral organization and sustainable development. It was also bestowed the CSR-DIW Continuous 2020 from the Department of Industrial Works for the 9th consecutive year.



- **Tri Energy Power Plant:** generating 0 million unit of electricity for EGAT during 2019-2020 and registering EAF at 99.43 percent. The safety, occupational health and environment management met OHSAS 18001:2007, ISO 14001:2015 and ISO 9001: 2015 international standards. The power plant had been under reserved shutdown until the power purchase agreement was expired in 2020. It was permanently decommissioned on 30 June 2020.

- **Ratchaburi Power's Power Plant:** generating 2,974.50 million units of electricity for EGAT and registering EAF of 89.81 percent, CAH Index at 1.0000 times, and fuel ratio at 1.0278 times. The power plant was efficiently operated, accordingly to international safety standards. In 2020, it launched an energy-saving project by installing LED light bulbs for Unit 2's heat recovery steam generator. Coupled with additional energy-saving measures during maintenance shutdown, the project saved 1,135,111 units of electricity in the year. On safety, the power plant has been certified for OHSAS/TIS 18001 standard since implementation in 2012.

In 2020, the power plant switched from OHSAS/TIS 18001 to ISO 45001:2018 to raise its safety, occupational health and environment management and establish safety culture. In support of this change, RPCL 5 Safety Mind campaign was launched with the following details;

1. Risk assessment: Always assess risks and safety measures before starting jobs.
2. Safety Self Check: Workers must always check their readiness and their teams' before starting jobs.
3. Stop Work: All workers are authorized to stop work if the work is unsafe and resume after unsafe conditions are properly remedied.
4. PPE: Use proper personal protection equipment (PPE) for their jobs and the PPE must meet safety standards and are in good conditions.
5. After-work safety: Check and keep vehicle condition in ready mode as well as follow traffic rules and etiquette.

The power plant participated in Ratchaburi Provincial Labor Protection and Welfare Office's drug-free workplace, white factory campaign and was certified for drug-prevention and remediation measures for 7 consecutive years. Under a stop-smoking campaign, the number of quitters was satisfactorily high and Thai Health Promotion Foundation consequently named it an exemplary smoke-free organization in 2020 for the 2nd consecutive year.

(2) Small Power Producers (SPPs)

- Ratchaburi World Cogeneration SPP Power Plant:



Generating 1,234.05 million units for EGAT in 2020 and registering EAF of 95.94 percent and Heat Rate at 7,855.33 BTU per unit. The overall performance in 2020 was satisfactory.

Ratchaburi World Cogeneration SPP Power Plant strictly followed quality, safety and environmental standards, resulting in the following awards in 2020:

1. Outstanding Workplace on Safety (National Level) Award 2020 from the Ministry of Labor
2. Environmental Governance Award 2020 (Green Star Project) from the Industrial Estate Authority of Thailand
3. Zero Accident Campaign Award 2020 (Bronze Level) for the 2nd consecutive year from Thailand Institute Of Occupational Safety And Health (Public Organization) under the Ministry of Labor
4. CSR Beginner and CSR-DIW Award 2020 from the Department of Industrial Works

- **Berkprai Cogeneration SPP Power Plant,** starting commercial operations on 1 June 2019 and generating 635.22 million units of electricity for EGAT in 2020 with EAF at 97.83 percent and heat rate at 7,525.49 BTU per unit. It performed satisfactorily and strictly followed quality, safety and environmental standards.

- **Nava Nakorn SPP Power Plant (Existing and Expansion)** The construction of the Expansion was complete and commenced commercial operations on 31 October 2020. It as power purchase agreements with EGAT and industrial users in Nava Nakorn Industrial Promotion Zone. In 2020, it generated 631.66 million unit of electricity for EGAT with EAF at 97.88 percent and heat rate at 7,885.61 BTU per unit. It strictly followed quality, safety and environmental standards.

- RATCH Cogeneration SPP Power Plant registered EAF at 96.60 percent and heat rate at 7,907.13 BTU per unit. It strictly followed quality, safety and environmental standards.

• Renewable Power Plants

(1) Solar Power

- Solar Power (Korat 3) Solar Farm, successfully maintaining operations and maintenance with 11,300.48 MWh in energy yield, 77.14 percent in performance ratio, 99.99 percent in availability payment and 21.97 percent in plant capacity factor.

- Solar Power (Korat 4) Solar Farm, successfully maintaining operations and maintenance with 10,819.92 MWh in energy yield, 76.05 percent in performance ratio, 99.99 percent in availability payment and 20.80 percent in plant capacity factor.

- Solar Power (Korat 7) Solar Farm, successfully maintaining operations and maintenance 11,338.08 MWh in energy yield, 77.42 percent in performance ratio, 99.99 percent in availability payment and 21.70 percent in plant capacity factor.

- Solarta Solar Farm, successfully maintaining operations and maintenance with 66.13 million unit in energy yield, 78.50 percent in performance ratio, 99.48 percent in availability payment and 21.75 percent in plant capacity factor.

(2) Wind Power

- Huay Bong 2 Wind Farm, successfully maintaining operations and maintenance with 142,935 MWh in energy yield, 98.04 percent in availability payment and 18.10 percent in plant capacity factor.

- Huay Bong 3 Wind Farm, successfully maintaining operations and maintenance with 171,292 MWh in energy yield, 98.07 percent in availability payment and 21.69 percent in plant capacity factor.

(3) Biomass

- Songkhla Biomass Power Plant, selling 75.62 million units of electricity in 2020 with registered EAF at 94.68 percent. The power plant was certified for ISO 9001:2015 administrative standard on 30 March 2017; for Carbon Credits (CDM Program of Activities) on 18 May 2017; for the heating system efficiency improvement project under the Department of Alternative Energy Development and Efficiency on 27 April 2018; and for the Ministry of Industry's Environmental Governance Project on 3 August 2018. Its drug-control measures were also certified by Songkhla provincial government on 10 September 2020.

➢ Overseas Power Plants

• Lao PDR

- Hongsa Thermal Power Plant,



showing net profit before exchange rate 2 percent above target as the project recorded compensation received from the initial insurance claims of the earthquake and lightning incidents that caused damage to machinery and equipment. The power

plant planned to request an expansion of concession area for soil disposal site, due to safety issues arising from soil movement.

- Xe-Pian Xe-Namnoy Hydroelectric Power Plant, reporting below-target electricity output and net profit before exchange rate by 50.16 percent in 2020 due to lower-than-expected water level in the reservoir.

- Nam Ngum 2 Hydroelectric Power Plant,



reporting net profit before exchange rate 136.59 percent below target due to lower-than-expected water level in the reservoir. The power plant notified EGAT late 2019 to exercise the Drought Year rights in managing the water resources, to exempt it from Monthly and Annual Minimum Guarantee-related penalties. The power plant issued bonds worth Baht 1,000 million in September 2020, to refinance existing loans, raise liquidity and adjusting financing costs.

• Commonwealth of Australia

- RATCH-Australia Corporation Pty. Ltd. currently owns 8 commercially-operated power plants: 4 wind farms, 1 solar farm, and 3 gas-fired power plants. It continually maintained growth rate while exploring opportunities to invest in more renewable energy businesses in the Commonwealth of Australia. Its 2020 earnings before interest, taxes, depreciation and amortization (EBITDA) and net profit are expected to meet targets.

• Republic of Indonesia

- Asahan-1 Hydroelectric Power Plant, Reporting net profit at USD 26.09 million or slightly below target at 5.15 percent, as it generated 6.95 percent less electricity than target due to the impact of COVID-19 in the Republic of Indonesia resulting in less electricity demand.

• Socialist Republic of Vietnam

- Thang Long Coal-Fired Power Plant: RH International (Singapore) Corporation Pte. Ltd. (RHIS), an indirect subsidiary, and Geleximco Group Joint Stock Company invested in An Binh Energy and Infrastructure Fund (ABEIF) with the 49:51 investment ratio. The Company's investment portion was valued about Baht 2,500 million. On 18 August 2020, ABEIF struck the first investment, through a 45 percent indirect holding in Thang Long Coal-Fired Power Plant. The power plant commenced commercial operations in July 2018 with a 25-year power purchase agreement with Vietnam Electricity (EVN).

2) Power Plants under development and construction

➢ Domestic Power Plants

• Fossil Fuel Power Plants

(1) Independent Power Producers (IPPs)

- Hin Kong Combined-Cycle Power Plant: Hin Kong Power Holding Company Limited and Hin Kong Power Company Limited raised registered capital by Baht 1,204 million, with Baht 305.2 million being paid up in April 2020. During June-July 2020, the Office of Natural Resources and Environmental Planning (ONEP) approved the project's Environmental Impact Assessment (EIA) for both the power plant and natural gas pipeline. On 29 September 2020, Hin Kong Power Company Limited signed the EPC contract with Mitsubishi Power Group and the Long

Term Service Agreement (LTSA) with MHI Power Project (Thailand) Company Limited. The project is currently seeking a loan and in the process of document filing. The commercial operations of the two generators are slated for 2024 and 2025, respectively.

(2) Small Power Producers (SPPs)

- Nexif RATCH Energy Rayong SPP Power Plant: The construction works started on 23 April 2020, for completion in the following 24 months and commercial operations in 2022. The project secured EGAT's approval for the generation and ONEP's approval on the EIA. The construction of the power plant and transmission station is now 22 percent complete.

- R E N Korat Energy Power Plant: The feasibility study on a cogeneration independent power supply power plant, the EIA and initial power plant design are underway. Slated for commercial operations in 2023, the plant will primarily use natural gas as fuel and its output will be sold to industrial users (IUs) in Nava Nakorn Nakhon Ratchasima Industrial Zone.

The industrial zone demands approximately 30 MW of power and the demand tends to rise further. Most customers produce electronic equipment, auto parts, motorcycles, natural and synthetic-based rubber products, as well as sanitary ware equipment. Operating 24 hours a day, the zone promises sizeable (On Peak/Off Peak) load factor, at above 75 percent. Electronic parts and solar panel manufacturing plants are currently being constructed.

A power purchase agreement was signed with AVX (Thailand) Company Limited on 15 September 2020 and the project is in talk with more potential customers.

- RATCH Cogeneration Power Plant (Expansion): EGAT approved the power plant's capacity expansion project on 4 August 2020, to generate additional 30 MW of electricity and 5.46 tons of steam per hour for sale to industrial users. The project is expected to require about Baht 1,600 million in investment. The 18-month construction works will kick off in February and the commercial operations are slated for July 2022. The project is under EIA process and the developer is looking for an EPC contractor and procuring a long-term service agreement (LTSA).

➢ Overseas Power Plants

• Commonwealth of Australia

- Yandin Wind Farm: Under commissioning, the wind farm is scheduled for commercial operations within the first quarter of 2021. It has secured a 15-year power purchase agreement with Alinta Sales Pty. Ltd., a subsidiary of Alinta.

- Collector Wind Farm: The financial facility was signed with Australia-based Clean Energy Finance Corporation (CEFC) to finance the project. Under commissioning, the wind farm is slated for commercial operations approximately in the first quarter of 2021.

• Republic of Indonesia

- Riau Combined-Cycle Power Plant:



The construction of a 40-km gas pipeline at the power plant was completed and the pipeline is already connected with the main pipeline. The construction of the power plant and transmission system is 90 percent completed. The equipment is being installed in preparation for the commissioning. The power plant is scheduled to commence operations within 2021.

2. Infrastructure Business

The Company is operating the infrastructure business through subsidiaries and affiliated companies, to foster the Group's business growth and enterprise value. The infrastructure business covers tap water supply, electric train operations, telecom and digital technology as follows:

1) Commercially-operated Businesses

➢ Tap Water Supply

- Sandin Water Supply Project, Lao PDR: operated by Asia Water Company Limited

➢ Telecom and Digital Technology

- Optic Fiber Cable Network Projects: operated by Smart Infranet Company Limited (SIC). The Company holds a 51 percent stake in the subsidiary while ALT Telecom Public Company Limited (ALT) owns the remaining 51:49 percent.

SIC invests in optic fiber cable networks to serve mobile operators and related businesses. Initially, SIC focuses on brand building and establishing a client base, to raise awareness in its products and services and win customer confidence in a short period. On 3 June 2020, SIC and ALT signed a contract to acquire ALT's 2 optic fiber networks which are: 1) a network running along Metropolitan Electricity Authority's underground cable tunnel and 2) a network along railroads and highways. SIC realized revenue immediately after the acquisition. The Company's investment in SIC is valued at Baht 280 million.

- Telecom network installation and development in support of Internet of Things services in Thailand using Sigfox's Technology (IoT Networks) and related businesses operated by Things on Net Company, owned 35 percent by the Company. In 2020, 350 base stations were set up so that its service coverage areas will cover the Greater Bangkok, highly-populated provinces and then all provinces. (At least 1 base station is planned in each province.) As a result, the network is now ready to serve customers in major provinces. In 2021, additional 384 base stations are planned, totaling 734 base stations, to cover all parts of Thailand to improve signal transmission quality and to expand service areas to cover all of the Company's customer groups.

2) Under Development and Construction Businesses

➢ Electric Train Operation







- MRT Pink Line Project (Khae Rai-Min Buri) and MRT Yellow Line Project (Lad Phrao-Samrong): The construction started on 29 June 2018 and will run for 3 years and 3 months. The 30-year operation concession will begin after the completion. The Mass Transit Rapid Authority of Thailand (MRT) recently extended the construction deadlines by 265 days for Yellow Line and 365 days for Pink Line. As such, the Yellow Line's service inauguration will be

delayed by 9 months from the original schedule in October 2021 and the Pink Line's will be delayed by a year. To mitigate the impacts from the delays, the two electric train lines will be operated phase by phase. Details of the gradual inauguration are under discussion by the projects' operators, MRT and project consultants.

As of December 2020, Pink Line's construction was 67.75 percent complete (0.43 percent behind work plan) while Yellow Line's works were 70.54 percent complete (1.74 percent behind work plan). 7 train carriages for Pink Line have been manufactured from a total of 42, while 7 and 8 carriages for Yellow Line are manufactured from a total of 30. The first 3 carriages have arrived at the depot.

3. Related and Other Businesses

The Company operates related businesses through subsidiaries, affiliated companies and joint ventures, to further grow organizational growth. The related businesses concern operations and maintenance service for power plants; gas turbine parts maintenance service; mining; fuel supply; and others. All are commercially operated.

➢ Operations and Maintenance Service for Power Plants

- Chubu Ratchaburi Electric Service Company Limited: In 2020, the company provided the operations and maintenance service for Ratchaburi Power Company Limited, allowing the latter's power plant to fully honor its power purchase agreement and successfully maintain the availability payment and fuel ratio as planned.

➢ Gas Turbine Parts Maintenance Service

- EGAT Diamond Service Company Limited: The service started in April 2011. EGAT Diamond Service is capable of fixing Hot Gas Path Parts, having been certified by Mitsubishi Hitachi Power Systems, Ltd (MHPS). It is also certified for ISO 9001:2005 standard. It is enhancing the capability to fix the Hot Gas Path Parts of other gas turbines.

➢ Fuel Supply

- Songkhla Biofuel Company Limited: supplier of fuel to Songkhla Biomass Power Plant
- Siphandone-RATCH LAO Company Limited: developer of wood pellet production and distribution project in Lao PDR.

➢ Coal Mining

- Phu Fai Mining Company Limited: coal mining operator and coal supplier of Hongsa Thermal Power Plant.

➢ Securities Investment

- Investment in EDL-Generation Company Limited's securities through Lao Securities Exchange by RH International (Singapore) Corporation Pte. Ltd. and RATCH-Lao Services Company Limited.

Furthermore, the Company is considering a number of additional investments, which involve electricity generation, infrastructure, related and other businesses, to achieve its mission, strategy and sustainable growth goals. They include Quang Tri 1 Thermal Power Plant Project and Nexif Ben Tre Wind Farm in the Socialist Republic of Vietnam, and Public Private Partnerships for Operation and Maintenance (O&M) of Bang Pa-In - Nakhon Ratchasima (M6) and Bang Yai - Kanchanaburi (M81) Intercity Motorway Projects, etc.

Financial Management

- **Issuance of Green Bond**

On 4 November 2020, the Company issued and offered Green Bond worth Baht 8,000 million, as part of the Company's Baht 15,000 million bond program in 2020. The issue was split into 4 tranches and offered via a private placement to institutional and/or high net worth investors. The registered, senior unsecured bonds with bondholders' representative were issued under the Company's Green Bond Framework which is aligned with the International Capital Market Association (ICMA)'s Green Bond Principles (GBP) and the ASEAN Capital Markets Forum (ACMF)'s Green Bond Standards.

The bond issue was assigned "AAA" rating by TRIS Rating Company Limited with "Stable" outlook on 1 October 2020. In line with the Company's Green Financing Framework, the proceeds were used to finance investment and/or repay loans and/or repay partial or entire loans of the Company and its affiliates' existing or new environment-oriented projects. Some of the eligible projects are as follows:

1. Renewable Energy, encompassing direct and/or indirect investment in renewable energy by the Company and/or affiliates. In this regard, it concerns investment in wind projects.
2. Clean Transportation, including investment in MRT Pink Line Project and MRT Yellow Line Project.

The proceeds will be used under the framework within 2022.

As of 31 December 2020, the outstanding value of the 4 tranches is as follows:

Green Bond	ThaiBMA Code	Issue date	Maturity date	Term to maturity (Years)	Coupon rate (%)	Amount (million Baht)
Tranche 1	RATCH23NA	4/11/2020	4/11/2023	3	1.32	1,000
Tranche 2	RATCH25NA	4/11/2020	4/11/2025	5	1.76	1,500
Tranche 3	RATCH30NA	4/11/2020	4/11/2030	10	2.61	1,500
Tranche 4	RATCH35NA	4/11/2020	4/11/2035	15	2.94	4,000

In this regard, the Company received 2 awards from the bond issue as announced in The Thai Bond Market Association's Best Bond Award 2020 as follows:

- **Deal of the Year Award:** an award given to the most outstanding and successful issuance of bond in private sector, as recognized by wide range of investors in 2020.
- **Environmental, Social and Governance Bond (ESG Bond) Private Sector:** an award given to private sector's bond that was issued under Green, Social Sustainable Financing Framework and could appropriately respond to investors' demands.

In addition, The Asset, a world-class financial magazine, announced The Asset Triple A Sustainable Capital Markets Regional Awards 2020, in which the Company received the following awards:

- **Best Local Currency Green Bond** : an regional-level award given to a company that had successfully raised fund by issuing green bonds for the first time. The fund raised from such bond issue would be fully used in wind power projects and MRT projects (Eligible green projects) and it was also the first time the issuer used assurance report instead of second party opinion report and such report was well recognized.

- **Investment Management**

The Company allocated investment funds for the projects finalized in 2020 and existing projects, totaling Baht 10,982 million. The covered projects are as follows:

2020 projects	Ongoing projects
Nexif RATCH Energy Rayong SPP Power Plant	Hin Kong Combined-Cycle Power Plant
R E N Korat Energy Power Plant	Riau Combined-Cycle Power Plant
Investment in An Binh Energy and Infrastructure Fund (ABEIF)	
Nexif Ben Tre Wind Farm	Collector Wind Farm
Thanh Phong Wind Farm	Yandin Wind Farm
Public Private Partnerships for Operation and Maintenance (O&M) of Bang Pa-In - Nakhon Ratchasima (M6) and Bang Yai - Kanchanaburi (M81) Intercity Motorway Projects	Optic Fiber Network Projects Nava Nakorn SPP Power Plant (Expansion)

- **Credit Ratings**

The Company's credit ratings are: 1) "AAA" with "Stable" outlook by TRIS Rating Company Limited 2) "Baa1" with "Stable" outlook by Moody's Investors Service and 3) "BBB+" with "Negative" outlook by S&P Global Ratings.

Organizational Management

The Company is aware that stable and sustainable growth as good corporate citizen requires solid foundation. Supporting this is efficient organizational management that underlines governance, information technology system improvement, environmental stewardship, workplace safety, employee capability building and innovation-oriented corporate culture. The combination will encourage the Company's personnel to achieve efficiency and effectiveness in carrying their assignments, to lead the organization towards business objectives amid rapid technological changes.

Employee capability building is the Company's emphasis as employees are the organization's core driving force. They deserve supports to adjust to changes in the business scene. Both executives and employees must have well-rounded knowledge, capability and professional skills to complete their tasks and maintain flexibility in self-adjustment, on top of the right attitude towards Digital Age-driven business directions. The process promises continuity even during the outbreak of Coronavirus Disease 2019 (COVID-19). In 2020, the Company's emphasis was to help our personnel cope with the outbreak. Major activities in the year are summarized below:

1. Human resource management amid the COVID-19 pandemic: the Company was concerned about employees' safety and realized the priority of timely, clear and fast communications of safety instructions. When the pandemic was at its height, the Company ensured employees could maintain their work life balance under the "New Normal". Information technology was deployed to support online meetings, along with social distancing, temperature screening, provision of alcohol gel at all corners and face mask handouts. Employees were reminded of protective measures like wearing face masks and eating with their own utensils. To ease employees' concerns, the Company made an announcement on their medical rights in case of infections, under the group insurance purchased for all individual employees. Additional insurance policy was bought for employees for additional coverage. The "work at home" measure was enforced together with a mobile phone communications manual for all units required for coordination and preparation for Internet-based remote operating system. Information technology staff stood ready to support all working at home.

Employees were put into 3 groups, depending on their work modes.

Group 1: Employees who must stay put.

Group 2: Employees who must work closely together. They were called in to complete joint assignments. They must keep distance from each other and worked together only for a brief period.

Group 3: Employees who could work at home and maintain work efficiency.

2. Employee engagement survey: the Company has conducted employee engagement survey since 2017 and continually launched actions to raise the engagement. The efforts proceeded in 2020, with each function's representatives preparing seminars and activities. At the height of the COVID-19 pandemic when some employees worked at home, online seminars, communications and activities were organized; for example, teleconferences, online games and cooking contest. Once all returned to work, physical activities at functional and organizational levels were organized with social distancing in mind, as unofficial and unofficial channels to strengthen employees' bonds. They included an annual seminar, Town Hall Meeting, Skip Level Meeting, cross-function meetings, volunteering, Hello-Saratem Year 2: training on environment, society and governance (ESG), knowledge sharing activities, and recreational activities like RATCH Step Up #2, Act of Kindness to Chidren, etc.

The engagement survey in 2020 showed a 9.28 percent increase compared to the previous year. The result will be analyzed to formulate an engagement work plan for the organizational and functional levels, which will be worked out jointly by executives and the representatives of each function to ensure the greater effectiveness of engagement activities.

3. Corporate culture reinforcement:
The Company used corporate values in promoting Power of Professional and Power of Teamwork. Employees were encouraged to show their skill, professionalism and excellence with adherence to ethics and governance as well as assume the leading and supporting roles accordingly to their assignments. Two-day workshops under "RATCH Professional Teamwork" theme were organized for all executives and employees from all functions, to promote their unity and creativity. Split into 5 classes, the workshops welcomed a total of 237 attendees. The post-workshop test showed employees' average awareness at 89.55 percent.

4. Knowledge management: the Company promotes learning and knowledge sharing society. The knowledge collecting process is in place to collect knowledge concerning project management and development and specialized skills, so that other employees from all functions can learn from their older or younger colleagues through "KM Portal", a web-based Knowledge Center Sharepoint. The Community of Practice (CoP), 10 of them, was launched in 2020 and 5 knowledge sharing activities were organized, focusing on asset management, project management challenges, lessons from investment projects, carbon credit certification mechanism for electricity generation from renewable energy, and socially-responsible operations.

5. Information technology security policy: the Company announced the IT Security Policy in June 2020 in alignment with the Cyber Security Maintenance Act B.E. 2562. The policy covered 2 main sections: organization-level IT system oversight and management and IT system security maintenance. The policy demands an annual review; identification of IT-related risks for risk assessment and management through specified tools and methods to keep risks within risk appetite; practices and prohibitions to prevent violations of the policy. Employees' IT access is determined by their titles and written job descriptions while external operators must sign non-disclosure agreements. While external operators and contracted parties must acknowledge the Company's IT policy, newly-recruited employees must attend the orientation. IT assets must be managed through control on the utilization of equipment, software, computer system and electronic mail; control on access to information; as well as data and information coding. The process is to ensure the security of IT system, proper handling of incidents that may infringe security, and business continuity.

6. International standard for RATCH Building: the Company was bestowed "ASEAN Building Fire Safety Awards 2020" from the ASEAN Federation of Engineering Organizations (AFEO) and the Engineering Institute of Thailand Under the Royal Patronage, due to good building design, standardized safety equipment and building management that calls for strict compliance from executives to employees. The building and safety equipment have been continually tested and equipment with the best safety standard are utilized for maximum benefits, under a conviction that employees' safety, occupational health and favorable workplace environment is an element of the organizational management to achieve greater competitiveness and the goal towards business stability and sustainability.

Major Changes in the Year

The Coronavirus Disease 2019 (COVID-19) severely shook the world in 2020, posing grave challenges to business operations and causing economic slowdown. Amid the challenges, the Company pushed the business forward by adhering to good corporate governance, operating with concerns about stakeholders and upholding the principles of sustainable business. The Board of Directors and the Management annually work together in reviewing the vision, mission and priority objectives. In 2021 the vision to become a leading value-oriented energy and infrastructure company in Asia Pacific will be maintained, along with mission, business direction and priority objectives, as the goals towards sustainable growth remain consistent with present conditions and future trends. Key events are summarized below:

2020

January

- The Company sold 196,000 common shares or 49 percent of Hin Kong Power Holding Company Limited's shares to Gulf Energy Development Public Company Limited, on 3 January 2020, at Baht 10 par value, totaling Baht 1.96 million. Later, on 29 September 2020, the Project received ONEP's endorsement for its project's environmental impact assessment and signed major contracts involving Engineering, Procurement and Construction Contract, and Long-Term Service Agreement.

- The Company together with Thammasat University, Navanakorn Public Company Limited (NNCL) and ALT Telecom Public Company Limited (ALT) signed a Memorandum of Understanding (MOU) on "District 9 Project: Digital industrial zones and intelligent communities", a study on smart city development approaches, on 8 January 2020. The project is aimed at responding to manufacturing, trade, energy and telecom demands in the Digital Age.

March

- RATCH-Australia Corporation Limited (RAC), the Company's wholly-owned indirect subsidiary, entered into a Power Purchase Agreement (PPA) with Infigen Energy, which is listed on the Australian Securities Exchange and plays a key role in shifting Australian energy companies' focus to renewable energy, on 9 March 2020. RAC will sell 60 percent of the electricity generated from 226.08 MW Collector Wind Farm to Infigen Energy, starting from the first energy generation in 2020 until 31 December 2030. On 24 March 2020, RAC reached a long-term PPA with ALDI Foods Pty Ltd, a major retailer in the Commonwealth of Australia, who will purchase 19.40 percent of the generated electricity, starting from the Project's commercial operations within 2021 totaling 10 years.

- The Company signed an agreement to buy a 49 percent stake of NER Singapore Pte. Ltd. for approximately USD 21 million (or about Baht 662 million), from Nexif Energy Thailand B.V., the former shareholder on 12 March 2020, to take part in the development of Nexif RATCH Energy Rayong SPP Power Plant. Later, on 21 April 2020, the Project successfully made the first loan disbursement and on 8 May 2020, NER Singapore Pte. Ltd. changed its to name to Nexif RATCH Energy Singapore Pte. Ltd.

- RATCH signed a Shareholder Agreement with NNCL and PEA ENCOM International Company Limited on 27 March 2020, to develop a power plant in Nakhon Ratchasima province with the shareholding proportion of 40:35:25 respectively. On 21 April 2020, the three shareholders agreed to establish joint venture namely "R E N Korat Energy Company Limited" with Baht 1 million in registered capital.

May

- RH International (Singapore) Corporation Pte. Limited (RHIS), the Company's wholly-owned indirect subsidiary, entered in to Share Purchase Agreement on 22 May 2020 with Asia Investment, Development and Construction Sole Co., Ltd. (a company incorporated in Lao PDR), the former shareholder, to buy 63.8 percent stake in RATCH & AIDC Wind Energy Pte. Ltd. (a company incorporated in the Republic of Singapore). After the transaction, the Company will indirectly own 51 percent of Thanh Phong Wind Farm in the Socialist Republic of Vietnam, per conditions precedent of the share purchase agreement and related Vietnamese agencies' approval.

- RATCH-LAO Services Company Limited (RL) entered into a connected transaction by signing a Personnel Providing Services for Operation and Maintenance Services for Nam Ngiep 1 Hydropower Project, Lao PDR with EGAT on 27 May 2020. The contract is valued at Baht 36.67 million, is effective for 58 months, starting from May 2020 through February 2025.

June

- On 10 June 2020, the Nonthaburi Provincial Court read the Court of Appeal Region 1's judgment on a civil case between ST Power Group Company Limited (the Plaintiff) and the Company. The Plaintiff alleged the Company and the Management of breaching an agreement to enter into a joint venture and bid for a power plant project; and that the Company committed a dishonest act by opting out from the bidding, blocking the plaintiff from winning the project and causing the Plaintiff damage. The judgment upheld the Nonthaburi Provincial Court's ruling to dismiss the case, as the Company, subsidiaries and the Management did not commit the acts as alleged.

- The power purchase agreement with EGAT for the electricity generated by 720 MW Tri Energy Power Plant in Ratchaburi Province was expired. The power plant stopped transmitting electricity to the national grid on 30 June 2020.

July

- RH International Corporation Limited (RHIC) increased registered capital by Baht 15,000 million by issuing 1,500 million new shares, at Baht 10 par value. The first called capital worth Baht 6,150 million was paid, to subsequently increase the capital of RH International (Mauritius) Corporation Limited (RHIM) and RHIS, a direct and indirect subsidiary of RHIC, by USD 200.20 million and USD 200 million, respectively, within July 2020. On 5 November 2020, the second called capital worth Baht 2,130 million was paid, to further increase RHIM and RHIS's capital by USD 70 million each. On 19 January 2021, the third called capital worth Baht 705 million was paid to further increase RHIM and RHIS's capital by USD 23 million each. The recapitalization was to finance overseas investment, repay short-term loans and reserve as working capital. The three subsidiaries will call for the payments for raised capital when needing fund for future investments.

- RHIS entered into the Definitive Agreement with Geleximco Group Joint Stock Company (Geleximco). After achieving conditions precedent, RHIS and Geleximco would invest in An Binh Energy and Infrastructure Fund (ABEIF), a Vietnamese fund focusing on energy and infrastructure investment in the Socialist Republic of Vietnam including thermal and renewable power. The investment includes, but not limited to, potential projects such as a 1,200 MW under-development coal-fired power plant in the middle of the Socialist Republic of Vietnam, 620 MW commercially-operated Thang Long Coal-Fired Power Plant in the North of the Socialist Republic of Vietnam, a 150 MW under-development hydropower plant in the North of the Socialist Republic of Vietnam, and a 650 MW under-development coal-fired power plant in the North of the Socialist Republic of Vietnam. The Company and Geleximco will hold 49:51 of ABEIF's charter capital. RHIS's investment is valued about USD 78.5 million or approximately Baht 2,500 million. Later, on 18 August 2020, ABEIF made its first investment in the power sector, by indirectly taking a 45 percent ownership in Thang Long Coal-Fired

Power Plant, which has commenced operations. The investment amount was VND 3,601,004,640,000 (or approximately Baht 4,920 million).

August

- Smart Infranet Company Limited (SIC), a 51:49 joint venture of the Company and ALT, raised registered capital by Baht 549,000,000 through the issuance of 54,900,000 shares, valuing at Baht 10 par value on 3 August 2020. (The Company's proportion accounted for 27,999,000 shares or Baht 279,990,000.) After completion, SIC's registered capital will rise to Baht 550,000,000. The recapitalization financed the takeover of 2 optic fiber networks from ALT; one along rail and highway routes and the other being the underground network Sukhumvit, Phaholyothin-Praditpat, and Phyathai roads. The 2 projects (the "Project Asset") are valued at Baht 530,868,730 (including VAT). Leftover proceeds from the recapitalization are reserved as working capital. On 24 September 2020, the joint venture's owners signed a Memorandum of Understanding to make use of EGAT's existing and future telecom networks and available installation areas. The service was available, starting from 15 September 2020.

- RATCH Cogeneration Company Limited received EGAT's consent to expand its electricity capacity by 30 MW and steam capacity by 5.46 tons per hour for sale to industrial users on 4 August 2020. The investment in capacity expansion, cost Baht 1,600 million, is scheduled to start about February 2021, and the commercial operation is expected around July 2022.

September

- The Company signed a 30:40:30 joint venture agreement with EGAT International Company Limited (EGATi) and Electricity Generating Public Company Limited (EGCO) on 16 September 2020 to jointly develop Quang Tri 1 Thermal Power Plant in Socialist Republic of Vietnam.

- RL and Buriram Green Energy Company Limited (BGE) in Thailand and SIPHANDONE BOLAVEN DEVELOPMENT COMPANY LIMITED (SPD) in Lao PDR established a joint venture company at the proportion of 25, 65, and 10 percent, respectively, on 21 September 2020 to develop a wood pellet production and distribution project, with annual capacity of 60,000 tons per year, in Lao PDR.

- The Central Intellectual Property and International Trade Court on 30 September 2020 reached a ruling on a civil case between Thai-Lao Lignite Company Limited (the Plaintiff) and the Company. The Plaintiff claimed that the Company has infringed upon its trade secrets when developing Hongsa Thermal Power Plant Project in Hongsa District, Lao PDR. The Court dismissed the case under the rationale that the claimed trade secret reached a time limit and the plaintiff could no longer claim the right to such secret. As such, the Company was not hold responsible the legal dispute for the case in Court in the first instance.

October

- RL signed a Memorandum of Understanding (MOU) with Sacksith Consulting & Trading Sole Co., Ltd. and the Lao Government on 26 October 2020, to conduct area survey and feasibility study on industrial wood cultivation for the construction of a wood pellet plant in Ta Oy District, Sa Mouay District, in Salavan Province, Lao PDR. The wood include northern black wattle and other fast-growing trees. The study result will support its subsequent requests for industrial wood concession.

- RL entered into a connected transaction by signing the Operation and Maintenance Services Contract for Hongsa Mine Mouth Power Project in Lao PDR with EGAT on 28 October 2020 to send personnel to conduct operation and maintenance services for Hongsa Thermal Power Plant in Lao PDR. The Contract, valuing at Baht 168.11 million, is effective for 36 months, starting from 1 November 2020.

- Nava Nakorn SPP Power Plant (Expansion) commenced operations and started realizing revenue accordingly to the Power Purchase Agreement on 31 October 2020. The expansion raised Navanakorn Electric Company Limited's aggregate electricity capacity to 185 MW and steam capacity to 40 tons per hour (including capacity of the existing project).

November

- The Company issued Baht 8,000 million Green Debentures No. 1/2563 (as part of the Company's Baht 15,000 million Medium Term Note Program 2020) on 4 November 2020. Such debenture issuance was approved by the SEC on 21 October 2020.

December

- RHIS signed a Joint Development Agreement with Nexif Energy Pte. Ltd. on 4 December 2020, to develop Nexif Ben Tre Wind Farm in the Socialist Republic of Vietnam. After the project proceeds and wins regulatory approval, both sides will hold 50:50 stake in the joint venture.

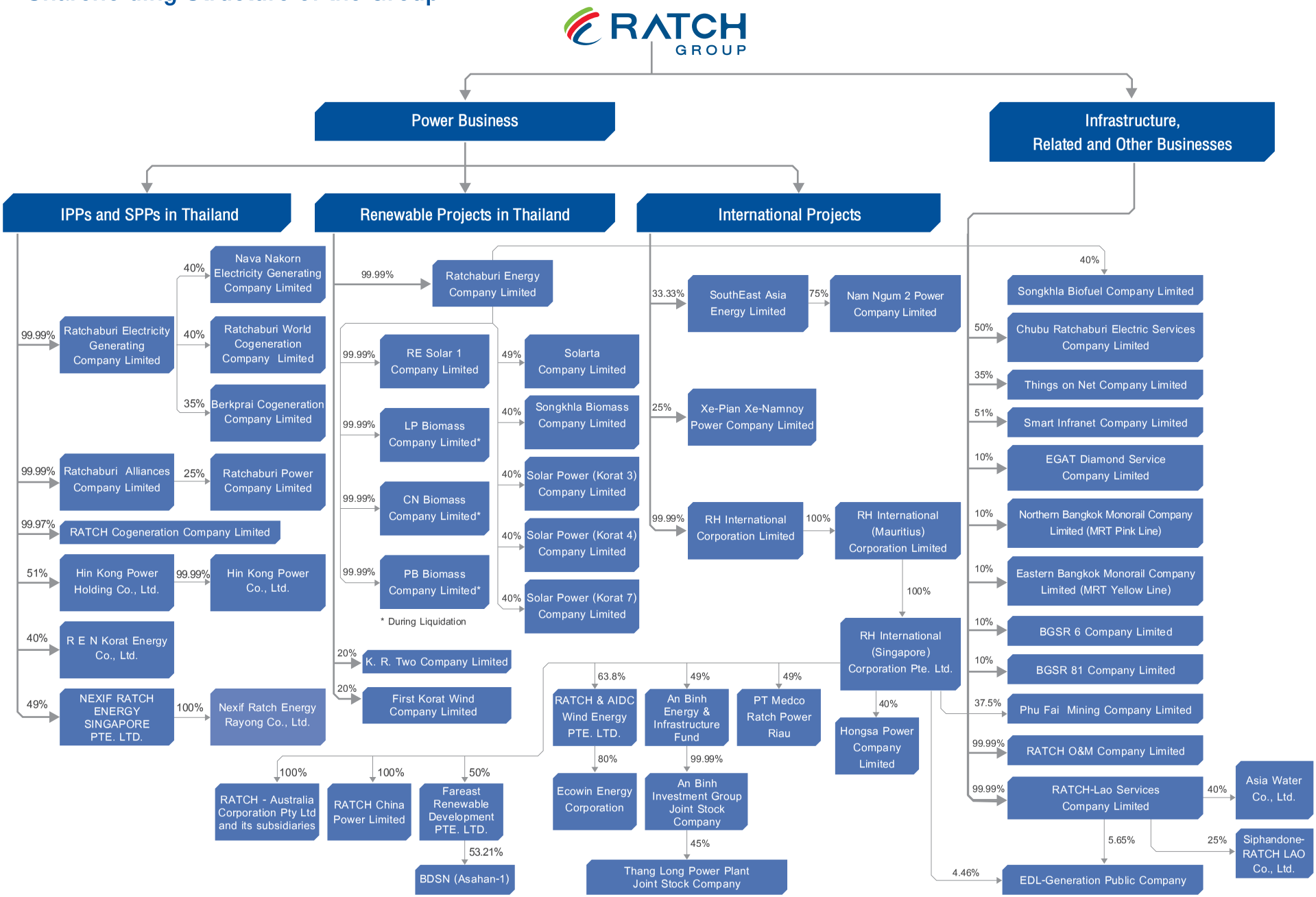
- The Company entered a biding participated and won the auction to purchase 98,983,125 shares of 15.53 percent of the total issued and paid-up shares of Bangkok Aviation Fuel Services Public Company Limited ("BAFS") from Thai Airways International Public Company Limited at Baht 27.40 per share, totaling Baht 2,712,137,625 on 19 December 2020. Later, on 29 December 2020, the Company entered into a Share Purchase Agreement with Thai Airways International Public Company Limited. Then on 19 January 2021, the Company accepted the share transfer and paid the total share purchase price. As a result, the Company's expanded its investment to aviation fuel services business.







Shareholding Structure of the Group



Revenue Structure and Dividend Payment Policy

Revenue Structure of the Company, Subsidiaries, Affiliates and Joint Ventures

The Company's revenue primarily comes from the sale of electricity generated by Ratchaburi Electricity Generating Company Limited, a subsidiary, to EGAT under a 25-year Power Purchase Agreement. The revenue structure from Ratchaburi Power Plant and Tri Energy Power Plant contains the 3 main parts as follows;

1. Availability Payment (AP)

AP is designed to cover the entire fixed operating costs, such as maintenance expenses and management expenses. Generally, AP depends on the power plant's readiness to generate and distribute electricity as required by EGAT.

2. Energy Payment (EP)

EP is realized after electricity is generated and transmitted to the EGAT's transmission system. EP comprises two major parts:

1) Fuel Payment
2) Variable Operating and Maintenance Payment

3. Revenue from Lease Contract

Finance lease revenue is based on revenue from availability payment for loans and shareholders' returns. It is booked under effective interest rate method, which is in line with the Thai Financial Reporting Interpretation Committee Standard No. 4 (TFRIC 4).

The Company's additional revenue comes from the sales of electricity generated by RATCH Cogeneration Company Limited, a subsidiary, mainly to EGAT under a 25-year PPA Remaining electricity and steam are sold to industrial users. RATCH Cogeneration SPP Power Plant's revenue consisted of 4 main parts:

1. Capacity Payment (CP) covers all investment, including maintenance expenses and variable expenses for generation and maintenance as well as actual capacity availability as specified in the PPA.
2. Energy Payment (EP) is received when electricity is generated, primarily paid for the fuel cost.
3. Fuel Saving (FS) revenue is received when monthly electricity generation meets the fuel saving clause specified in the PPA.
4. Revenue from electricity and steam sold to industrial users.

The Company also recognized revenue from the sale of electricity generated by RATCH Australia Corporation Pty Ltd (RAC), a subsidiary located in the Commonwealth of Australia whose main revenue is from a long-term PPA for its thermal power plants, wind farms and a solar farms. The basic revenue structure according to the long-term PPA for thermal power plants is as follows:

1. Capacity Payment (CP) covering the total investment including maintenance costs and actual capacity availability in electricity generation and distribution as stated in the PPA.
2. Energy Payment (EP) which is received when electricity is generated, primarily to cover the fuel cost and variable operating and maintenance expenses.

RAC's wind farms' income is the volume of generated electricity multiplied by the per-unit price.

The Company also recognized profits under the equity method from investments in joint ventures as follows:

Electricity Generation Business

1. Hongsa Power Company Limited, 40 percent owned by the Company's subsidiary, RH International (Singapore) Corporation Pte. Limited, has a 25-year PPA with EGAT. Revenue from electricity sales comprises 3 parts: Availability Payment, Energy Payment, and Revenue from Lease Contract, which is similar to the basic revenue of Ratchaburi Electricity Generating Company Limited. Hongsa Thermal Power Plant's Unit 1, Unit 2 and Unit 3 have commercially generated power for EGAT since 2 June 2015, 2 November 2015 and 2 March 2016, respectively.

2. Ratchaburi Power Company Limited, 25 percent owned by Ratchaburi Alliances Company Limited, the Company's subsidiary, generates revenue from the combined-cycle power plant's 2 generators. The sale revenue can be divided into 3 parts, which are Availability Payment, Energy Payment and Revenue from Lease Contract, similar to the basic revenue of Ratchaburi Electricity Generating Company Limited.

3. Ratchaburi World Cogeneration Company Limited, 40 percent owned by Ratchaburi Electricity Generating Company Limited, the Company's subsidiary, has a 25-year Firm-Cogeneration PPA with EGAT. The Unit 1 and Unit 2 of Ratchaburi World Power Plant commenced commercial operations and transmitted electricity to EGAT on 1 November 2014 and 1 March 2015, respectively.

4. Nava Nakorn Electricity Generating Company Limited, 40 percent owned by Ratchaburi Electricity Generating Company Limited, the Company's subsidiary, operates Nava Nakorn SPP Power Plant with a 25-year Firm-Cogeneration PPA with EGAT. Nava Nakorn SPP Power Plant and its expansion commenced commercial operations on 3 June 2016 and 31 October 2020, respectively.

5. Berkprai Cogeneration Company Limited, 35 percent owned by Ratchaburi Electricity Generating Company Limited, the Company's subsidiary, operates Berkprai Cogeneration SPP Power Plant with a 25-year Firm-Cogeneration PPA with EGAT. The power plant commercially commenced on 1 June 2019.

6. SouthEast Asia Energy Limited, 33.33 percent owned by the Company, earned revenue from selling electricity generated by the Nam Ngum 2 Hydroelectric Power Plant in Lao PDR with a 25-year PPA with EGAT, starting from its initial operation date on 26 March 2011.

7. Fareast Renewable Development Pte. Ltd. (FRD), 50 percent owned by RH International (Singapore) Corporation Pte. Limited, the Company's subsidiary. FRD holds a 53.21 percent stake in Asahan-1 Hydroelectric Power Plant. The 180-MW power plant is located on the Asahan River, North Sumatra, Republic of Indonesia. It commenced operations in January 2011 through a 30-year PPA with PT PLN (Persero) that will end on 31 December 2040.

8. Xe-Pian Xe-Namnoy Power Company Limited, 25 percent owned by the Company, operates a Hydroelectric Power Plant in Attapeu Province and Champasak Province, Lao PDR, under a 27-year PPA with EGAT. The power plant commenced commercial operations on 6 December 2019.

9. Solarta Company Limited, 49 percent owned by Ratchaburi Energy Company Limited, the Company's subsidiary, generates electricity from 8 solar farms with Non-Firm PPAs for VSPP with PEA. The solar farms receive adder of Baht 8 per unit from the Electricity Development Fund for 10 years.

10. First Korat Wind Company Limited (Huay Bong 3 Wind Farm) and K. R. Two Company Limited (Huay Bong 2 Wind Farm), 20 percent owned by the Company, operate wind farms with Non-Firm PPAs for SPP with EGAT and received adder of Baht 3.50 per unit for 10 years from the Electricity Development Fund. The sale revenue is divided into 3 parts similar to that of Solarta Company Limited, which are Energy Payment, Adder and average wholesale Ft.

11. Solar Power (Korat 3) Company Limited, Solar Power (Korat 4) Company Limited and Solar Power (Korat 7) Company Limited, 40 percent owned by Ratchaburi Energy Company Limited, the Company's subsidiary, generate electricity from solar farm with Non-Firm PPAs for VSPP with PEA. They receive adder of Baht 8 per unit from the Electricity Development Fund for 10 years. Its sale revenue can be divided into 3 parts similar to that of Solarta Company Limited: Energy Payment, Adder and average wholesale Ft.

12. Songkhla Biomass Company Limited, 40 percent owned by Ratchaburi Energy Company Limited, the Company's subsidiary, operates a biomass power plant using rubber bark and roots as the source of fuel. Located in Chana District in Songkhla Province, it has a 5-year PPA with PEA, which is automatically renewed every 5 years (for a total of 20 years.) Songkhla Biomass Power Plant commenced commercial operations on 9 November 2015.

13. An Binh Energy and Infrastructure Fund, 49 percent owned by RH International (Singapore) Corporation Pte. Limited, the Company's subsidiary, indirectly owns 45 percent in Thang Long Coal-Fired Power Plant, one of the largest coal-fired power plants that commence operations. It is located in the North of the Socialist Republic of Vietnam. Operating under a Build-Own-Operate (BOO) contract and securing a 25-year PPA from state-owned Vietnam Electricity, it has 620 MW in capacity.

Infrastructure Businesses

1. Asia Water Company Limited, 40 percent owned by RATCH-Lao Services Company Limited, the Company's subsidiary, generates revenue from tap water production and distribution for Nampapa Nakhone Luang, Vientiane, Lao PDR under a 50-year concession. Its production capacity in Phase 1 is 24,000 cubic meters per day.

2. Smart Infranet Company Limited, 51 percent owned by the Company, earns revenue from the installation of fiber optic networks and related equipment under the Thai government's project to reorganize network cables in potential areas nationwide.

3. Things On Net Company Limited, 35 percent owned by the Company, generates revenue from the installation and development of telecom networks and related businesses in support of Internet of Things.

Related and Other Business

1. Chubu Ratchaburi Electric Services Company Limited, 50 percent owned by the Company, generates revenue from operating and maintenance services under a 14-year contract with Ratchaburi Power Company Limited's Power Plant.

2. Phu Fai Mining Company Limited, 37.50 percent owned by RH International (Singapore) Corporation Pte. Limited generates revenue from coal mining and coal supplies to Hongsa Power Plant.

Revenue Structure 2018 - 2020

Types of Revenue	Generated By	Company's stake	Revenue (Million Baht)					
			2020		2019		2018	
			Million Baht	%	Million Baht	%	Million Baht	%
Revenue from sale and rendering of services	Ratchaburi Electricity Generating Company Limited	99.99	26,839.80	67.91	31,901.76	73.81	33,951.59	75.30
	RATCH-Australia Corporation Pty Ltd	100.00	2,684.83	6.79	2,990.26	6.92	2,181.65	4.84
	RATCH Cogeneration Company Limited	99.97	2,065.88	5.23	495.38	1.15	-	-
	RATCH-Lao Services Company Limited	99.99	62.03	0.16	53.71	0.12	50.90	0.11
Revenue from lease contracts	Ratchaburi Electricity Generating Company Limited	99.99	2,553.21	6.46	2,923.23	6.76	3,335.81	7.40
Share of profit (loss) of jointly-controlled and associated entities	Hongsa Power Company Limited	40.00	3,035.99	7.68	2,623.52	6.07	3,120.02	6.92
	Phu Fai Mining Company Limited	37.50	187.72	0.47	285.77	0.66	198.16	0.44
	Ratchaburi World Cogeneration Company Limited	40.00	202.30	0.51	208.78	0.48	241.41	0.54
	Solarta Company Limited	49.00	203.98	0.52	197.83	0.46	189.64	0.42
	SouthEast Asia Energy Limited	33.33	(73.46)	(0.19)	180.60	0.42	398.56	0.88
	Fareast Renewable Development Pte. Ltd.	50.00	213.25	0.54	158.45	0.37	15.59	0.03
	Ratchaburi Power Company Limited	25.00	152.30	0.39	82.82	0.19	181.71	0.40
	Nava Nakorn Electricity Generating Company Limited	40.00	125.40	0.32	67.21	0.16	166.26	0.37
	Berkprai Cogeneration Company Limited	35.00	113.88	0.29	62.66	0.14	0.61	-
	Songkhla Biomass Company Limited	40.00	40.49	0.10	39.09	0.09	34.06	0.08
	Perth Power Partnership (Kwinana)	30.00	(176.65)	(0.45)	34.91	0.08	42.69	0.09
	Solar Power (Korat 3) Company Limited	40.00	31.86	0.08	34.61	0.08	29.51	0.07
	Solar Power (Korat 7) Company Limited	40.00	33.31	0.08	33.49	0.08	30.34	0.07
	Solar Power (Korat 4) Company Limited	40.00	31.38	0.08	31.56	0.07	28.59	0.06
	First Korat Wind Company Limited	20.00	19.44	0.05	29.44	0.07	(14.39)	(0.03)
	K. R. Two Company Limited	20.00	14.39	0.03	24.20	0.05	3.05	0.01
	Chubu Ratchaburi Electric Services Company Limited	50.00	20.41	0.05	18.94	0.04	16.85	0.04
	Asia Water Company Limited	40.00	3.17	0.01	0.38	-	-	-
	Songkhla Biofuel Company Limited	40.00	(0.01)	-	(0.01)	-	(0.01)	-
	Smart Infranet Company Limited	51.00	(16.14)	(0.04)	(0.10)	-	-	-
	Things on Net Company Limited	35.00	(11.97)	(0.03)	(2.26)	(0.01)	-	-
	Xe-Pian Xe-Namnoy Power Company Limited	25.00	(70.77)	(0.18)	(272.30)	(0.63)	(5.74)	(0.01)
	R E N Korat Energy Company Limited	40.00	(2.63)	(0.01)	-	-	-	-
	An Binh Energy and Infrastructure Fund (Thang Long Power Plant)	49.00	125.19	0.32	-	-	-	-
	Under Construction Projects							
	PT Medco Ratch Power Riau	49.00	159.73	0.40	163.00	0.38	58.56	0.13
	Eastern Bangkok Monorail Company Limited	10.00	118.96	0.30	-	-	-	-
	Northern Bangkok Monorail Company Limited	10.00	111.02	0.28	-	-	-	-
	Yandin WF Holding Pty Ltd	70.00	28.29	0.07	(34.21)	(0.08)	-	-
	Nexif Ratch Energy Singapore Pte. Ltd.	49.00	(12.69)	(0.03)	-	-	-	-
	Hin Kong Power Holding Company Limited *	51.00	(7.80)	(0.02)	-	-	-	-

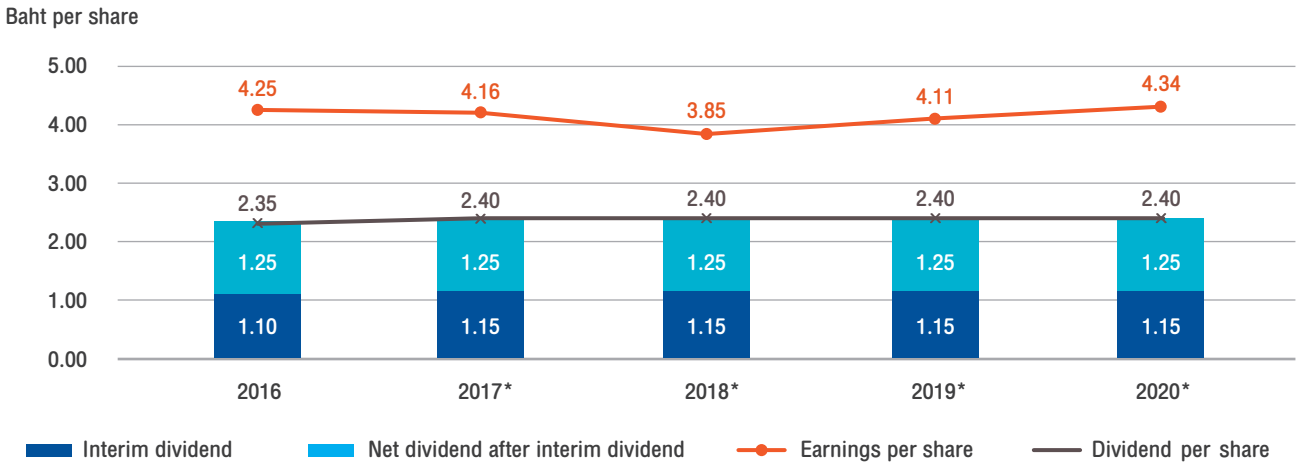
Types of Revenue	Generated By	Company's stake	Revenue (Million Baht)					
			2020		2019		2018	
			Million Baht	%	Million Baht	%	Million Baht	%
Management service income	RATCH Group Public Company Limited		275.25	0.70	244.24	0.57	238.88	0.53
	RATCH-Lao Services Company Limited	99.99	1.06	-	-	-	-	-
Interest income	RATCH Group Public Company Limited		45.78	0.12	89.38	0.21	85.70	0.19
	Ratchaburi Electricity Generating Company Limited	99.99	52.31	0.13	60.78	0.14	25.87	0.06
	RATCH-Australia Corporation Pty Ltd	100.00	8.38	0.02	29.83	0.07	27.83	0.06
	RH International (Singapore) Corporation Pte. Ltd.	100.00	49.54	0.13	20.32	0.05	70.38	0.16
	RH International Corporation Limited	99.99	1.25	-	2.77	0.01	2.38	0.01
	RATCH-Lao Services Company Limited	99.99	1.59	-	2.17	0.01	0.97	-
	Ratchaburi Energy Company Limited	99.99	0.55	-	0.20	-	0.20	-
	Ratchaburi Alliances Company Limited	99.99	0.01	-	0.03	-	0.04	-
	RH International (Mauritius) Corporation Limited	100.00	-	-	0.02	-	0.02	-
	RATCH O&M Company Limited	99.99	-	-	0.01	-	0.01	-
	Hin Kong Power Holding Company Limited *	99.99	-	-	0.01	-	-	-
Dividend income	RATCH-Lao Services Company Limited	99.99	33.46	0.08	55.59	0.13	104.16	0.23
	RH International (Singapore) Corporation Pte. Ltd.	100.00	26.71	0.07	44.40	0.10	82.62	0.18
	RATCH Group Public Company Limited		1.01	-	0.89	-	-	-
Other incomes	Ratchaburi Electricity Generating Company Limited	99.99	161.81	0.41	45.94	0.11	57.20	0.13
	RH International (Singapore) Corporation Pte. Ltd.	100.00	0.19	-	11.07	0.03	-	-
	RATCH Group Public Company Limited		5.01	0.01	8.44	0.02	0.91	-
	Ratchaburi Energy Company Limited	99.99	0.18	-	0.73	-	0.40	-
	RH International (Mauritius) Corporation Limited	100.00	-	-	0.31	-	-	-
	RATCH Cogeneration Company Limited	99.97	5.19	0.01	0.30	-	-	-
	RATCH-Australia Corporation Pty Ltd	100.00	46.62	0.12	-	-	130.55	0.29
Gain on bargain purchase	RATCH Group Public Company Limited		-	-	269.92	0.62	-	-
Total			39,521.99	100.00	43,220.07	100.00	45,083.54	100.00

Note * On 3 January 2020, the Company sold the investment of Hin Kong Power Holding Company Limited in the portion of 49 percent, 51 percent remaining.

Dividend Payment Policy

The Company has a policy to pay dividend of at least 40 percent of net profit according to the consolidated financial statements after legal reserves and other reserves. Nevertheless, dividend payments depend on the Company's cash flow.

The Company's 5-Year Dividend Payment



5-Year Dividend Payment Information

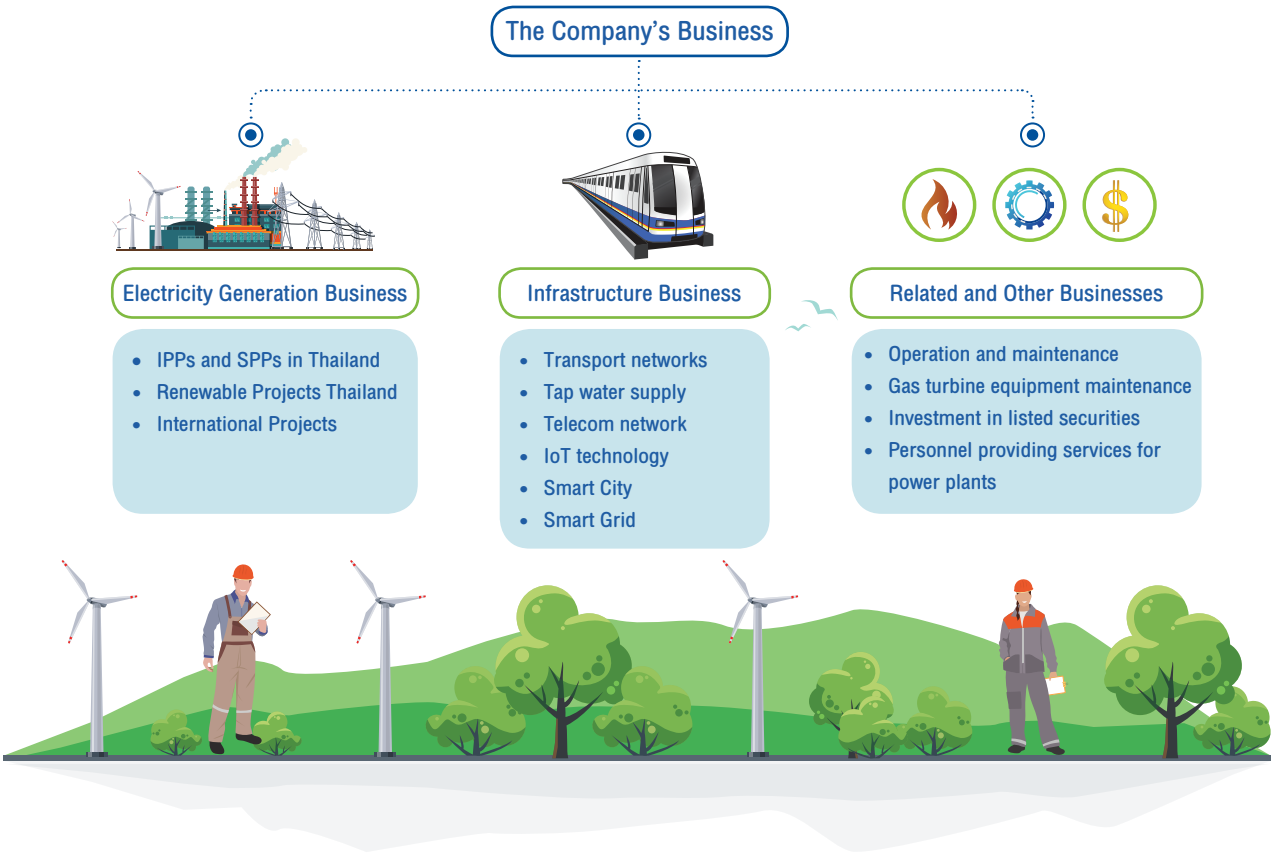
	Unit	2016	2017*	2018*	2019*	2020*
Earnings per share	Baht	4.25	4.16	3.85	4.11	4.34
Dividend per share	Baht	2.35	2.40	2.40	2.40	2.40**
Interim dividend	Baht	1.10	1.15	1.15	1.15	1.15
Net dividend after interim dividend	Baht	1.25	1.25	1.25	1.25	1.25
Dividend payout ratio	%	55.27	57.63	62.28	58.36	55.36

Notes * 2017-2020 data was prepared accordingly to Accounting Policy for Derivative Financial Instruments and Hedging Accounting.

** Being an agenda item to be considered at the 2021 Shareholders' Annual General Meeting to be held on 5 April 2021. The Company paid the interim dividend for the first 6-month performance of 2020 (January-June 2020) to shareholders at Baht 1.15 per share on 23 September 2020.

Nature of Business

RATCH Group Public Company Limited is a major independent power producer incorporated in Thailand on 7 March 2000, with Baht 14,500 million in registered capital. It was listed on the Stock Exchange of Thailand on 2 November 2000. Electricity Generating Authority of Thailand is the Company's major shareholder, holding a 45 percent stake. Originally named "Ratchaburi Electricity Generating Holding Public Company Limited" with "RATCH" as stock symbol, it was renamed to "RATCH Group Public Company Limited" on 19 April 2019. RATCH operates as a holding company, to invest in a diversified range of companies in Thailand and overseas. RATCH's investment is classified into 3 categories: 1) Electricity generation business which contains IPPs and SPPs in Thailand, renewable projects in Thailand and international projects 2) Infrastructure which covers transport networks, tap water supply, telecom network, IoT technology, Smart City development and Smart Grid and 3) Related and other businesses which are power plant operation and maintenance services, gas turbine equipment maintenance service, fuel supply service, investment in listed securities, and personnel providing service for power plants.



1. Electricity Generation Business

Electricity generation business contains 1) IPPs and SPPs in Thailand 2) Renewable Projects in Thailand and 3) International Projects. The Company strives to explore investment opportunities in IPPs, SPPs and renewable projects in Thailand and abroad, to strengthen its business. The power plants are put into 3 groups as follows:

1) IPPs and SPPs in Thailand which, classified by plant type, are:

(1) Independent Power Producer (IPPs)
(2) Small Power Producer (SPPs)

Most of the Company's power plants are located in Ratchaburi Province and Pathum Thani Province. Commercially-operated are Ratchaburi Power Plant, Tri Energy Power Plant, Ratchaburi Power's Power Plant, Ratchaburi World SPP Power Plant, Berkprai Cogeneration SPP Power Plant, RATCH Cogeneration SPP Power Plant, and Nava Nakorn SPP Power Plant (existing and expansion). Nava Nakorn Power Plant's expansion commenced commercial operations on 31 October 2020 while Tri Energy Power Plant reached the expiration of PPA and was decommissioned on 30 June 2020. IPPs and SPPs under development and construction are 1,400-MW Hin Kong Combined-Cycle Power Plant of which first generator is scheduled to commence commercial operations in 2024 and second generator in 2025; 92-MW Nexif RATCH Energy Rayong SPP Power Plant to commence operations in 2022; 40-MW R E N Korat Energy Power Plant, an Independent Power Supply (IPS) in Nava Nakorn (Nakhon Ratchasima) industrial zone which is owned by the Company, Nava Nakorn Company Limited and PEA Encom International Company Limited and will be commercially operating in 2023; and 30-MW RATCH Cogeneration SPP Power Plant (Expansion) scheduled for commercial operations in 2022.

2) Renewable Projects in Thailand

RATCH realizes the importance of renewable power plants, to confirm its commitment towards social and environmental responsibility and the concerted efforts in dealing and mitigating the impacts of climate change and global warming. The power plants, classified by type of renewable energy, are:

(1) **Solar power:** Solar Power Korat 3 Solar Farm, Solar Power Korat 4 Solar Farm, Solar Power Korat 7 Solar Farm and Solarta Solar Farm

(2) **Wind power:** Huay Bong 2 Wind Farm and Huay Bong 3 Wind Farm

(3) **Biomass:** Songkhla Biomass Power Plant

3) International Projects

The Company continually seeks opportunities to invest overseas particularly in the countries where it has established presence. The power plants in this category, both commercially-operated and under development and construction, are:

(1) **Lao PDR:** Hongsa Thermal Power Plant, Nam Ngum 2 Hydroelectric Power Plant, Xe-Pian Xe-Namnoy Hydroelectric Power Plant, and the power plants owned through investments in EDL-Generation Public Company (EDL-GEN)'s securities listed on Lao Securities Exchange via RATCH-Lao Services Company Limited and RH International (Singapore) Corporation Pte. Ltd. All are commercially-operated.

(2) **Commonwealth of Australia:** They are fossil fuel and renewable power plants, invested through RATCH Australia Corporation Pty Ltd. In 2020, RATCH invested in Yandin Wind Farm which is expected to commence operations in 2021; and Collector Wind Farm which has secured long-term PPAs with Infigen Energy and ALDI Food Pty Ltd and is scheduled for commercial operations in 2021.

(3) **Republic of Indonesia**: Asahan-1 Hydroelectric Power Plant which is commercially operated and Riau Combined-Cycle Power Plant which is under development and construction and scheduled for commercial operations in 2021.

(4) **People's Republic of China**: Fangchenggang II Nuclear Power Plant which is under development and construction.

(5) **Socialist Republic of Vietnam**: Thang Long Coal-Fired Power Plant, indirectly owned via a 49 percent investment in An Binh Energy and Infrastructure Fund (ABEIF), Thanh Phong Wind Farm, and Quang Tri 1 Thermal Power Plant which is being jointly developed by EGAT Group - EGAT International Company Limited, Electricity Generating Public Company Limited, and the Company.

2. Infrastructure

The infrastructure business covers transport networks, tap water supply, telecom networks, IoT technology, Smart City development and Smart Grid.

- **Transport networks**: Northern Bangkok Monorail Company Limited and Eastern Bangkok Monorail Company Limited invest in MRT Pink Line (Khae Rai- Min Buri) and MRT Yellow Line (Lad Phrao-Samrong), respectively. The two mass transit lines are expected to start operations in 2022.
- **Tap water supply**: Asia Water Company Limited invests in Sandin Water Supply Project in Lao PDR.
- **Telecom network and IoT technology**: investment through Smart Infranet Company Limited and Things on Net Company Limited, joint ventures between the Company and its partners.
- **Smart City development**: the Company and partners - Navanakorn Public Company Limited, ALT Telecom Public Company Limited and Thammasat University - are building smart city in Thammasat University - Rangsit Campus and Nava Nakorn Industrial Promotion Zone, as a pilot project.

3. Related and Other Businesses

Related and other businesses cover power plant operation and maintenance services, gas turbine equipment maintenance service, fuel supply service, investment in listed securities, and personnel providing service for power plants. The Company continually explores investment opportunities in related and other businesses in Thailand and overseas through subsidiaries and joint ventures, to create added value. By type of business, the businesses are as follows:

- **Power plant operation and maintenance services**: through RATCH O&M Company Limited, RATCH-Lao Services Company Limited, Chubu Ratchaburi Electric Services Company Limited
- **Gas turbine equipment maintenance service**: through a joint venture, EGAT Diamond Service Company Limited
- **Coal mining**: through Phu Fai Mining Company Limited, which supplies fuels to Hongsa Power Company Limited
- **Fuel supply service**: through Songkhla Biofuel Company Limited, which supplies to Songkhla Biomass Company Limited
- **Wood pellet manufacturing and distribution**: through Siphandone-RATCH LAO Company Limited in Lao PDR

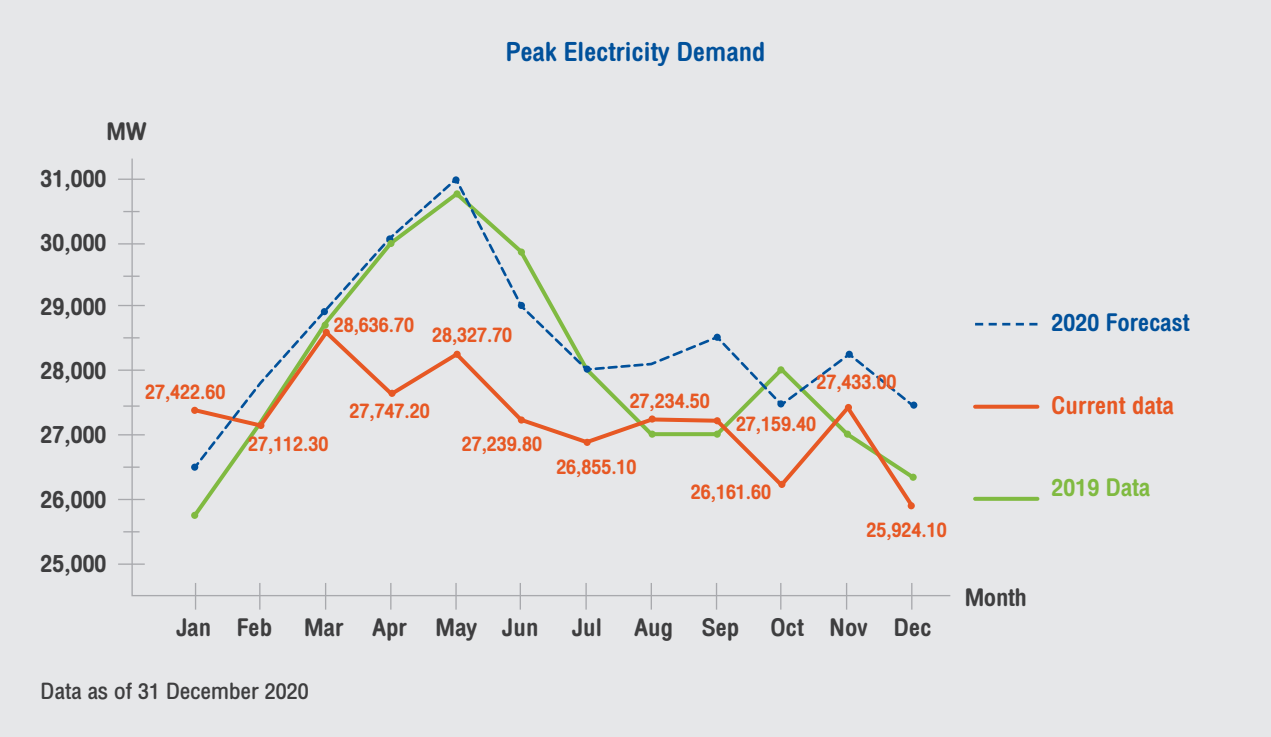
Investors can find more details in General Information of Subsidiaries, Affiliates, and Joint Ventures section and/or in Annual Registration Statement (Form 56-1) published on the Company's website and SEC's website.

Industry Condition and Competition

Domestic Industry Condition and Competition

The National Economic and Social Development Board projected 7.5 percent negative growth for the Thai economy in 2020 due to factors like the Coronavirus Disease 2019 (COVID-19) outbreak trade war and drought. The International Monetary Fund estimated the rate of global economic growth at -4.4 percent for 2020, while People's Republic of China would be the only large economy in the world to show positive growth in 2020 with expected GDP growth of 2.3 percent. In Southeast Asia, while Thailand's GDP is expected to contract 6.5 percent, Socialist Republic of Vietnam would register positive growth rate of 2.91 percent. The other economies in the region that would show negative growth are the Republic of Indonesia, the Republic of the Philippines and the Federation of Malaysia, with 1.5 percent, 9.5 percent, and 6.0 percent contraction, respectively.

The COVID-19 pandemic caused economic slowdown in Thailand and hit domestic industries, as reflected in electricity demand. At 8.30 pm on 12 March 2020, the demand plunged to 28,636.70 MW, compared to the peak of 30,853 MW at 10.27 pm of 2 May 2019. The demand dropped significantly despite an increase in household consumption following the government's "Stay home for the nation" campaign. Electricity consumption increased after the first and second phases of lockdown eased. However, as some businesses could not resume normal operations, Thailand witnessed a decrease in primary energy sourcing and final energy consumption.



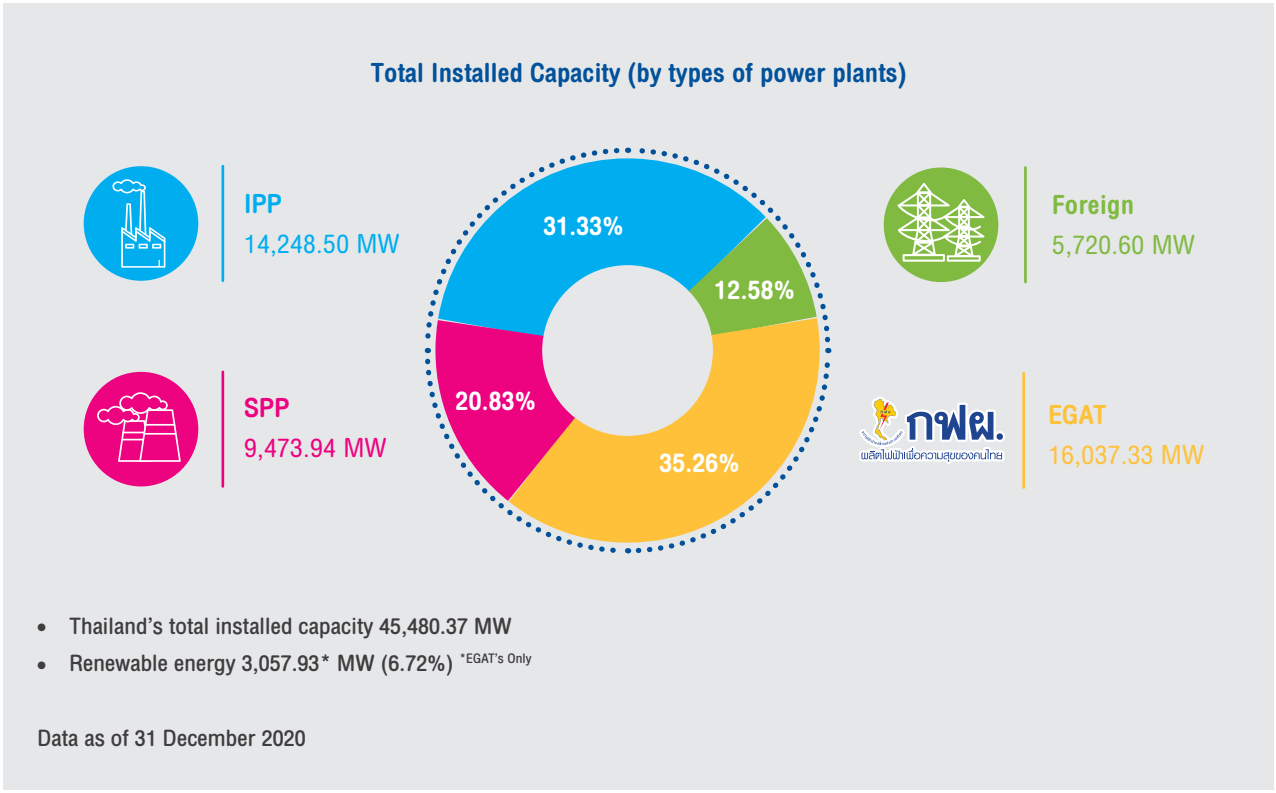
Data as of 31 December 2020

Power Development Plan Revision 1 (PDP 2018 Revision 1)

The Energy Policy and Planning Office revised Thailand's Power Development Plan, taking into account the community power plant policy for the local economy. The Power Development Plan 2018-2037 Revision 1 (PDP 2018 Revision 1) was then endorsed by the National Energy Policy Council (NEPC) and the Cabinet on 19 March 2020 and 20 October 2020, respectively. The plan underlines 3 aspects: **1) Energy security aspect:** Electricity system, transmission, and distribution must meet electricity demand and be ready to support economic and social development plans and a special power plant may be considered to maintain energy security in times of crisis **2) Economic aspect:** Generating cost must be appropriate, low-cost electricity is preferred to ease users' burden and support long-term economic and social development and the industry must brace for greater competition aimed at which increasing the country's generating efficiency and reflecting actual operating costs and **3) Environmental aspect:** Environmental impacts must be reduced by promoting generation from renewable energy, increasing the efficiency of electricity generation and consumption, and adopting the Smart Grid system. The revised version features the following changes from the original PDP 2018:

1. Reduce purchases from household solar projects.
2. Support “Energy for All” policy through purchases from community power plants during 2020-2024.
3. Postpone Pracharath biomass power plant projects in the Deep South to 2022 and 2023, with annual capacity of about 60 MW, and downsize them from small power plants (SPPs) to very small power plants (VSPPs).
4. Raise biogas-based electricity production target to 1,183 MW at the end of 2037 with clearer identification of fuel sources - wastewater, waste or energy crops.
5. Delay the initial power purchase date for Burapa Power Generation Company Limited and change the independent power producer's fuel type.
6. Enhance the Upper North’s electricity security by extending Mae Moh Power Plant's Unit 9 with contractual capacity of 270 MW by 3 years. Decommission is rescheduled for 2025.
7. Reduce the country's overall electricity generation cost by delaying the decommissioning of generators with low cost - Mae Moh Power Plant’s Unit 12 and Unit 13 - by a year, or in 2026.

As of 31 December 2020, Thailand’s installed capacity totaled 45,480.37 MW: EGAT, 16,037.33 MW or 35.26 percent; IPPs, 14,248.50 MW or 31.33 percent; SPPs, 9,473.94 MW or 20.83 percent; and imports, 5,720.60 MW or 12.58 percent.



International Industry Condition and Competition

Based on the International Energy Agency (IEA) forecast, global energy demand in 2020 contracts by 6 percent, the largest in 70 years due to COVID-19. The Company also encounters other challenges that affect the Company's outlook, including global warming, greening economy, aging society, climate change, technology disruption, global economic slowdown and depleting natural resources. As such, the Company must be cautious in expanding business. Despite the murky condition and global trends, the Company remains open for investment opportunities mainly abroad, in light of limited opportunities and increasing competition at home. The Company sees opportunities relating to renewable energy and it is seeking deals primarily in the countries where it has presence felt as well as emerging markets. Attractive destinations are summarized as follows:

Lao PDR

The government announced the "Battery of Asia" policy through 7,213 MW in installed capacity from a number of small hydropower plants. It exports the electricity to neighboring countries such as Thailand, the Socialist Republic of Vietnam, the Republic of the Union of Myanmar, Kingdom of Cambodia and the Republic of Singapore. Its sealed purchase and sale agreements to guarantee the supply of 9,000 MW until 2030 to Thailand and another 5,000 MW to the Socialist Republic of Vietnam.

During 2016-2020, thanks to foreign investment, Lao PDR's generation capacity increased by 6,457 MW or 145 percent from 2015. The government reaped more than LAK 130,000 million or more than USD 14 million from electricity export. The government announced the targets to raise capacity from other

types of renewable energy (excluding hydropower) to 30 percent by 2025, but supporting measures are still missing regarding the tariff rate, for instance. Meanwhile, the adder remains lower than actual generating cost, for the supply to household, agricultural and SME users. Few investors thus remain cautious.

Commonwealth of Australia

Australia's energy policies had been under political interferences for more than 10 years, before the establishment of a free market mechanism as seen today. Australia's emphasis is mainly on reliability, while targeting to reduce greenhouse gas emissions by 25-28 percent by 2030. In response to the federal policy, each state determines its own targets. For example, Queensland targets to generate 50 percent of electricity from renewable energy in 2030. Thanks to rapid development in solar technology and decreasing installation cost, the prices become more affordable to households. These factors, including its energy storage technology, make Australia an attractive destination for renewable energy investment.

Republic of Indonesia

Most power plants are either coal-fired or gas-fired and they contribute three fourths of the national capacity. The rest are power plants using fuel oil and renewable. Indonesia sets a goal to generate 23 percent of electricity from renewable energy in 2025, compared to 19 percent in 2019. Perusahaan Listrik Negara (PLN) has monopoly power over the industry as its installed capacity accounts for 74 percent against private producers' 26 percent capacity. PLN currently controls the generation, transmission and distribution.

Despite economic contraction in 2020 like other nations in the region, Indonesia remains an attractive investment destination thanks to high electricity demand, particularly in remote areas and small islands where the national grids cannot reach. Nevertheless, government supports are weak. While the power purchase rates are low, operating cost is high due to the minimum 43 percent local content requirement. Unclear conditions in power purchase agreements in each region also pose a challenge.

Socialist Republic of Vietnam

Vietnam received less economic impacts from COVID-19 than other countries in the same region. It was able to post 2.91 percent in economic growth rate in 2020 thanks to continuous inflows of foreign investment.

The government has truly committed to promoting renewable energy, as reflected in the installed capacity of solar power. From 134 MW in 2018, the solar capacity jumped to 5,500 MW in 2019 or 44 percent of ASEAN's solar capacity. In terms of solar capacity, Vietnam is now the largest in ASEAN. Under the Power Development Master Plan VII, Vietnam throws supports to renewable energy. It aims to increase renewable energy ratio from 7 percent in 2020 to 10 percent in 2030. However, transmission lines cannot be expanded in line with increasing demand from the manufacturing sector, particularly when it concerns electricity projects that use renewable energy as energy sources. This may dent investor confidence.

Republic of the Union of Myanmar

Under Myanmar Energy Master Plan 2015, the government targets 100 percent electrification rate within 2030, with a balance of hydropower, coal-fired power and solar power. At present,

Myanmar accommodates few coal-fired power plants and solar farms. The government's draft law on renewable energy set a goal to raise renewable power from 8 percent in 2021 to 12 percent in 2025. To achieve the goal, the government plans to extend its grid network and expand the distribution coverage. It envisages mini grid and the generation by households in remote areas which are not connected with the national grids. The government offers technical supports and training for state officers at all levels. It also allows power plants' fuel switch.

Risks prevail, however, due to several factors such as high land prices. Meanwhile, policies, measures and regulations remain unclear, particularly the legal framework and the power purchase system for large producers. Myanmar also lacks proper infrastructure, financial supports and etc.

Republic of the Philippines

The country is mainly powered by coal-fired power plants, followed by those using fuel oil, hydropower and natural gas as energy sources. Among renewable energy choices, geothermal power is the most attractive. Electricity demand is now concentrated in Luzon, in the North of the country.

The biggest hurdle lies in its geography, as the Philippines is an archipelago with a string of over 7,000 islands. Fuel transportation and connection to the national grids are points of concern, as this will definitely be factored into tariff rates. Aside, corruption is keeping foreign investors at bay.

People's Republic of China

China's 14th Five-Year Plan (2021-2025) outlines a new power mix. Renewable energy will replace some of the excessive coal-fired power following severe pollution problems. Non-fossil energy will account for 35 percent in 2020, to reduce CO_2 emissions. China's electricity demand remains high despite the COVID-19 outbreak, at 7,380-7,450 TWh or an increase by 2-3 percent compared to 2019.

Federation of Malaysia

Coal and natural gas-base electricity accounts for 75 percent of installed capacity. Privately-owned power plants contribute 77 percent of the capacity, while the distribution is controlled by government agencies (TNB, Serawak Energy, Sabah Electricity). The government targets less fossil energy and more renewable energy. Attractive power purchase rates are announced, along with financial supports to projects that utilize locally-sourced resources. However, renewable projects are mostly controlled by local companies as leasing conditions for large-scale projects remain complicated. Moreover, regulatory bodies have conflicting views on targets. These pose challenges to foreign investors.

Competition

Study on Electricity Market

In 2020, the Stock Exchange of Thailand and EGAT conducted a joint study on a wholesale electricity market, expecting to apply the information in shaping an electricity market. In addition, there is a proposal to further open up the retail electricity market. The study aims to pinpoint the advantages and disadvantages of the current industry structure and the fully-open environment, for both producers and users. Free competition is believed to offer more investment opportunities.

Innovation and Novel Technology

The Company is aware of changes in technology and innovations in terms of production and information technology as well as consumer behaviors. Taking these factors into consideration, RATCH has continually improved its projects and management efficiency. It also plans continuous collaboration with partners on new innovations.

Human Resource Development

The Company recognizes the importance of quality personnel who will lead the organizations forward. In this regard, it follows through the following approaches:

1. Improve personnel's skills for career excellence.
2. Create new executive-level talents.
3. Prepare them for overseas posting.
4. Promote relation building and teamwork spirit.
5. Encourage continual learning and self-development.
6. Instill awareness on ethics as well as responsibility for society and the environment.

Concerns in Environment, Society and Governance

As a listed company on the Stock Exchange of Thailand, the Company has operated its business accordingly to Environment Social and Governance (ESG) standards. Stakeholders' expectations are taken into account for sustainable growth. It will follow this path by:

- Complying with laws, rules and regulations and measures as well as the requirement for transparent, equitable and accountable information disclosure.

- Fighting all forms of fraud and corruption; as well as promoting integrity, morals and ethics in compliance with the criteria of CAC to which the Company is a member.

- Maintaining efficient organizational management, with emphasis on efficiency and comprehensiveness.

- Supporting "smart" and "good" organizations; and enhancing personnel's capabilities and spiritual energy through moral and volunteer activities.

- Being responsible for stakeholders and society through equitable treatment and legal protection. Activities for sustainable community and social development are organized.

In this regard, the Corporate Governance and Social Responsibility Committee was appointed to ensure the implementation of all aforementioned plans.

Risk Factors

Risk Management Policy

The Company believes efficient risk management and controlling of risks within risk appetite will support business stability and continuity and has given importance to this issue. The Company has applied the Committee of Sponsoring Organizations of The Treadway Commission-Enterprise Risk Management 2017 Framework or "COSO-ERM 2017" in formulating systemic risk management plan that is aligned with international standards. Such promises a greater chance of success, reduces the chance of failure and minimizes losses as well as operational uncertainties. The Company expects the integration of risk management into business strategies and performance will lead it towards business objectives and goals, as the action underlines the importance of risk management throughout the Company's life and growth, and supports the Company's vision, mission and business short and long-term objectives. Risks are assessed based on the likelihood and impacts. Risks are identified, analyzed, assessed, prioritized, managed, controlled, monitored, reported, evaluated and communicated on a quarterly basis, to ensure the Board of Directors, the Risk Management Committee and top management acknowledge key risks that the Company is facing which may shake the Company's future risk condition.

The Board of Directors, the Risk Management Committee and the top management play a part in ensuring the efficiency and effectiveness of the risk management process and make sure that risks are within risk appetite. In this regard, the Board of Directors and the Risk Management Committee control and review risks; as well as acknowledge and make recommendations on risk assessment results, management direction, measures and action plans for residual risks. Such process is to ensure the sufficiency and suitability of the overall enterprise risk management. Meanwhile, the top management oversees and drives risk management at all levels towards success; gives advice on preventive and impact-mitigating actions; monitor the implementation to continually reduce risks and ensure suitability to business situations; and ensure the efficient implementation of risk management system and the comprehensiveness of enterprise risks covered by the system.

The risk management process encompasses 5 elements as follows:



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1) Governance and Culture: Highlighting the Board of Directors' role, operational structure based on strategic targets, desirable cultures, corporate values and human capital reinforcement.

2) Strategy & Objective Setting: Encompassing the analysis of business context, the setting of risk appetite, the assessment of enterprise risk management strategies, and the setting of business objectives in light of risks.

3) Performance: Comprising risk identification, risk severity assessment, risk prioritization, risk responses and the overall picture of risks.

4) Review & Revision: Covering the assessment of changes induced by risk management, the review of risk management capacity and risk level, and the improvement in risk management system.

5) Information, Communication & Reporting: Comprising information utilization in support of risk management, utilization of communication channels to support risk management, and reporting of success, implementation and risk culture.

Major Risk Factors

1) Strategic Risks: Concerning external factors such as legislation; standards; operational guidelines; political and economic changes; government policies; as well as changes in environmental condition, technology and innovation in Thailand and overseas which may affect the Company's sustainable development and achievement of long-term goals.

1.1 *Political Factor:* The factor is of immense importance. To assess likelihood and impacts on the Company's domestic and overseas operations or business objectives, the Company must monitor economic stimulus measures and their impacts on the business sector; diplomatic relationships; political stability; domestic political conflicts or protests; government changes that may lead to a change in energy policies, the Power Development Plan, renewable energy supports, fuel management plan and power purchase limits from each type of power plants; and rules and regulations concerning project development and investment in a particular country.

Mitigation Plan: Consider a new business model that aligns with the government's regulatory context and future direction of the electricity generation industry; and consider expanding into infrastructure and other businesses to explore opportunities and other alternatives in achieving the Company's vision.

1.2 *Economic Factor:* The factor is essential in the assessment of economic directions in each country, likelihood and impacts. In focus are quarterly GDP, sovereign credit rating, exchange rates, inflation rate, interest rates and tax policies. These issues affect the under-construction and under-development projects in the Company's investment plan; as well as commercially-operated projects which influence the Company's financial performance.

Mitigation Plan: Closely monitor and evaluate potential changes in the economic condition of Thailand and investment destinations; and cautiously consider financial tools to manage and

control risks such as interest swap and currency hedging which will mitigate the impacts from economic volatility and keep the Company's financing cost at an appropriate and competitive level.

1.3 *Social Factor:* The factor concerns the livelihood, culture, traditions, social interests in a particular country, and issues that may support or disrupt the Company's investment strategy. For example, if the country supports green energy, that will influence more renewable energy investment and reduce the role of fossil fuel power plants.

Mitigation Plan: Reconsider the business plan concerning green energy, taking into account social interests; and evaluate future trends and the Company's ability in creating businesses that fit the country's social context.

1.4 *Technological Factor:* The factor concerns new and upgraded technology such as Energy Storage, Smart Grid, Electric Vehicle or Internet of Things that can be utilized. Such technology may significantly change the business model of the electricity generation industry, as this could lead the world towards decarbonization (more green energy) or decentralization which induces new developments like peer-to-peer prosumer or Independent Power Supply (IPS).

Mitigation Plan: Contemplate and give importance to technological changes today and in the future, as well as seek joint investment opportunities with specialized partners for the technology that will support future business expansion.

1.5 *Environmental Factor:* The factor concerns geography, climate condition, recorded natural disasters, likelihood and impacts induced by climate change and natural disasters, as well as disease outbreaks. The conditions and incidents possibly leading to business interruption or raising project cost due to preventive or mitigating measures include drought, earthquake, flooding, forest fire, and disease outbreak.

Mitigation Plan: Analyze the likelihood and impacts of each risk in each working site and consider mitigating options that balance a rising cost and impacts on business should the risk occur. Projects may consider buying insurance to cover the risk and put in place the measures to review, prepare and exercise Business Continuity Plan.

1.6 *Competition Factor:* The factor concerns the analysis and assessment of competition in the energy, infrastructure and other industries which the Company is interested in. The potential and capacity of the Company and other companies which are in the industries or share the same business goal are compared, to find strengths and weaknesses. Then, appropriate investment approaches are plotted, with focus on acceptable returns and risks.

Mitigation Plan: Seek business partners whose proficiency can promote business advantages or synergy, to raise competitiveness; and consider extending the operations to cover other businesses in the value chain and others.

2) Operation Risks: Concerning the likelihood and impacts of incidents at commercially-operated projects including machinery's lower efficiency and shutdowns because of malfunctioning machinery or equipment or accidents which may disrupt their revenue stream. The risks also cover incidents witnessed by projects under construction and development, which derail schedules.

Mitigation Plan: Analyze and evaluate each project's operational efficiency and revenue stream and accordingly outline maintenance and efficiency enhancement schedules. Maintenance standards must be achieved. On projects under construction and development, appropriate approaches are laid out to keep schedules, which may include adjustments to work plans or personnel deployment without jeopardizing safety and the environment.

3) Financial Risks: Concerning the analysis of risks arising from volatile interest rates, fluctuating exchange rates as well as liquidity. Due to more investment plans with some earmarked for foreign countries, the Company is more likely to witness the impacts from the 3 fronts.

Mitigation Plan: Define appropriate financial policies to deal with financial risks, to control the impacts of volatile interest rates and exchange rates and keep liquidity at the right and acceptable level; and ensure the financing plan is consistent with the Company's investment plans both in terms of loan amounts and repayment periods.

4) Compliance Risk: Due to diversification into other businesses and continuous business expansion in Thailand and overseas, the Company is exposed to penalties if failing to act in accordance with industry laws, rules and regulations. Risks also prevail as each country has its own culture, traditions and prescribed best practices. The likelihood and impacts of these risks must be assessed in support of business expansion.

Mitigation Plan: Study and try to understand the laws, rules, regulations, procedures, traditions and cultures if selected countries from reliable sources; discuss the received information with proficient and experienced legal advisers to minimize possible mistakes; and consider establishing joint ventures with local partners who have experience and expertise in specific businesses to reduce risks and impacts possibly arising from industry laws, regulations, traditions, cultures and prescribed practices. In addition, the Company enforces the "Anti-Fraud Corruption" policy and regulations, which guide the Group and all employees towards governance-based transparent and fair operations.

5) Emerging Risks: To cover risks in all dimensions, it is extremely essential to assess the likelihood and impacts of emerging risks which were not among risk factors on the table of discussion in the past years. Several emerging risks did prevail in 2020 which affected economic growth and operational patterns. They are:

5.1 *The Outbreak of Coronavirus Disease 2019 (COVID-19)* which quickly spread and resulted in massive infections and deaths across the globe. The disease disrupts the normal ways of life, leading to restrictions on domestic and international travel and negative economic consequences. Many economies suffered from negative growth, which significantly reduced demand for fuel and electric power.

Mitigation Plan: Define the approach and measures to lessen the likelihood of infections and impacts through, for example, mandatory screening of personnel and visitors, zoning, separation of operators into teams, social distancing, online meeting, work from home, sanitization, and cleaning. The measures were implemented at all commercially-operated projects. The Company also rescheduled maintenance and parts/equipment management in accordance with situations; adjust the construction and machinery delivery plans of under-construction projects; make travel plans in advance for foreign experts who must undergo the State Quarantine; and conduct business talks online.

5.2 *Cyber Threats* against the Company's network, information technology system and personal data protection. Advanced and efficient network and information technology has played a greater role in today's business world as they facilitate many aspects of business management. However, the patterns of Cyber Attack have transformed accordingly. Businesses are forced to adjust and continually update preventive measures, to tackle and reduce risks in a timely manner. Personal data protection is in focus, to prevent information leak and comply with Personal Data Protection Act B.E. 2562.

Mitigation Plan: Put in place an advanced and up-to-date cyber security system as well as a backup system, to ensure business continuity. There are rules on password setting as well as file coding. Awareness was raised among employees in charge of cyber security and personal data protection, for their extra caution.

5.3 *Climate Change and Natural Disaster* have become more frequent and more severe, which disrupts the way of life and business operations across the globe. Causing the Climate Change was an increase in global temperature and many countries see the need to tackle the issue through an international agreement to reduce greenhouse gas emissions. These countries, including Thailand, are committed to reducing greenhouse gas emissions by 20-25 percent within 2030 compared to the base year 2015. To achieve the goal, each country has imposed rules, regulations and measures and this may affect the Company's business plans and objectives.

Mitigation Plan: Analyze and monitor regulatory changes as well as government supports to businesses that help mitigate global warming impacts; and raise the Group's renewable energy capacity to at least 25 percent of total generation capacity within 2025 in accordance with Thailand's greenhouse gas emission reduction policy.

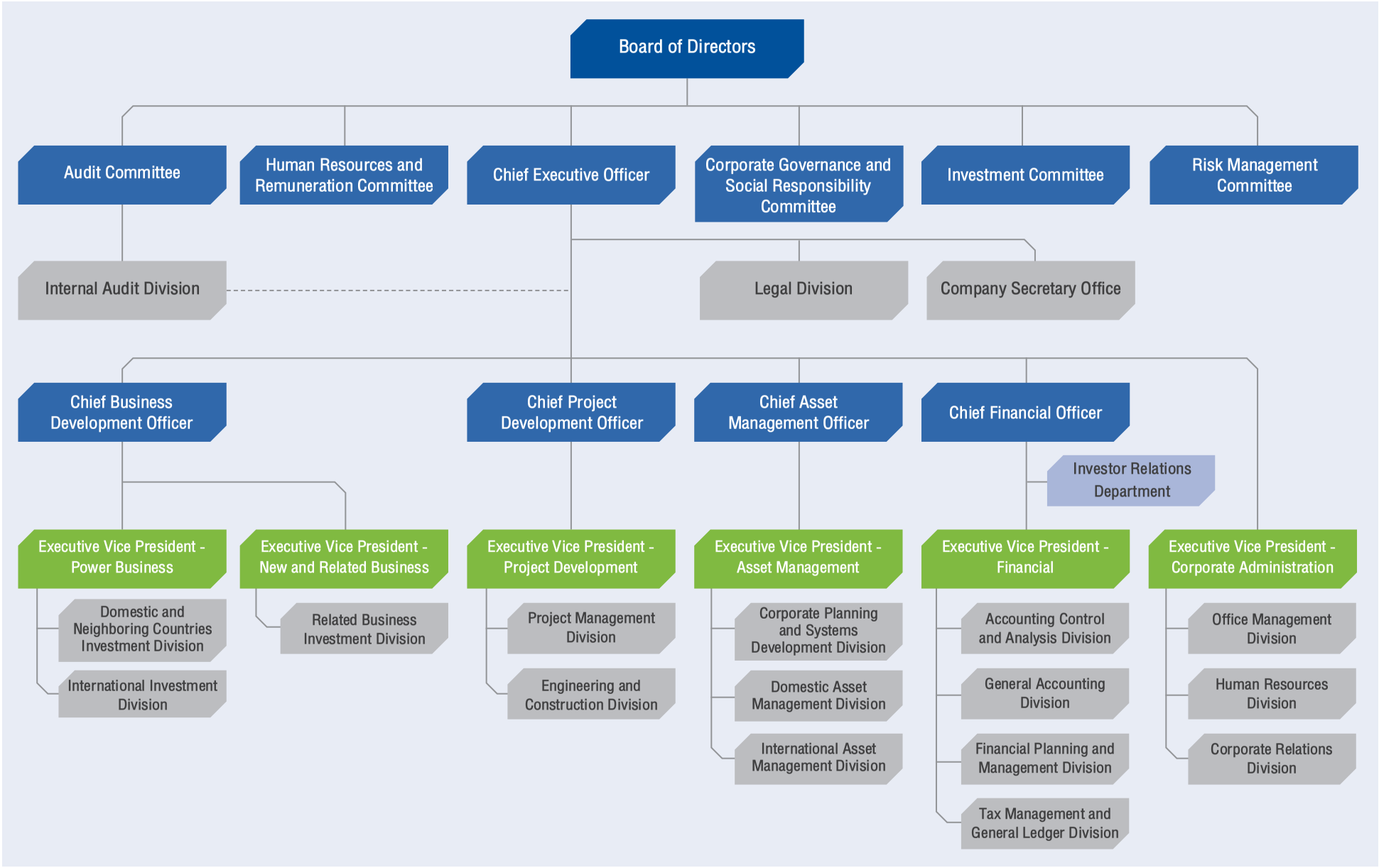
Legal Disputes

As of 31 December 2020, the Company had no legal disputes other than the ones described below that may induce damages above 5 percent of shareholders' equity. The Company had no other cases or disputes that may send a significant impact on the Company's operations.

1. The Company was held a defendant in in a civil case, Black Case No. Por. 678/2557, being pressed for damage claims worth Baht 825 million. The plaintiff alleged that the Company breached an agreement to enter into a joint venture and bid for a power plant project; and that the Company committed a dishonest act by opting out from the bidding, blocking the plaintiff from winning the project and causing the plaintiff damage. The Nonthaburi Provincial Court dismissed the case on 25 October 2018, Red Case No. Por. 2448/2561, ruling that the Company acted in good faith and had never committed any fraudulent act against the plaintiff. On 10 June 2020, the Nonthaburi Provincial Court read the Court of Appeal Region 1's decision to uphold the provincial court's judgement on the rationale that the plaintiff's evidences could not prove that the Company agreed to enter into a joint venture contract or join the power plant bidding together with the plaintiff. As such, the Company did not commit any fraudulent act against the plaintiff as alleged.

2. The Company was held a defendant in a civil case, Black Case No. Tor Por. 199/2561, being pressed for damage claims worth Baht 5,271.10 million. The Company was alleged of trade secret infringement, by using the plaintiff's trade secret without its consent and depriving the plaintiff from any entitled benefits. The Central Intellectual Property and International Trade Court dismissed the case on 30 September 2020 on the rationale that the claimed secret reached a time limit and the plaintiff could no longer claim the right to such secret.

Management Structure



1. Board of Directors

The structure and composition of the Board of Directors and the qualifications of directors and independent directors have been set in accordance with missions and business objectives of the Company while complying with relevant laws, regulations, regulator's guideline and the Company's Articles of Association established by the resolution of the shareholders' meeting and the Company's regulations on the Board of Directors. This is to achieve maximum efficiency, effectiveness and support for the Board of Directors in performing its duties in setting business direction; formulating policy; ensuring balance of power, corporate governance, monitoring of the Management's actions and performance; providing opinions in depth and width on the issues under consideration that address all factors; and ensuring that the implementation of policies corresponds with governing regulations.

1.1 Composition of the Board of Directors

- Comprising no less than 7 members and no more than 15 members, appointed by shareholders' meeting.
- Executive directors shall not exceed one third of the total members.
- Independent directors shall comprise no less than one third of the total directors and no fewer than 3 members.
- No less than half of the directors shall reside in the country.
- The Chairman must be a non-executive member and not the same person as the Chief Executive Officer who is the Management's chief.



As of 31 December 2020, the Board of Directors consisted of 12 directors as follows:

Directors		Position in the Board of Directors	No. of term(s)	Starting Date of Directorship	Position in Sub-Committee
1	Mr. Boonyanit Wongrukmit	Chairman (EGAT's representative director) **(Authorized director)**	2	1 May 2018	• Chairman of the Investment Committee
2	Mr. Samack Chouvaparnante	Independent Director	2	11 April 2015	• Chairman of the Risk Management Committee
3	Mr. Chartchai Rojanaratanangkule	Independent Director	2	6 April 2017	• Chairman of the Audit Committee • Member of the Corporate Governance and Social Responsibility Committee
4	Mr. Apichart Chinwanno	Independent Director	1	13 April 2019	• Chairman of the Human Resources and Remuneration Committee • Chairman of the Corporate Governance and Social Responsibility Committee
5	Mr. Suthon Boonprasong	Director (EGAT's representative director) **(Authorized director)**	1	19 October 2020	• Member of the Investment Committee • Member of the Risk Management Committee
6	Mr. Boonsong Kerdklang	Independent Director	1	13 April 2019	• Member of the Audit Committee
7	Mr. Somboon Nhookeaw	Independent Director	2	23 February 2018	• Member of the Audit Committee
8	Mr. Kriengkrai Rukkulchon	Independent Director	1	11 July 2020	• Member of the Human Resources and Remuneration Committee
9	Miss Nantika Thangsuphanich	Director (EGAT's representative director)	2	18 February 2019	• Member of the Human Resources and Remuneration Committee • Member of the Risk Management Committee
10	Mr. Nutthavutthi Chamchang	Director (EGAT's representative director) **(Authorized director)**	1	1 October 2020	• Member of the Investment Committee
11	Miss Niramarn Laisathit	Director (EGAT's representative director)	1	18 December 2020	• Member of the Investment Committee
12	Mr. Kijja Sripatthangkura	Director, Secretary to the Board of Directors and Chief Executive Officer (EGAT's representative director and an executive director) **(Authorized director)**	2	1 January 2017	• None

Note: Authorized Director Policy appears in Item 1.7 on Page 75

Information on individual directors shows in Directors' Profile Item. Information on directors' transactions with possible conflict of interest in the past year appeared in Good Corporate Governance Section, Item 3.10: Transactions that involve or may involve conflict of interest. Information of controllers and directors of subsidiaries operating core businesses can be found in Form 56-1 published on the Company's website and SEC's website.

1.2 Qualifications of Directors

- Not older than 72 years old
- Hold directorship in no more than 3 listed companies
- Have no prohibited qualifications by law. Not being a bankrupt person or an incapable or quasi-incompetent person
- Have never been convicted and imprisoned in for violation of laws related to assets in a fraudulent action
- Have never been terminated from government agencies or private organizations due to malpractice
- Have never been dismissed as a director, manager, employee or an authorized executive of other organizations
- Not being a politician, a Member of Parliament, Senate, or a member of a local administrative office or a local administrator
- Possess educational and experience or other qualifications as specified by the Company
- Devote sufficient time and full capability for the best benefits of the Company and honor the duty to attend company meetings
- Commit no action or involvement that may undermine the Company's interests or benefit other person or entity, whether that is for personal or for other person's benefits

1.3 Independent Directors

The Company defined the meaning of "Independent Director" in the Company's regulation on the Board of Directors B.E. 2019 which is published on the Company's website. The independent directors' qualifications are summarized below:

- Holding no more than 0.5 percent of the total number of voting shares of the Company, subsidiaries, affiliates, joint ventures, or juristic persons which may induce conflict of interest. The holding includes shares held by the particular independent director's related persons (The criteria about the shares held by the Company's Independent Director is stricter than the 1 percent threshold enforced by the Capital Market Supervisory Board).
- Not being nor having been an executive director, employee, staff or advisor with fixed salary, or a controlling person of the Company, its subsidiaries, affiliates, joint ventures, same-level subsidiaries or juristic persons who may have conflict of interest unless the foregoing status ended at least two years prior to the date of appointment as an Independent Director.
- Not being a person related by blood or registration under laws, such as father, mother, spouse, sibling, and child, including spouse of the children of executives, major shareholders, controlling persons, or persons to be nominated as executive or controlling persons of the Company or its subsidiaries.
- Not having business relationship with the Company, its subsidiaries, affiliates, joint ventures, or juristic persons which may induce conflicts of interest, in the manner which may interfere with his independent judgment. Not being or

having been a major shareholder, Non-Independent Director or executive of any person having business relationship with the Company, its subsidiaries, affiliates, joint ventures, or juristic persons who may have conflicts of interest unless the foregoing status ended at least two years prior to the date of appointment as the Independent Director. ("Business relationship" includes any normal business transaction concerning immovable property rent or lease, lending, loan guarantee, provision of assets as collaterals or similar actions, which binds the Company or its counterparty to indebtedness in the amount of three percent or more of the net tangible assets or more than twenty million baht or more, whichever is lower. The indebtedness shall be calculated according to the calculation method for connected transaction value under the Stock Exchange of Thailand Board of Governors' Notification on Disclosure of Information and Act of Listed Companies Concerning the Connected Transactions mutatis mutandis. The combination of such indebtedness shall include indebtedness taking place during the course of one year prior to the date on which the business relationship with the person commences.)

- Neither being nor having been an auditor of the Company, its subsidiaries, affiliates, joint ventures, or juristic persons who may have conflicts of interest, and not being a major shareholder, Non-Independent Director, executive or partner of an audit firm which employs auditors of the Company, its subsidiaries, affiliates, joint ventures, or juristic persons who may have conflicts of interest unless the foregoing relationship ended no less than two years prior to the date of appointment as the Independent Director.
- Neither being nor having been any professional advisor including legal advisor or financial advisor who receives an annual service fee exceeding two million baht from the Company, its subsidiaries, affiliates or juristic persons who may have conflict of interest, and neither being nor having been a major shareholder, Non-Independent Director, executive or partner of the professional advisor unless the foregoing relationship ended no less than two years prior to the date of appointment as the Independent Director.
- Not being a Director who has been appointed as a representative of the Company's Director, major shareholder or shareholders who are related to the Company's major shareholder.

Upon the appointment as the Independent Director, he or she may be assigned by the Board of Directors to act on the operations of the Company, subsidiaries, affiliates, joint ventures, same-level subsidiaries or juristic persons which may cause conflict of interest through collective decision process.

As of 31 December 2020, the number of the Company's independent directors who meet the aforementioned qualifications was 6 out of 12 directors (or 50.00 percent), or more than one third of the total members. The independent directors are: Mr. Samack Chouvaparnante, Mr. Chartchai Rojanaratanangkule, Mr. Apichart Chinwanno, Mr. Boonsong Kerdklang, Mr. Somboon Nhookeaw, and Mr. Kriengkrai Rukkulchon.

1.4 Nomination of Directors

The Company has in place clear director selection and nomination process. The Human Resources and Remuneration Committee is tasked to select, screen and nominate qualified persons as directors and independent directors, accordingly to pre-set criteria and procedure. Taken into consideration are the persons' qualifications, diversity of technical knowledge and expertise, necessary skills and ability to support the corporate mission and goals. The consideration is free of discrimination against gender. The nominated directors shall not have prohibited qualifications by law and related rules and regulations or corporate governance principles. They must be ready to devote time and support the Board of Directors' decisions for a more complete and effective result.

Aside from qualifications and prohibited qualifications as specified by laws, the Company's regulations and definition of Independent Directors, the selection process of the members of the Board of Directors and sub-committees takes into consideration the nominees' capability, relevant experiences, compatibility to the Company's business contexts and necessity of the particular positions. The process follows the Board Skills Matrix which demands directors to possess: 1) experience in the business and/or industry (at least 3 directors must have experience in electricity/energy and/or infrastructure) and 2) knowledge, skills and/or experiences in relevant fields as the structure demands at least 1 director each with knowledge, skills and/or experience in accounting/finance and legal areas. Knowledge, skills and/or experiences in other fields are subjected to the Human Resources and Remuneration Committee and the Board of Directors' consideration, accordingly to the Company's mission and business objectives.

After the Human Resources and Remuneration Committee completes the selection process, taking into account knowledge and skills as required by the Board Skills Matrix, the list will be forwarded to the Board of Directors and/or the shareholders' meeting for approval. The director appointment falls into 2 cases as follows:

Case 1: When a director position is vacant due to reasons other than rotation of office, the Board of Directors has the authority to appoint any persons to replace the vacant position. The appointed director shall retain his/her office during such time only as the Director he/she replaces is entitled to retain. The appointment in this case must win approval from at least three fourths of the remaining directors.

Case 2: When a director position is vacant due to rotation of office, the Board of Directors shall ask for shareholders' appointment decisions at the annual general meeting, in accordance with the criteria and process specified in the Company's Articles of Association.

Committed to equitable treatment of shareholders, the Board of Directors encourages minority shareholders to nominate a person with proper qualifications for director positions. The nomination shall be submitted for the Board of Directors' consideration, before forwarding the nomination to the annual general meeting. This practice has been implemented since 2008. Details are specified in Good Corporate Governance section.

RATCH Group Public Company Limited's Board Skills Matrix as at 31 December 2020

No.	Director	Type			Present directors' competence, skills and experience																
					Experience in businesss and/or industry					Relavant competence, skills and experience											
		Major shareholder's representative	Independent director	Executive director	Electricity/energy business	Other infrastructure	International business	Public affairs/State enterprise	Other private business	Strategic planning/ management	Administration/management	Asset Management	Human resource/Remuneration	Risk Management	Engineering	Accounting/Finance	Economics	Legal/regulartion	IT/Digital/Cyber	Trade/International relations	Corporate governance, CSR and sustainability development
1	Mr. Boonyanit Wongrukmit	✓			✓			✓	✓	✓	✓	✓		✓	✓						✓
2	Mr. Samack Chouvaparnante		✓			✓		✓	✓		✓			✓		✓		✓			✓
3	Mr. Chartchai Rojanaratangankule		✓		✓			✓			✓					✓					✓
4	Mr. Apichart Chinwanno		✓		✓			✓	✓	✓	✓		✓			✓	✓			✓	✓
5	Mr. Suthon Boonprasong	✓			✓			✓		✓	✓	✓			✓		✓	✓			✓
6	Mr. Boonsong Kerdklang		✓		✓			✓			✓						✓				✓
7	Mr. Somboon Nhookeaw		✓		✓			✓		✓	✓				✓	✓		✓			✓
8	Mr. Kriengkrai Rukkulchon		✓			✓		✓	✓	✓	✓	✓	✓		✓			✓			✓
9	Miss Nantika Thangsupanich	✓			✓			✓		✓	✓		✓	✓					✓		✓
10	Mr. Natthavutthi Chamchang	✓			✓			✓		✓	✓	✓	✓	✓	✓						✓
11	Miss Niramarn Laisathit	✓						✓	✓	✓	✓	✓			✓	✓					✓
12	Mr. Kijja Sripatthangkura	✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓						✓
	Total	6	6	1	9	2	0	12	6	9	12	6	5	5	7	5	3	4	1	1	12

1.5 Tenure of Directors

- At every shareholders' annual general meeting, one-third of the Directors, or the nearest to one-third in case the number cannot be equally divided by three, shall retire from office.
- Directors with the longest stay in office shall retire.
- A retiring director by rotation may be re-elected.
- Directors and independent directors shall remain in office for no more than 6 consecutive years.
- In addition to retirement by rotation, a director shall leave the office in case of:
  - Death
  - Resignation
  - Disqualification or having prohibited qualifications according to the Securities and Exchange Act and the Company's Articles of Association and the Company's regulations on Board of Directors
  - Dismissal by the votes of no less than three quarters of all present shareholders with voting rights who hold at least half of the shares owned by all present shareholders with voting rights
  - Court order
- Director's resignation is effective when the Company receives the resignation letter.
- The CEO's directorship ends when he/she vacates the CEO position.
- In case any Director vacates the position by reasons other than rotation, the Board of Directors shall appoint any person to replace the vacant position and the Director so appointed shall retain his/her office during such time only as the Director he/she replaces is entitled to retain.

1.6 Directors' Authority and Duties

As the shareholders' representatives, the Board of Directors has the duty and responsibility to ensure that the Company's operations strictly comply with relevant laws, business objectives, Articles of Association and resolutions of the shareholders' meeting. The Board of Directors is authorized to take action as stated in the Memorandum of Association and related documents, and has roles, duties and responsibilities to lead the Company with integrity and avoid conflict of interest to protect the organization's benefits rather than any particular shareholder or group. The Board of Directors' duties and responsibilities are as follows:

- Formulate policies, strategies, business plan and budget.
- Follow up on the Management's strategy implementation and activities, by benchmarking them against targets or forecasts, at least every quarter.
- Control human resource management concerning the appointment or dismissal of Director or high level executives, performance evaluation against mutually-agreed targets which is linked with remuneration.
- Ensure the completeness of compliance with rules and regulations, Code of Conduct and governance best practices, with focus on effective and sufficient internal control; and monitor possible troubles or conflict of interests especially those related to corruption issues.
- Appropriately and effectively communicate with stakeholders and the public with a systematic approach to monitor the results.
- Establish sub-committees and and specify their roles.
- Assess the performance of the Board of Directors and sub-committees through the annual self-assessment.

Investors can study the Board of Directors' duty and responsibilities in the Company's regulations on the Board of Directors, which is published on the Company's website.

1.7 Authorized Directors

The Company's authorized signatories according to the Company's policy are:

- Chairman of the Board of Directors or Chief Executive Officer, with signature and the Company's Seal; or
- Two other directors, except independent directors, with joint signatures and the Company's Seal.

This is to ensure practicality and to preserve true indepence of independent directors.

Investors can study details from the Company's affidavit registered with the Department of Business Development, Ministry of Commerce, as published on the Company's website.

1.8 Sub-committees: There are 5 sub-committees as follows.

1) Audit Committee

The Audit Committee is appointed by the Board of Directors. The members' term is 3 years and the maximum period they can hold the position is 6 years. The members must possess knowledge, experience and qualifications as required by the SEC and the SET's regulations. As of 31 December 2020, the Audit Committee comprises Mr. Chartchai Rojanaratanangkule, Chairman of the Audit Committee; and Mr. Boonsong Kerdklang; and Mr. Somboon Nhookeaw, Audit Committee Members. All the three members are independent directors. Mr. Chartchai Rojanaratanangkule has the knowledge and ability in reviewing the Company's operations and financial statements. Miss Kamolkarn Hinviman, Vice President - Head of Internal Audit Division, serves as the committee's secretary.

The Audit Committee's Duties and Responsibilities:

- Review financial reports; in consultation with auditors, ensure the accuracy of material issues and compliance with financial reporting standards; and give opinions on the sufficiency, appropriateness and effectiveness of internal control, concerning financial reports preparation.
- Ensure the Company has appropriate and effective internal control system, that covers Information Technology and the internal audit system.
- Review the Company's compliance with the Securities and Exchange Act, SET's rules and regulations, relevant laws, the Company's regulations, policies including anti-corruption policy, governance practices and the Code of Conduct.
- Consider the selection, nomination and termination of the employment of the Company's auditors and propose remuneration for such persons. The auditors must be certified by the Office of the SEC.
- Review connected transactions or transactions that may have conflict of interest based on laws and the SET's rules and regulations, to ensure the transactions are appropriate and for the Company's maximum benefits.
- Review and endorse significant amendments to the Company's accounting policies, before asking for the Board of Directors' final approval.
- Prepare the Audit Committee's report and opinions, signed by Chairman of the Audit Committee, for Annual Report.
- Review the Internal Audit Division's performance in terms of scope of responsibility, annual audit plan, budget, appointment, transfer and termination

of the Head of Internal Audit Division, internal audit report, and the Internal Audit Division's independence.

- Regularly review the audit criteria and process to suit business environment.
- Summarize the Audit Committee's actions for the Board of Directors' acknowledgement.
- Report the transactions or acts that may have significant impact on the Company's financial status or operating performance, to the Board of Directors in order to correct them within the time frame deemed appropriate by the Audit Committee.
- Examine auditors' report on possible malpractices as described in the Securities and Exchange Act involving directors, executives or the Company's representatives and reporting initial invetigation results to the Office of the SEC and the auditors.
- Continuously review, monitor and report the management of significant risks to the Board of Directors.
- Assessing the Audit Committee's performance every year and reporting the result to the Board of Directors.
- Review the Company's regulations on the Audit Committee on an annual basis.
- Consider and approve the Company's orders on internal audit.

Investors can find more information on the Audit Committee's duties and responsibilities in the Company's regulations on the Audit Committee published on the Company's website.

2) Human Resources and Remuneration Committee

The Human Resources and Remuneration Committee's members are appointed by the Board of Directors and its members' term is 3 years. As of 31 December 2020, the committee comprises Mr. Apichart Chinwanno, as chairman; and Mr. Kriengkrai Rukkulchon and Miss Nantika Thangsuphanich as its members. Mrs. Boontiva Dansamasatid, Executive Vice President - Corporate Administration, serves as the committee's secretary.

The Human Resources and Remuneration Committee's Duties and Responsibilities:

Human Resources Recruitment Aspect

- Define visions and strategies on human resources management and talent management for the Group.
- Determine the appropriate size and composition of the Group's boards of directors, in line with changing environment.
- Set an appropriate policy, criteria and procedure in nominating, selecting, removing or dismissing Directors and high level executives for the Board of Directors' approval to ensure the right combination of qualified executives who possess knowledge, competency and experience and can efficiently lead the Group towards success.
- Select and nominate persons with required qualifications for the Group's director and high-level executive posts.
- Preparing succession plan for key executive positions which must be reviewed constantly, taking into account the importance of the positions: and selecting successors and grooming them so that they attain the right knowledge, competency, experience and other qualifications to support the Group's expansion efficiently and effectively.

Remuneration Setting Aspect

- Set the Group's remuneration policy and strategy concerning salary, meeting allowance, per diem, bonus or other benefits as well as Directors' and high-level executives' remuneration and other benefits for the Board of Directors' approval. The remuneration criteria must be clear, transparent and appropriate corresponding with the scope of responsibility and performance, to influence, retain and attract potential people with desired qualifications.
- Outline effective guidelines, criteria, procedures and process for the assessment of the Group's Board of Directors and high level executives' performance, by benchmarking it against annual targets mutually agreed in advance based on business objectives. Annual remunerations will be based on the performance, their responsibility and involved risks. An increase in shareholders' equity in the long term is an assessment factor.
- Disclose the remuneration policy as well as the remuneration amounts paid to Directors and high-level executives in the Annual Report.

Investors can find more information on the Human Resources and Remuneration Committee's duties and responsibilities in the Company's regulation on the Human Resources and Remuneration Committee, published on the Company's website.

3) Corporate Governance and Social Responsibility Committee

The Corporate Governance and Social Responsibility Committee is appointed by the Board of Directors and its members' term is 3 years. As of 31 December 2020, the Corporate Governance and Social Responsibility Committee had Mr. Apichart Chinwanno as its Chairman and Mr. Chartchai Rojanaratanangkule as a member. Mrs. Boontiva Dansamasatid, Executive Vice President - Corporate Administration served as the committee's secretary.

The Corporate Governance and Social Responsibility Committee's Duties and Responsibilities:

- Review and endorse policies, strategies, targets, guidelines and work plan regarding the Company's corporate governance and social responsibility.
- Encourage the participation of the Board of Directors, executives and employees in corporate governance and social responsibility activities.
- Ensure that the Company's practices are aligned with corporate governance and social responsibility policy and relevant regulations.
- Monitor the policy implementation and regularly report the results to the Board of Directors.
- Continually review and propose the Board of Directors amendments to policies and guidelines on corporate and social responsibilities as deemed appropriate, benchmarking against leading companies' practices and the current trends.

Investors can find more information on the Corporate Governance and Social Responsibility Committee's duties and responsibilities in the Company's regulation on Corporate Governance and Social Responsibility Committee, published on the Company's website.

4) Investment Committee

The Investment Committee is appointed by the Board of Directors and its members' term is 3 years. As of 31 December 2020, the Investment Committee had Mr. Boonyanit Wongrukmit as its Chairman; and Mr. Suthon Boonprasong, Mr. Nutthavutthi Chamchang and Miss Niramarn Laisathit as members. Mr. Sakarin Tangkavachiranon, Chief Business Development Officer, served as the committee's secretary.

The Investment Committee's Duties and Responsibilities:

- Define investment strategies, targets, investment plans, budgets, return on investment and other benefits from the projects earmarked to increase the Company's capacity and prosperity.
- Review and scrutinize the Management's investment proposals to ensure that they are consistent with the investment policy and targets, taking into account cost-effective investment return and the ability to keep relevant risk factors at an acceptable level.
- Monitor, follow up and evaluate the approved investment projects as well as keep the Board of Directors informed.

Investors can find more information on the Investment Committee's duties and responsibilities in the Company's regulation on the Investment Committee, published on the Company's website.

5) Risk Management Committee

The Risk Management Committee is appointed by the Board of Directors and its members have a 3-year term. As of 31 December 2020, the committee had Mr. Samack Chouvaparnante as its chairman; and Mr. Suthon Boonprasong as well as Miss Nantika Thangsuphanich as its members. Mr. Pairot Janjungjit, Vice President - Head of Corporate Planning and Systems Development Division, served as the committee's secretary.

The Risk Management Committee's Duties and Responsibilities:

- Review and scrutinize the Company's risk management policy and framework for the Board of Directors' approval, ensuring the process covers significant risk factors such as financial risks, investment risks and risks on corporate reputation.
- Formulate risk management strategies and management approach in line with the Company's risk management policy, to ensure that risks can be assessed, monitored and kept within risk appetite.
- Monitor and ensure that risk management activities are in line with the Company's policy and framework as approved by the Board of Directors.
- Define risk assessment criteria and risk appetite.
- Devise risk management measures accordingly to changing circumstances.
- Review the sufficiency of risk management policy and management system including the effectiveness of the system and compliance.
- Regularly inform the Board of Directors about the performance and risk status as well as changes and areas of improvement to keep risk management in line with the Company's policy and strategy.
- Establish the Risk Management Working Group as deemed necessary, and support the team in terms of personnel, budget and other necessary resources in line with its scope of responsibility.

Investors can find more information on the Risk Management Committee's duties and responsibilities in the Company's regulation on the Risk Management Committee, published on the Company's website.

1.9 Changes in the Board of Directors and Sub-Committees in 2020

11 July 2020

- Mr. Ratanachai Namwong retired from the positions as an Independent Director and a member of the Investment Committee as well as the Human Resources and Remuneration Committee following the expiry of tenure at the 2020 Shareholders' Annual General Meeting.
- Mr. Kriengkrai Rukkulchon was appointed an Independent Director at the 2020 Shareholders' Annual General Meeting.

20 July 2020

- Mr. Kriengkrai Rukkulchon was appointed a member of the Human Resources and Remuneration Committee.

1 October 2020

- Mr. Sutat Patmasiriwat resigned as Chairman of the Board of Directors and Chairman of the Investment Committee.
- Mr. Tawatchai Jakpaisal resigned as a Director and a member of the Investment Committee and the Risk Management Committee.
- Mr. Nutthavutthi Chamchang was appointed a Director and a member of the Investment Committee.

19 October 2020

- Mr. Boonyanit Wongrukmit, a Director, was appointed Chairman of the Board of Direcors and Chairman of the Investment Committee. He relinguished the member status in the Risk Management Committee.
- Mr. Suthon Boonprasong was appointed a Director and a member of the Investment Committee as well as the Risk Management Committee.

18 December 2020

- Mr. Chuan Sirinunporn resigned as Director, Chairman of the Corporate Governance and Social Responsibility Committee, and a member of the Human Resources and Remuneration Committee.
- Miss Niramarn Laisathit was appointed a Director and a member of the Investment Committee.
- Mr. Apichart Chinwanno, an Independent Director and Chairman of the Human Resources and Remuneration Committee, was appointed the Chairman of the Corporate Governance and Social Responsibiltiy Committee.
- Miss Nantika Thangsuphanich, a Director and a member of the Risk Management Committee, was appointed a member of the Human Resources and Remuneration Committee.

1.10 Board of Directors and Sub-Committee's meetings in 2020

- The Board of Directors convened 12 meetings. There was a meeting of only non-executive directors prior to Board of Directors' meeting No. 12/2020.
- The Audit Committee convened 6 meetings, including 1 meeting with the auditors without the presence of executives.
- The Human Resources and Remuneration Committee convened 11 meetings.
- The Corporate Governance and Social Responsibility Committee convened 3 meetings.
- The Investment Committee convened 9 meetings.
- The Risk Management Committee convened 4 meetings.
- The Audit Committee and the Risk Management Committee held 1 joint meeting.

Board of Directors and Sub-Committees' Meeting Attendance in 2020

No.	Director	Board of Directors	2020 Shareholders' Annual General Meeting (AGM)	% of Board of Directors meeting attendance	% of 2020 AGM attendance	Audit Committee	Human Resources and Remuneration Committee	Corporate Governance and Social Responsibility Committee	Investment Committee	Risk Management Committee	Audit Committee and Risk Management Committee
1	Mr. Boonyanit Wongrukmit	12/12	1/1	100.00	100.00				9/9	3/3	1/1
2	Mr. Samack Chouvaparnante	11/12	1/1	91.67	100.00					4/4	1/1
3	Mr. Chartchai Rojanaratanangkule	12/12	1/1	100.00	100.00	6/6		3/3			1/1
4	Mr. Apichart Chinwanno	12/12	1/1	100.00	100.00		11/11				
5	Mr. Suthon Boonprasong	3/3		100.00					1/1	1/1	
6	Mr. Boonsong Kerdklang	12/12	1/1	100.00	100.00	6/6					1/1
7	Mr. Somboon Nhookeaw	12/12	1/1	100.00	100.00	6/6					1/1
8	Mr. Kriengkrai Rukkulchon	6/6		100.00			5/5				
9	Miss Nantika Thangsuphanich	12/12	1/1	100.00	100.00		1/1			4/4	1/1
10	Mr. Nutthavutthi Chamchang	3/3		100.00					1/1		
11	Miss Niramarn Laisathit	1/1		100.00							
12	Mr. Kijja Sripatthangkura	12/12	1/1	100.00	100.00						
13	Mr. Chuan Sirinunporn	11/11	1/1	100.00	100.00		10/10	3/3			
14	Mr. Sutat Patmasiriwat	9/9	1/1	100.00	100.00				8/8		
15	Mr. Tawatchai Jakpaisal	9/9	1/1	100.00	100.00				8/8		
16	Mr. Ratanachai Namwong	6/6	1/1	100.00	100.00		5/5		5/5		
Total (Average)				99.48	100.00						

Note (1) Figure before/ = No. of meetings attended

(2) Figure after/= No. of meetings during directors' tenure

(3) % of Board of Directors meetings attendance is based only on the meetings organized when directors are in office.

(4) Changes in Board of Directors and sub-committees during 2020 appeared in Item 1.9 on Page 79.

Directors are dutifully required to attend all of the Board of Directors' meetings, unless being tied up with very important and urgent matters. However, the absent directors can express their opinions on issues included in the meeting agenda, which was dispatched to all directors prior to the meeting dates. In 2020, directors' attendance to the Board of Directors' meetings was no less than 75 percent of all meetings throughout the year. The entire team's average attendance was at 99.48 percent.

Furthermore, all directors were present at the 2020 Shareholders' Annual General Meeting, constituting the 100 percent attendance.

1.11 Secretary to the Board of Directors and Company Secretary

Secretary to the Board of Directors

The Board of Directors appointed Chief Executive Officer as its secretary. The Board of Directors Secretariat Department under the Company Secretary Office is responsible for meeting arrangement, facilitatation and coordination.

Company Secretary

The Board of Directors appointed Company Secretary with responsibilities as specified in the Securities and Exchange Act. He/she was also tasked to provide initial advice on related laws and regulations; arrange the Company and subsidiaries' Board of Directors meetings, sub-committee meetings and shareholders' meetings; facilitate the Board of Directors' activities to ensure the efficiency, effectiveness and optimal benefits of the Board of Directors meetings and activities; coordinate to ensure the execution of the Board of Directors and shareholders' resolutions; oversee actions that involve shareholders' rights, the disclosure of information and annual reports (Form 56-2), the preparation and keeping of significant documents like Board of Director meeting invitations and meeting minutes, shareholders' meeting notices and minutes, annual reports, directors record and directors and executives' reports on conflict of interest. These tasks are to enable the Board of Directors to fulfil its responsibility in upholding listed companies' governance best practices and complying with relevant laws, rules and regulations, the Company's Articles of Association, the Company's regulations, policies, and guidelines specified by the regulatory bodies and concerned agencies organizations as well as the Securities and Exchange Act.

Company Secretary also plays an important role in promoting good corporate governance by supporting Directors and Chief Executive Officer in performing their duties and taking responsibility for corporate governance activities through Compliance Department under the Company Secretary Office.

Miss Wanphen Chamkham, Vice President - Head of Company Secretary Office, was appointed by the Board of Directors at the 14/2018 meeting dated 24 December 2018 as the Company Secretary effective from 1 January 2019.

The profile of Company Secretary and Compliance Deparment Head appeared on Page 319.

1.12 Head of Internal Audit

The Audit Committee at the meeting No. 6/2019 held on 13 November 2019, approved the appointment of Miss Kamolkarn Hinviman as Vice President - Head of the the Internal Audit Division, effective on 1 January 2020. She is tasked to review and assess the sufficiency and efficiency of the internal control and risk management systems of the Company and its subsidiaries.

In 2020, the Audit Committee evaluated the Vice President - Head of Internal Audit Division's performance, focusing on knowledge and ability to

supervise and manage internal audit activities as well as understanding in the role and responsibility of the Audit Committee's secretary. Miss Kamolkarn Hinviman scored 94.83 out 100 points, indicating the excellent execution of her responsibilities and excellent knowledge and understanding in the Company's business. She also possesses the capability and experience in reviewing accounting, finance and management of the overall risks and business risks of the Company.

The appointment, removal, transfer and termination as well as the consideration of the in dependence of the person who acts as Head of Internal Audit Division are to be approved by the Audit Committee.

Profile of Head of Internal Audit Division appeared on Page 319.

2. Executives

The Board of Directors has clearly segregated the scope of responsibilities of the Board of Directors and the Management, as summarized below:

- The Board of Directors is tasked to formulate policies and supervise the policy implementation by the Management. (Details are disclosed in Board of Directors Section.)
- The Management is responsible for implementing the policies and reporting the results to the Board of Directors.

Chief Executive Officer is the top executive who is authorized to manage the Company's daily operations as follows:

- Supervise employees at all levels.
- Hire, appoint, promote, approve resignation, order disciplinary actions, transfer, re-assign positions, as well as delay or adjust the salary of employees at all levels, except those in Executive Vice President or upper levels who are under the Board of Directors' control.
- Define work conditions, work rules and responsibilities of each job position; and issue orders or announcements regarding operational guidelines that do not contradict the Company's regulations and the Board of Directors' resolutions.
- Ensure that the operations follow the Company's regulations and make final decisions when operational problems arise.
- Divide job functions with the approval from the Board of Directors.

Signatory Authority for External Affairs

The Chief Executive Officer is authorized to act as a signatory in transactions with external entities, except in matters that the Chief Executive Officer or related persons may have conflict of interest with the Company or subsidiaries. Such matters can proceed only with a resolution reached at the Board of Directors meetings, with the presence of independent directors. In such case, the Chief Executive Officer may authorize any other person to act on his/her behalf, except for any matter that binds the Company as a borrower, lender or outsourcer for transactions worth more than Baht 30 million.

For any transaction the Chief Executive Officer struck in violation of the Company's rules or the Board of Directors resolutions, such transaction will not bind the Company except with the Board of Directors' ratification.

In case the Chief Executive Officer is absent or cannot perform his duty or when the position is vacant, the chief officer in the next rankings as assigned by the Board of Directors will act as the Acting Chief Executive Officer. He shall have full authority, except for the role as a member of the Board of Directors.

Authority to approve procurement and charitable donation

The Board of Directors clearly specifies the authority to approve procurement and charitable donation as follows:

	Procurement	Authorized signatory
1	Procurement project **not exceeding Baht 30 million**	Chief Executive Officer
2	Procurement project **exceeding Baht 30 million**	Board of Directors
	Charitable donation	**Authorized signatory**
1	Charitable donation **not exceeding Baht 300,000**	Chief Executive Officer
2	Charitable donation above Baht 300,000 but **not exceeding Baht 500,000**	Chairman
3	Charitable donation **exceeding Baht 500,000**	Board of Directors

Administration

The Company's administration is divided into 5 functions: Business Development, Project Development, Asset Management, Finance and Corporate Administration.

Business Development, Project Development, Asset Management and Finance are headed by Chief Officers. Corporate Administration is headed by an Executive Vice President. There are 3 divisions under the Chief Executive Officer, including Legal Division, Internal Audit Division and Company Secretary Office. The Internal Audit Division reports directly to the Audit Committee.

As of 31 December 2020, the Company's executives according to the SEC's definition are as follows:

	Executives	Position	Starting date
1	Mr. Kijja Sripatthangkura	Chief Executive Officer **(Top executive)**	6 April 2017
2	Mr. Peerawat Pumthong	Deputy Chief Executive Officer	1 January 2020
3	Mr. Sakarin Tangkavachiranon	Chief Business Development Officer	1 January 2020
4	Mr. Boonchai Jarunwaraphan	Chief Project Development Officer	1 January 2020
5	Mr. Nimit Lekcharoensuk	Chief Asset Management Officer	1 January 2019
6	Mrs. Wadeerat Charoencoop	Chief Financial Officer **(Top Responsible Person in Accounting and Finance)**	1 January 2019
7	Mrs. Boontiva Dansamasatid	Executive Vice President - Corporate Administration	1 January 2019
8	Mrs. Supatra Thongkarn	Executive Vice President - Financial	1 January 2019
9	Miss Suwannee Sirisajjawat	Vice President - Head of General Accounting Division **(Directly Responsible Person for Accounting Supervision)**	1 January 2019
10	Miss Phavika Smanratana	Vice President - Head of Financial Planning and Management Division	1 January 2020
11	Miss Puthachard Smitamegha	Vice President - Head of Tax Management and General Ledger Division	1 October 2020
12	Miss Titiporn Komsartra	Vice President - Head of Accounting Control and Analysis Division	1 January 2019

Investors can find the brief profile of each executive in Executives' Profiles Section. Their other positions in the Group are specified under Positions of Directors and Executives in the Group. Information on directors' transactions that may involve conflict of interest in the past year is disclosed in Good Corporate Governance Section: 3.10 Transactions that involve or may involve conflict of interest. Details of the executives and authorized persons of subsidiaries in the core business are available in Form 56-1 published on the Company's and SEC's websites.

Selection of high level executives

"High level executives" refer to persons who hold the positions of Chief Executive Officer, Chief Officer and Executive Vice President.

In **appointing high level executives**, the Company **considers the suitability** in terms of educational background, knowledge, skills, work experiences and other qualifications **necessary for designated missions**. Importantly, the appointment should benefit the Company's overall operations, to support the Group's efficiency, effectiveness **and sustainable growth**.

In **selecting high level executives**, the Human Resources and Remuneration Committee is assigned to recruit, select and screen **candidates from within the organizations and outsiders, considering their qualifications, educational degrees, specialization, skills, work experience, suitability and the necessary qualifications that the Company is lacking.** Other factors include performance, profound knowledge in the job and business, leadership, personality, enthusiasm, relationship building and working style. The nominees will be proposed to the Board of Directors for consideration and appointment.

Directors representing EGAT, a major shareholder, are entitled to nominate directors according to the shareholding proportion and the nominees must come under the Company's selection process. The nominations are subjected to the Human Resources and Remuneration Committee's screening, regarding to their education background, qualifications, competency, skills, and work experience that the Company lacks and needs. Their qualifications must also match the Company's mission, business objectives and strategy in the short and long term. The consideration is conducted without gender discrimination. The nominees shall not have prohibited qualifications by law, related regulations, rules and good corporate governance principles while being ready to contribute sufficient time to perform duty as directors. The nominee list will afterwards be submitted to the Board of Directors and/or proposed to the shareholders' meeting for shareholders' consideration and approval, in accordance with the nomination process for directors and high level executives. The nomination process for the Chief Executive Officer, who is EGAT's secondment, also falls under the same condition.

3. Secondment Policy

The Company has a policy to appoint its directors and executives as the directors and/or executives of subsidiaries, affiliates and joint ventures, with the Board of Directors' approval. Such is held as their duty under the Company's regulation on the supervision of subsidiaries, affiliates and joint ventures, to ensure that the management and operation of all companies within the Group are in line with their missions and to effectively monitor and assess the operational performance of the subsidiaries, affiliates and joint ventures. Investors can find more details on subsidiaries, affiliates and joint ventures in General Information of Subsidiaries, Affiliates, and Joint Ventures Section.

4. Remuneration of Directors and Executives

4.1 Policy and Criteria

The Board of Directors set the policy and criteria on remuneration of Directors and high level executives in writing. This enables the Company to attract and retain quality individuals as well as motivate and incentivize individuals with the right qualifications, knowledge, skills and experiences, which will lead the Group towards success. The criteria, method and process are clear, appropriate, transparent, up-to-date and most beneficial to the Company's operations. Since 2005, remuneration has been linked to performance targets of the Group, depending on level of designated responsibilities and comparable to that of organizations in same industry and with same size.

Remuneration of the Board of Directors and All Sub-Committees

The Board of Directors appointed the Human Resources and Remuneration Committee to consider and set remuneration of the Board of Directors, sub-committees and high level executives. The Committee's proposal needs the approval from the Board of Directors and later from the shareholders at the shareholders' meeting. The remuneration criteria are as follows:

1. Regular Remuneration

1.1 Board of Directors: Retainer for the Company's Board of Directors is paid on monthly basis. The first 75 percent of the retainer is fixed while the remaining 25 percent is paid when the Director attends meetings. The Chairman of the Board receives 25 percent higher retainer than that paid to other directors.

1.2 Sub-committees: The retainer for committee members is paid per meeting when a Director attends. Committee Chairman's retainer is 25 percent higher than that paid to other Committee members.

2. Bonus: Bonus is allocated accordingly to the period of service and attendance to the Board of Directors meetings. When a Director holds directorship in more than 1 company in the Group, the Director shall receive bonus from the company that allocates the higher bonus at that point in time. Chairman of the Board will receive 25 percent higher bonus than that paid to other directors.

3. Other forms of benefits: Directors received no other benefits, cash or non-cash.

In 2020, the remuneration for the Board of Directors and sub-committees as approved by shareholders at the 2020 Shareholders' Annual General Meeting is as follows:

		Chairman	Director
1.	Regular remuneration		
1.1	Board of Directors	Baht 50,000 per month	Baht 40,000 per month
1.2	5 sub-committees 1. Audit Committee 2. Human Resources and Remuneration Committee 3. Corporate Governance and Social Responsibility 4. Investment Committee 5. Risk Management Committee	Baht 30,000 per meeting	Baht 24,000 per meeting
2.	Bonus		
2.1	Board of Directors (Conbined bonus payments to Directors in 2020 totaled Baht 13.369 million.)	Baht 1,500,000	Baht 1,200,000 per person
3.	Other benefits		
3.1	Other benefits	None	None

Remuneration of high level executives

High level executives' remuneration is in line with the principle and policy set by the Board of Directors. The remuneratio is reviewed by the Human Resources and Remuneration Committee and benchmarked against the criteria mutually agreed in advance in each year, before submitting for the Board of Directors' approval. During the consideration of high level executives' remuneration, none of executives with conflict of interests were present. The Board of Directors considered remuneration based on the performance appraisal result and the Chairman will inform the Chief Executive Officer of such result which will be used as a guideline for future performance improvement.

Criteria on director fee payable to executives serving as directors of subsidiaries, affiliates and joint ventures

Executives serving as the directors of 100-percent-owned subsidiaries are not entitled to any director fee. Regarding executives sitting in joint ventures' board of directors and receiving director fee, the Board of Directors set guidelines on the director fee management, endorsed by the Human Resources and Remuneration Committee. In this case, the executives must return after-tax director fee to the Company within 31 March after the end of fiscal period. The guidelines are applied with the director fees from the 2019 accounting year onwards.

4.2 Remuneration of Directors and Executives

4.2.1 Remuneration of Board of Directors and Sub-committees

Unit : Baht

No.	Director	Board of Directors	Audit Committee	Human Resources and Remuneration Committee	Corporate Governance and Social Responsibility	Investment Committee	Risk Management Committee	Audit Committee and Risk Management Committee	2019 Director bonus[1]	Director fee from subsidiaries	Total
1	Mr. Boonyanit Wongrukmit [2, 3, 4]	510,000.00			72,000.00	222,000.00		24,000.00	1,200,000.00		2,028,000.00
2	Mr. Samack Chouvaparnante [3, 5]	470,000.00			120,000.00			30,000.00	1,200,000.00		1,820,000.00
3	Mr. Chartchai Rojanaratanangkule [3, 4, 5]	480,000.00	180,000.00				72,000.00	30,000.00	1,200,000.00		1,962,000.00
4	Mr. Apichart Chinwanno [3, 5]	480,000.00		330,000.00					864,660.00		1,674,660.00
5	Mr. Suthon Boonprasong [4]	103,000.00			24,000.00	24,000.00					151,000.00
6	Mr. Boonsong Kerdklang [4, 5]	480,000.00	144,000.00					24,000.00	864,660.00		1,512,660.00
7	Mr. Somboon Nhookeaw [4, 5]	480,000.00	144,000.00					24,000.00	1,200,000.00		1,848,000.00
8	Mr. Kriengkrai Rukkulchon [4, 5]	230,322.00		120,000.00							350,322.00
9	Miss Nantika Thangsuphanich [4]	480,000.00		24,000.00	96,000.00			24,000.00	1,042,190.00		1,666,190.00
10	Mr. Nutthavutthi Chamchang [4]	120,000.00				24,000.00					144,000.00
11	Miss Niramarn Laisathit [4]	23,548.39									23,548.39
12	Mr. Kijja Sripatthangkura [6]										0.00
13	Mr. Chuan Sirinunporn [3, 4]	456,451.61		240,000.00			90,000.00		1,200,000.00		1,986,451.61
14	Mr. Sutat Patmasiriwat [2, 3]	450,000.00				240,000.00			1,500,000.00		2,190,000.00
15	Mr. Tawatchai Jakpaisal [4]	360,000.00				192,000.00			144,660.00		696,660.00
16	Mr. Ratanachai Namwong [4, 5]	249,678.00		120,000.00		120,000.00			1,200,000.00		1,689,678.00
Total		5,373,000.00	468,000.00	834,000.00	312,000.00	822,000.00	162,000.00	156,000.00	11,616,170.00	0.00	19,743,170.00

Note
[1] 2019 Director bonus was paid in July 2020 under the resolution of the 2020 Shareholders' Annual General Meeting held on 10 July 2020.
[2] Chairman of the Board of Directors
[3] Chairman of sub-committees
[4] Sub-committees
[5] Independent Directors
[6] Executive Directors

4.2.2 Remuneration of Executives

Remuneration	No. of executives	Amount (baht)
Salary	6	36,149,280.00
Bonus	6	17,531,200.00
Contribution to Provident Fund	6	2,791,650.27
Other benefits	6	-
Director fee from subsidiaries	6	-
Total	6	56,472,130.27

Note Executives' remuneration means remuneration for Chief Executive Officer and the first four executives after Chief Executive Officer, according to the definition stated in the Capital Market Supervisory Board's Announcement No. TorChor. 44/2556.

Details of the remuneration of the directors and executives of core-business subsidiaries are in Form 56-1 which is published on the websites of the Company and the SEC.

5. Employees

Employees are valuable resources and immensely important in driving the Company towards objectives and sustainable development. The Company has therefore formulated employee policy covering selection, management, development, work-life balance, happiness at work, engagement, social contexts, the environment, ethics and anti-corruption practices.

Number of employees by function as of 31 December 2020 is as follows:

Unit: persons

No.	Sorted by Function	Gender		Employment		Executives	Total
		Male	Female	Employee	Worker		
1	Business Development	21	10	28	-	3	31
2	Project Development	23	7	27	-	3	30
3	Asset Management	23	11	31	-	3	34
4	Finance	8	34	40	-	2	42
5	Corporate Administration	22	22	43	-	1	44
6	Chief Executive Officer	8	21	27	-	2	29
Total							210

Note Executives refer to employees at Vice President level or higher.

In 2020, there is no significant change in the number of employees. In the year, the number totaled 210, an increase by 1 from 2019.

There was neither significant labor dispute nor collective bargaining as the Company has no labor union.

5.1 Remuneration of Employees

5.1.1.Policy and Criteria on Employees' Remuneration and Welfare

5.1.1.1 Policy and Criteria

The Company has the policy and criteria to provide employees with fair remuneration, in line with their positions, job descriptions, responsibilities and the Company's performance in short and long terms. Remunerations are set accordingly to the importance of jobs, national economic condition, and average remuneration offered in the labor market and companies in the same business. Taken into consideration include employee performance in the year and the performance of the Company and stakeholders, to be fair and incentivise employees. The Company annually surveys average market pays and uses the results as the basis for adjusting the pay structure. The adjustment takes place every 3 years to keep the Company's pays at a reasonable and competitive level, the process that requires approval from the Personnel Management Committee, the Human Resources and Remuneration Committee and the Board of Directors, respectively.

The remuneration comprises cash forms like salary, over time and bonus as well as non-cash forms such as welfare.

5.1.1.2 Employee Welfare

To ensure that employees enjoy quality of life and ably perform at their full potential, the Company provides minimum welfare as required by law and add on the list with other benefits beyond legal requirements. Additional welfare include assistance in case of disasters, life and accident insurance, medical service, annual health check-up, dental services, eyesight check, vaccination, emergency loan, financial support in case of death, home loans, financial assistance on baby delivery and provident fund. On provident fund, employees have the right to join the "Electricity Generating Authority of Thailand Employees Provident Fund" and can choose the proportion of employee contribution within the range of 5-15 percent of their salary, while the Company contributes 5 percent, 7 percent or 10 percent depending on employees' years of service. Under the "Employee's Choice", employees can adjust investment plan to match individual needs.

5.2 Employee Remuneration in 2020

Remuneration	No. of employees (persons)	Amount (baht)
Salary	210	237,837,642.35
Bonus	210	120,542,120.00
Contribution to Provident Fund	210	21,148,640.62
Other benefits	210	-
Total	**210**	**380,528,402.97**

Note 1. Employees' remuneration exclude the payments to the top 4 executives according to the definition of executives on Capital Market Regulatory Commission's Announcement No. TorChor. 44/2556.

2. Remuneration of subsidiaries' employees is disclosed in Form 56-1, published on the Company's and SEC websites.

5.3 Human Resource Development

2020 posed challenges to both businesses and their employees across the globe due to the impacts of the Coronavirus Disease (COVID-19) pandemic. Embracing digital technology in its communications strategy, the Company also applied digital technology with its human resource development programs. For example, online training was organized via Zoom and Microsoft Team applications, aside from classroom-based training. Microsoft Team application also supported the Knowledge Sharing activity. When employees worked from home, digital technology assisted executives in communicating with their subordinates or in organizing meetings and discussions. Class-based training resumed when the situation eased and employees returned to work at office, strictly under the social distancing room. In the year, the following internal training courses were organized:

Type of course	Courses organized in 2020	Attendees	Training hours
Job-based courses	Reading the balance sheet	Operators of relevant units	12
	Power purchase agreement	Operators of relevant units	18
Corporate culture promotion courses	RATCH Professional Teamwork	Operators at all levels	12
Courses required by law or corporate policy	Work-related governance and corporate governance	Operators at all levels	3
	Safety, occupational healh and work environment	Newly-recruited employees	6
	Raising environmental awareness	Operators at all levels	3
	Anti-corruption	Operators at all levels	3
	Safety, Occupational Health and Work Environment Committee	Safety, Occupational Health and Work Environment Committee	12
	Basic fire fighting	Newly-recruited employees	6
Skill enhancement courses	Basic Vietnamese language	Operators of relevant units	30
	Bahasa (Indonesian language) for communications	Operators of relevant units	16
	Communications for better relationship and corporate image	Primary-level and mid-level executives	6

Aside from internal training, executives and employees were selected for external training programs that catered for participants from both the public sector and the private sector. The programs were considered a tool to enhance executives' capability as they offered benefits in terms of networking as well as exchange of knowledge and experiences. The programs were organized by:

1. King Prajadhipok's Institute	1 course	3 representatives
2. Institute of Research and Development for Public Enterprises	3 courses	5 representatives
3. Fiscal Policy Research Institute Foundation	3 courses	3 representatives
4. The Federation of Thai Industries	1 course	2 representatives

The Company's employees also attended a number of external job-based training courses, to enhance their capability accordingly to their assignments.

In 2020, 94.78 percent of employees, both in executive and non-executive levels, attended internal training courses and external courses organized by local and international institutions. The average training hours per head per year are as follows:

Target	Average training hours (hours/person/year)
High-level executives	17.71
Mid-level executives	34.72
Primary-level executives	32.99
Employees	27.92

Positions of Directors[1] and Executives in the Group

As at 31 December 2020

Directors/Executives / Companies	Mr. Kijja Sripatthangkura	Mr. Peerawat Pumthong	Mr. Sakarin Tangkavachiranon	Mr. Boonchai Jarunwaraphan	Mr. Nimit Lekcharoensuk	Mrs. Wadeerat Charoencoop	Mrs. Boontiva Dansamasatid	Mrs. Supatra Thongkarn	Miss Suwannee Sirisaijawat	Miss Phavika Smanratana	Miss Puthachard Smitamegha	Miss Titiporn Komsartra
RATCH Group Public Company Limited	D, CEO	Deputy CEO	CBD	CPD	CAM	CFO	EVP	EVP	VP	VP	VP	VP
Power Business												
1 Ratchaburi Electricity Generating Company Limited	C				D							
2 Nava Nakorn Electricity Generating Company Limited			D	D								
3 Ratchaburi World Cogeneration Company Limited					C							
4 Berkprai Cogeneration Company Limited												
5 Ratchaburi Alliances Company Limited						C				D, MD		
6 Ratchaburi Power Company Limited						D						
7 Hin Kong Power Holding Company Limited	C	D	D									
8 Hin Kong Power Company Limited	C	D	D									
9 RATCH Cogeneration Company Limited				C								
10 R E N Korat Energy Company Limited												
11 NEXIF RATCH ENERGY SINGAPORE PTE. LTD.			D									
12 Nexif RATCH Energy Rayong Company Limited			D									
13 Ratchaburi Energy Company Limited												
14 RE Solar 1 Company Limited					C							
15 Solarta Company Limited												
16 Songkhla Biomass Company Limited												
17 Solar Power (Korat 3) Company Limited												
18 Solar Power (Korat 4) Company Limited												
19 Solar Power (Korat 7) Company Limited												
20 K. R. Two Company Limited												
21 First Korat Wind Company Limited												
22 RH International Corporation Limited				C		D		D, MD				
23 RH International (Mauritius) Corporation Limited				D		D						
24 RH International (Singapore) Corporation Pte. Limited			D			D						
25 RATCH-Australia Corporation Pty Ltd	C		D		D							
26 Mount Emerald Wind Farm Pty	C		D		D							
27 Yandin WF Holding Pty Ltd			D									
28 Yandin WF Pty Ltd			D									

	Directors/Executives / Companies	Mr. Kijja Sripatthangkura	Mr. Peerawat Pumthong	Mr. Sakarin Tangkavachiranon	Mr. Boonchai Jarunwaraphan	Mr. Nimit Lekcharoensuk	Mrs. Wadeerat Charoencoop	Mrs. Boontiva Dansamasatid	Mrs. Supatra Thongkarn	Miss Suwannee Sirisajjawat	Miss Phavika Smanratana	Miss Puthachard Smitamegha	Miss Titiporn Komsartra
	RATCH Group Public Company Limited	**D, CEO**	**Deputy CEO**	**CBD**	**CPD**	**CAM**	**CFO**	**EVP**	**EVP**	**VP**	**VP**	**VP**	**VP**
29	Hongsa Power Company Limited	C			D	D							
30	PT Medco Ratch Power Riau	C			D								
31	Fareast Renewable Development Pte. Ltd.	D											
32	PT Bajradaya Sentranusa												
33	RATCH China Power Limited				D								
34	SouthEast Asia Energy Limited					D	D						
35	Nam Ngum 2 Power Company Limited					D	D						
36	Xe-Pian Xe-Namnoy Power Company Limited		D										
37	AN BINH ENERGY AND INFRASTRUCTURE FUND			D			D						
38	AN BINH INVESTMENT GROUP JOINT STOCK COMPANY			D			D						
39	THANG LONG POWER PLANT JOINT STOCK COMPANY												
40	RATCH & AIDC Wind Farm Energy Pte. Ltd.												
41	ECOWIND Energy JSC												
	Infrastructure Business												
42	Asia Water Company Limited												
43	Northern Bangkok Monorail Company Limited		D										
44	Eastern Bangkok Monorail Company Limited		D										
45	Smart Infranet Company Limited								D				
46	Things on Net Company Limited												
	Related and Other Businesses												
47	RATCH O&M Company Limited				C								D
48	RATCH-LAO Services Company Limited		C						D				
49	Siphandone-RATCH Lao Company Limited												
50	Chubu Ratchaburi Electric Services Company Limited												
51	EGAT Diamond Service Company Limited												
52	Phu Fai Mining Company Limited	C			D	D							
53	Songkhla Biofuel Company Limited								D				
54	EDL Generation Public Company												

[1] No director of RATCH Group Public Company Limited holds directorship or executive positions in the Company's subsidiary, affiliates or joint ventures except Mr. Kijja Sripatthangkura, Director and Chief Executive Officer.

C = Chairman D = Director CEO = Chief Executive Officer Deputy CEO = Deputy Chief Executive Officer CBD=Chief Business Development Officer CPD = Chief Project Development Officer CAM = Chief Asset Management Officer CFO = Chief Financial Officer EVP = Executive Vice President VP = Vice President MD = Managing Director

Note CN Biomass Company Limited, PB Biomass Company Limited and LP Biomass Company Limited are undergoing liquidation process.

Directors' and Executives' Securities Holdings in the Company as at 31 December 2020 /1

	Name	Position/2	RATCH Group Public Company Limited			
			Ordinary Shares			
			1 Jan 20/3	31 Dec 20/4	Changes During the Year Increase / (Decrease)	Shareholding Propotion (%)
Directors and Executives						
1	Mr. Boonyanit Wongrukmit	Chairman	-	-	-	-
	Indirect securities holding		-	-	-	-
2	Mr. Samack Chouvaparnante	Independent Director	-	-	-	-
	Indirect securities holding		-	-	-	-
3	Mr. Chartchai Rojanaratanangkule	Independent Director	5,000	5,000	-	0.0003
	Indirect securities holding		-	-	-	-
4	Mr. Apichart Chinwanno	Independent Director	-	-	-	-
	Indirect securities holding		-	-	-	-
5	Mr. Suthon Boonprasong(1)	Director	-	-	-	-
	Indirect securities holding		-	-	-	-
6	Mr. Boonsong Kerdklang	Independent Director	-	-	-	-
	Indirect securities holding		-	-	-	-
7	Mr. Somboon Nhookeaw	Independent Director	-	-	-	-
	Indirect securities holding		-	-	-	-
8	Mr. Kriengkrai Rukkulchon(2)	Independent Director	-	-	-	-
	Indirect securities holding		-	-	-	-
9	Miss Nantika Thangsuphanich	Director	-	-	-	-
	Indirect securities holding		-	-	-	-
10	Mr. Nutthavutthi Chamchang(3)	Director	-	-	-	-
	Indirect securities holding		-	-	-	-
11	Miss Niramarn Laisathit(4)	Director	-	-	-	-
	Indirect securities holding		-	-	-	-
12	Mr. Kijja Sripatthangkura	Director and Chief Executive Officer	5,165	5,165	-	0.0004
	Indirect securities holding		-	-	-	-

Name		Position[2]	RATCH Group Public Company Limited			
			Ordinary Shares			
			1 Jan 20[3]	31 Dec 20[4]	Changes During the Year Increase / (Decrease)	Shareholding Propotion (%)
13	Mr. Peerawat Pumthong	Deputy Chief Executive Officer	-	-	-	-
	Indirect securities holding		-	-	-	-
14	Mr. Sakarin Tangkavachiranon	Chief Business Development Officer	-	-	-	-
	Indirect securities holding		-	-	-	-
15	Mr. Boonchai Jarunwaraphan	Chief Project Development Officer	-	-	-	-
	Indirect securities holding		-	-	-	-
16	Mr. Nimit Lekcharoensuk	Chief Asset Management Officer	10,095	10,095	-	0.0007
	Indirect securities holding		-	-	-	-
17	Mrs. Wadeerat Charoencoop	Chief Financial Officer	-	-	-	-
	Indirect securities holding		-	-	-	-
18	Mrs. Supatra Thongkarn	Executive Vice President - Finance	4,000	4,000	-	0.0003
	Indirect securities holding		-	-	-	-
19	Miss Suwannee Sirisajjawat	Vice President - Head of General Accounting Division	-	-	-	-
	Indirect securities holding		200	200	-	0.00001
20	Miss Phavika Smanratana	Vice President - Head of Financial Planning and Management Division	-	-	-	-
	Indirect securities holding		-	-	-	-
21	Miss Puthachard Smitamegha[(5)]	Vice President - Head of Tax Management and General Ledger Division	2,012	2,012	-	0.0001
	Indirect securities holding		-	-	-	-
22	Miss Titiporn Komsartra	Vice President - Head of Accounting Control and Analysis Division	-	-	-	-
	Indirect securities holding		-	-	-	-
Grand Total			26,472	26,472	-	0.00181

	Name	Position[2]	RATCH Group Public Company Limited			
			Ordinary Shares			
			1 Jan 20[3]	31 Dec 20[4]	Changes During the Year Increase / (Decrease)	Shareholding Propotion (%)
Securities Holdings of Directors and Executives Who Vacated Their Positions During 2020						
1	Mr. Chuan Sirinunporn[6]	Director	-	-	-	-
	Indirect securities holding		-	-	-	-
2	Mr. Sutat Patmasiriwat[7]	Chairman	-	-	-	-
	Indirect securities holding		-	-	-	-
3	Mr. Tawatchai Jakpaisal[8]	Director	-	-	-	-
	Indirect securities holding		-	-	-	-
4	Mr. Ratanachai Namwong[9]	Independent Director	7,500	7,500	-	0.0005
	Indirect securities holding		-	-	-	-
5	Miss Chatuporn Laohapiboonratana[10]	Vice President - Head of Tax Management and General Ledger Division	-	-	-	-
	Indirect securities holding		4,100	4,100	-	0.0003

Notes

[1] The information on the securities holdings of the Company's directors and executives shall only disclose the shareholdings of the directors, Chief Executive Officer, top four executives and those in position equal to the top four executives, including vice president level executives and equivalent or above in the accounting and financial function. The disclosed shareholdings include the aforementioned persons' direct shareholdings (their own shareholdings) and indirect shareholding (shareholdings of their respective spouse and minor children) including the shareholdings by nominees of the directors or the executives, and respective spouse and minor children of the aforementioned persons according to the criteria in the Notification of the Capital Market Supervisory Board No. TorChor 44/2556.
In 2020, there was no report regarding shareholdings by nominees of the directors, executive, respective spouses or minor children of such person.

[2] Disclosing the director's position in the Board of Directors only. The information of each director's position in the Committees is disclosed in his or her respective profile. (Page 299-311)
More information regarding changes of positions in Sub-Committees can be found under “Changes in Board of Directors and Sub-Committee in 2020” (Page 79)

[3] For directors and executives who were appointed during the year 2020, the number of securities disclosed in the table is the number of securities held on the day they took office.

[4] For directors and executives who left office during the year 2020, the number of securities disclosed in the table is the number of securities held on the day they left office.

Assumption of Office of Directors and Executives During 2020

(1) Mr. Suthon Boonprasong was appointed a director on 19 October 2020.

(2) Mr. Kriengkrai Rukkulchon was elected an independent director in the 2020 Annual General Meeting of Shareholders on 10 July 2020.

(3) Mr. Nutthavutthi Chamchang was appointed as a director on 1 October 2020.

(4) Miss Niramarn Laisathit was appointed a director on 18 December 2020.

(5) Miss Puthachard Smitamegha was appointed as Acting Vice President Head of Tax Management and General Ledger Division on 1 July 2020 and was later appointed as Vice-President Head of Tax Management and General Ledger Division on 1 October 2020.

Vacation of Office of the Directors and Executives During 2020

(6) Mr. Chuan Sirinunporn resigned from his position as a director on 18 December 2020.

(7) Mr. Sutat Patmasiriwat resigned from his position as a director and chairman on 1 October 2020.

(8) Mr. Tawatchai Jakpaisal resigned from his position as a director on 1 October 2020.

(9) Mr. Ratanachai Namwong left the position as an independent director due to the end of term in the 2020 Annual General Meeting of Shareholders on 10 July 2020.

(10) Miss Chatuporn Laohapiboonratana vacated the position as Vice President Head of Tax Management and General Ledger Division to take another position in the Group on 1 June 2020.

Good Corporate Governance

The Company strives for sustainable development and prosperity, through governance-based operations that a listed company should embrace to ensure moral, ethical, transparent, socially and environmentally-responsible as well as zero corruption practices for all stakeholders. In this regard, the Company's Board of Directors has formulated the "Corporate Governance Policy for the Group", "Code of Conduct" and "Policies on Specific Stakeholders Group" which involve Shareholder Policy, Employee Policy, Social and Environment Policy, and etc. The principles, reviewed to fit present contexts, serve as the framework and guidelines for its directors, executives, employees and other stakeholders. All are prepared in writing and published on the Company's website under Good Corporate Governance section.

The Board of Directors realizes its leading role in assuring the understanding about corporate governance principles and creating value for the organization, society, the environment and all stakeholders, which will bring about prosperity, stability, and sustainability in economic, social and environmental dimensions. The Corporate Governance and Social Responsibility Committee is thus assigned to consider, review, support, supervise and monitor the execution of corporate governance practices. Assisting the committee is the Corporate Governance Working Group which consists of all functions' executives. The Working Group is tasked to monitor, study, consider, review, improve and update corporate governance practices at least once a year.

Corporate Governance Policy

1. Be conscious in the Board of Directors' responsibility as the leader in creating sustainable enterprise values, through the defining of vision, missions and business goals for the 3 main pillars of sustainability - economic, social and environmental.
2. Adhere to good governance practices, the anti-corruption policy, and compliance to relevant laws, rules and regulations.
3. Build up an effective board of directors with concerns in the structure, component, qualification, and the selection and nomination process.
4. Ensure an effective and merit-based process in the selection and development of high-level executives and human resource management, for the benefits of the organization, the country and global society.
5. Promote innovations, responsible business operations, and lawful treatment/protection for all stakeholders.
6. Establish an efficient and thorough risk management system, anti-corruption practices and the internal control system that covers finance, operation, supervision, execution and proper inspection.
7. Maintain financial credit worthiness and ensure accurate, sufficient, transparent and timely information disclosure.
8. Support and promote equitable engagement, treatment and communications with stakeholders.

The Board of Directors has reviewed, monitored and supervised the Company's and its subsidiaries' compliance to corporate governance practices in all dimensions. In its focus are risk management, fight against corruption, promotion of awareness in governance, fraudulent risk management, Fraud Risk Register, compliance in governance practices, the implementation of revised guidelines (for example, on governance, the Board Skills Matrix, self-assessments of the Board and sub-committees, director fee for executives serving other companies' board of directors on secondment and cyber security). The actions are

to ensure that the Company and subsidiaries have adhered to the Corporate Governance Policy and charted a proper course to evaluate and improve their practices so that the practices are on par with international standards and suitable for changing business contexts. The Board of Directors has also communicated the Corporate Governance Policy and Anti-Fraud and Corruption Policy with all subsidiaries and joint ventures, to achieve the optimum efficiency and effectiveness.

Guided by the goal to achieve international standards, in 2020, the Board of Directors, the Audit Committee, the Corporate Governance and Social Responsibility Committee and the Corporate Governance Working Group reviewed, improved and extended the Group's governance practices and followed up on the implementation particularly on newly-added aspects. The actions are as follows:

1. Educate and train employees on governance and the environment:

It is stated in the Sustainable Development Policy that mandatory training on governance and social and environmental responsibility will be organized at least once a year, effective from 1 April 2020 onwards. This is on top of the specification in the Company's Code of Conduct, orders, announcements and policies.

In 2020, training and education sessions were organized for executives and employees on governance best practices and Private Sector Collective Action against Corruption (CAC) along with easy-to-understand initiatives communicated at least once in a quarter via the Company's emailing system and other channels like CG Newsletter, short movies, exhibitions and seminars. The objective is to establish interactions between executives and employees within the Group and their engagement in pinpointing issues of concerns and promoting awareness and application with their routines. The sessions are summarized as follows:

At the orientation, newly-recruited employees are informed about the Corporate Governance Policy, the Anti-Fraud Corruption Policy and other policies. Copies of Code of Conduct are handed out. They must study and sign to acknowledge the Code of Conduct and other practices. All must be aware that in establishing trust among shareholders, investors and all stakeholders, the Company has upheld governance best practices and strictly complied with relevant laws, regulations and requirements.

After the orientation, all will receive an email containing links to information that they can study by themselves and an E-Learning material on the Group's policies on fraud and corruption and others as well as orders and requirements. All employees are instructed how to finish a test after their study of the E-learning material. All must score 80 percent to pass the test and must complete the test on a monthly basis, to activate the annual individual performance evaluation.

In 2020, the CAC Communications Committee produced a video clip, shared in the Intranet. The clip featured the interviews of executives and employees, while completing the corruption test, on corruption issues they have encountered at work and in real life. The questions and simulated situations were designed to cover all dimensions of corruption and most employees understood and were aware of the Group's practices and had correctly complied with the Group's requirement.

On 10 September 2020, a field trip to Ratchaburi Power Plant was arranged for 20 employees who joined the Company from late 2019 to present, to promote understanding in the Group's business and engagement, which will support future cross-functional cooperation.

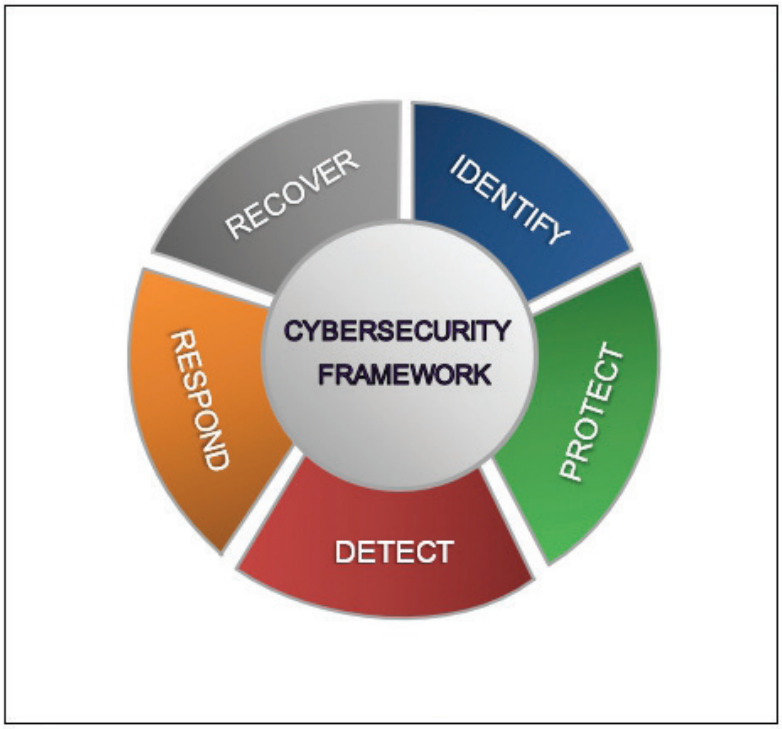
At least once in a quarter, a program to raise awareness in compliance with relevant laws, rules and regulations will be communicated through internal channels like email and seminars.

On 3 August 2020, a legal adviser from Baker & McKenzie Ltd was invited to brief a working committee on the Personal Data Protection Act and preparatory measures for the enforcement of the law. The working committee thereafter was assigned to summarize the information for the legal department's scrutiny, before the formulation of the Company's policy and guidelines. In this regard, the Company appointed Data Protection Officer (DPO) on 27 October 2020 who is tasked to prepare for the law enforcement.

The Company has prepared itself for Cyber Attacks which may harm the Company financially, affect the corporate image and cause legal difficulties. Discussions with relevant units were held, to define preventive measures against information theft as well as a communication plan to raise employee awareness on Cyber Attacks.

The Company has applied international Cybersecurity standards and Cybersecurity has been added to the list of corporate risks. To strengthen cybersecurity and ensure business continuity with accurate compliance with computer and related laws and prevention against harmful attacks, the Information Technology Security Policy was announced and enforced on 1 June 2020.

On 14 September 2020, a talk on “Cybersecurity” was arranged for the joint meeting of the Audit Committee and the Risk Management Committee, as guidance towards the planning of preventive, scrutinizing and corrective measures for systematic and timely response against Cyber Attacks. Such measures will be governed by the following framework:

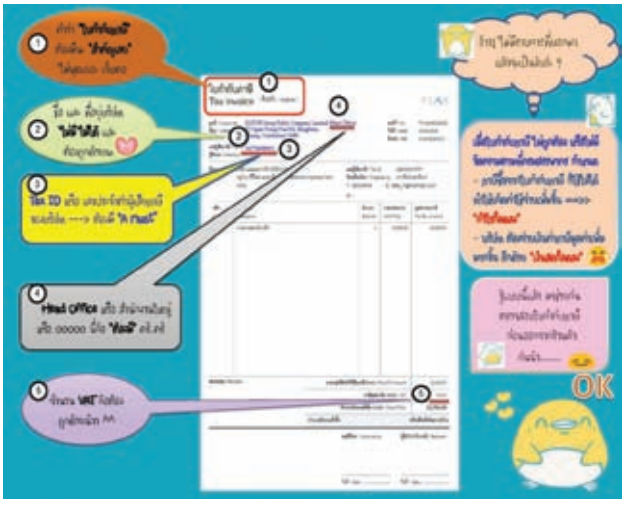


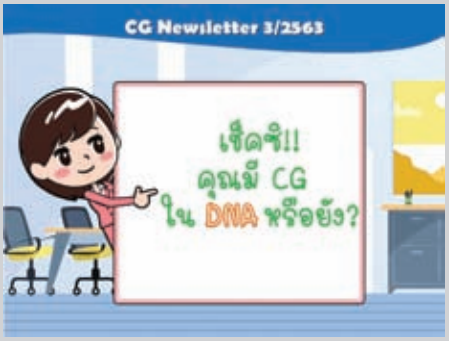
The Company has also communicated legal and regulatory guidelines, to ensure the Group's compliance with governance best practices. Some of them are as follows:

















On 11 September 2020, "RATCH Theater" activity was held at RATCH Group Public Company Limited's Ratchaburirom Auditorium, to raise awareness about corruption in the pharmaceutical industry. The 25-minute short movie, featuring famed actor Settha Sirachaya, drew a large number of audiences.

On 9 October 2020, “Hello Sara-tem Year 2” Activity was organized to share knowledge on corporate governance (CG); corruption; social and environmental responsibility; enterprise sustainable development; safety, occupational health and work environment; corporate culture on professional and teamwork spirits. The morning session of the event featured talks on **“Morals and ethics at work”**, **“Save Energy-Save Life-Save All”** and **“Thai clean food keeps away NCDs and Food against COVID-19”**. Participants enjoyed “Safety Zone, Health Zone” and “Energy Saving” games at booths, designed to raise awareness and understanding. Participants were expected to apply the knowledge with their work routines, as all play a part in leading the organization towards sustainability.





During September-October 2020, the Company organized "RATCH Professional Teamwork" workshop to promote the corporate culture. The 2-day workshop was divided into 5 classes, each catered for 40-50 attendees. The attendees were the Company's executives and employees as well as Ratchaburi Electricity Generating Company Limited's operators. There were 237 participants (209 from the Company and 58 from Ratchaburi Electricity Generating Company Limited, or 88.76 percent of all employees.) The 2-day workshop, taking place in Amphawa District, Samut Sonkhram Province, was aimed at raising awareness in the core values - Power of Professional and Power of Teamwork. Under the core values, employees are encouraged to demonstrate professional excellence and learn how to lead and support others, with respect to governance practices. The workshop also aimed to foster positive relationships.

During the “RATCH Professional Teamwork” workshop, participants were tasked to turn paper boxes and leftovers into a usable object, to foster





their cooperation and creativity. A total of 32 entries from 5 classes were submitted to a contest and the highest praises went to 3 teams.

The activity encouraged the staff to brainstorm their ideas and create innovations. This will support the Group's development of product and service innovations, in line with one of 8 objectives of the Corporate Governance Policy.

2. Policy against wrongful use of inside information

The Board of Directors, with approval from the Corporate Governance and Social Responsibility Committee, announced the "policy against wrongful use of inside information", to ensure that directors, executives and employees act accordingly to regulatory requirements for listed companies. These are the rules and regulations under the Securities and Exchange Act; the SEC and the SET's guidelines on listed companies' information disclosure; the safeguarding of confidential information that influences share prices; and reporting of changes in securities holdings and forward contracts of directors, executives, auditors, and planners. The policy has been enforced and published on the Company's website. It is summarized as follows:

New measures in writing included in the policy

- Prohibit directors, executives including vice presidents or those in equivalent levels, relevant officers, spouses and underaged children or any persons knowing of the Company's information that will influence the Company's share prices from buying/selling the Company's shares or recommending others to do so during a 30-day period prior to the public disclosure of such information, during a 24-hour period after the public disclosure, or during any given Blackout Period.
- Disclose the key parts of the policy against wrongful use of inside information in Annual Report and on the Company's website, for acknowledgement of the Company's employees, executives, directors and stakeholders.

Measures having been practiced and included in the policy

- It is the Company's duty to immediately and thoroughly disclose significant information to the public through the media and method prescribed by the Stock Exchange of Thailand, to ensure all investor groups' equitable access to accurate, sufficient and timely information.
- All directors, executives and employees must safeguard the Company's confidential information that they know of, to prevent harmful impacts on the Company.
- Directors, executives or employees knowing of or possessing the Company's inside information are prohibited from revealing or transferring the information, directly or indirectly, to outsiders or irrelevant persons including family members, friends and relatives with full knowledge that the recipients may use the information in buying/selling the Company's shares or forward contracts for their own or others' benefits. The written guideline was included in the Code of Conduct and published on the Company's website.
- Directors and executives from Vice President to higher levels in Accounting and Finance Function are required by law to report the Office of Securities and Exchange Commission their holding of the Company's shares as well as the holdings by spouses, children, related persons and those on the Company's Strategic Shareholder list on the appointment date or within 3 days after a change in the shareholdings following a buy, sell or transfer. They must also report the shareholdings to the Board of Directors on a monthly basis.

Other employees must report Chief Executive Officer their holdings of the Company's shares as well as the holdings by spouses and underaged children within 3 workdays after a change in the shareholdings following a buy, sell or transfer.

In this regard, such reports have been part of the Board of Directors' monthly meeting agenda.

- Executives and Investor Relations' staff are prohibited from agreeing to an interview or answering questions on financial results in the foreseeable future to investors or analysts at least 10 workdays prior to the scheduled disclosure of such information. The written guideline was included in the Code of Conduct and published on the Company's website.

Additional measures in the policy

- The Company shall educate directors, executives and employees on relevant laws and regulations, for their strict compliance.

- The Company shall record the names of inside individuals involved in a transaction that may influence the Company's share price and has not yet been disclosed to the Stock Exchange of Thailand.

- Outsiders knowing of undisclosed information or a deal under negotiation which are perceived as inside information that may influence the Company's share price must sign the confidential agreement which will take effect until such information is publicly disclosed.

- Wrongful use of inside information for personal benefits is subjected to disciplinary actions, verbally or non-verbally, that may involve probation, a freeze on salary or annual bonus, or the termination of employment. Violators and related persons may also be liable to punishments under the criminal and civil laws.

Throughout 2020, no directors or executives were punished for not reporting their shareholdings as required or wrongfully used inside information to benefit themselves or others.

3. New role for Audit Committee

The Audit Committee, previously responsible only for the selection and nomination of auditors, is now empowered to terminate the auditor contract. The extended role was included in the Company's regulations on the Audit Committee B.E. 2563, which took effect on 1 January 2020. The regulations were published on the Company's website.

4. Additional whistleblowing channel

The Company revised the Code of Conduct and the Company's order on corruption-related risk management and published the revision on the Company's website on 30 January 2020. Under the revision, the whistleblowing channels are extended to cover the Audit Committee's members as follows:

1) Chairman or directors
2) Independent directors or Audit Committee's members
3) Chief Executive Officer
4) Vice President - Head of Internal Audit Division
5) Supervisors

More channels are aimed at facilitating inside and outside whistleblowers.

Details on whistleblowing channels appeared in Item 3.7: Complaint/whistleblower report and whistleblower protection.

5. Innovation promotion, development and application

The Company won "Best Innovative Company Awards" at SET Awards 2020, which was organized by the Stock Exchange of Thailand and Money and Banking Magazine, in recognition of the innovative cogeneration system at Berkprai Cogeneration Power Plant that combines gas turbine, steam turbine and gas engine for greater efficiency and production flexibility.

6. Assessment of compliance with Code of Conduct

The Corporate Governance and Social Responsibility Committee, as proposed by the Corporate Governance Working Group, revised and improved the monitoring and assessment system of compliance with the Code of Conduct to hold all executives and employees responsible for the Company's orders. The assessment in 2020 showed **no incidents or actions that breached the Code of Conduct.**

In 2020, the Company followed through corporate governance practices which are summarized as follows:

1. Rights of Shareholders

The Board of Directors reviewed the policy on shareholders, to ensure equitable access to their basic rights such as including the right to attend shareholders' meetings; the right to propose agenda and/or nominate directors at the meetings; the right to express opinion and ask questions at the meetings; the right to appoint a proxy to attend the meetings and vote on their behalf; the right to dividends; the right to appoint, dismiss and determine remuneration for directors; the right to appoint and determine remuneration for the auditor; the right to vote on any significant activities; the right to register share ownership and transfer; and the right to receive significant information in an accurate, sufficient, timely and equal manner.

- **Rights to attend meetings:** The Company encourages shareholders, individual or institutional, to attend annual meetings, vote on significant agenda, as well as acknowledge and examine the performance of the Board of Directors and the Management. The Company scheduled the 2020 Shareholders' Annual General Meeting on Thursday 9 April 2020 as required by law, related rules and regulations, as well as requirements on meeting quality and efficiency development. The Company encouraged shareholders to exercise their basic rights and prepared meeting facilities. However, due to the COVID-19 outbreak, the Board of Directors, at the meeting held on 23 March 2020, resolved to postpone the 2020 Shareholders' Annual General Meeting to Friday 10 July 2020, while maintaining the meeting time and venue. The postponement followed the Department of Business Development's announcement on measures to accommodate the COVID-19 outbreak impacts on corporations' meeting arrangement B.E. 2563 as well as the measures by other relevant government agencies. The meeting eventually took place under the following procedure:

1) Pre-meeting preparation

- Minority shareholders were given an opportunity to propose issues to be added in the meeting agenda and/or nominate qualified director candidates at the 2020 Shareholders' Annual General Meeting. The process was held according to the Board of Directors' criteria and carried out from 1 September 2019 to 31 December 2019, totaling 4 months. The Company announced clear details about criteria, method, and process on SET's disclosure system and the Company's website (on 24 July 2019). At the end of the period, no shareholder proposed agenda or nominated any director candidate.

- The Company sufficiently and completely informed shareholders of the meeting date, time, venue and agenda together with relevant details and the Board of Directors' opinions on each agenda via the SET's information disclosure system in the evening of 18 February 2020 (more than 14 days prior to the meeting date). The Board of Directors resolved on 18 February 2020 to hold the 2020 Shareholders' Annual General Meeting on Thursday 9 April 2020 at 14.00 hours at World Ballroom, Level 23, the Centara Grand and Bangkok Convention Center, Central World, No. 999/99 Rama 1 Road, Pathumwan, Bangkok. The venue is easily accessible with public transport and sufficiently large to accommodate a large number of meeting attendants. Due to the COVID-19 outbreak, the Board of Directors at the 23 March 2020 meeting resolved to postpone the meeting to Friday 10 July 2020 at the same place and same time. The postponement followed the Department of Business Development's announcement on measures to accommodate the COVID-19 outbreak impacts on corporations' meeting arrangement B.E. 2563 as well as the measures by other relevant government agencies.

- The meeting notice and supporting documents for the 2020 Shareholders' Annual General Meeting was published in Thai and English on the Company's website after the stock market closed on 5 March 2020 (which was more than 30 days prior to the meeting date). Following Bangkok's lockdown starting from 21 March 2020, the Company announced on 23 March 2020 that the meeting was postponed to Friday 10 July 2020 and approved the interim dividend payment instead of annual dividends while the meeting could not take place. The interim dividend payment was payable to shareholders who appeared on the shareholders list as at 5 March 2020, who were allowed to participate in the shareholders meeting and voting and receive dividend. As such, the meeting postponement did not signicantly affect the Company's operations and did not affect shareholders' rights to dividend.

- The Company announced the meeting notice, supporting documents and the Board of Directors' opinions on each agenda for sharehoders' acknowledgement via the SET's disclosure system in the morning of 19 May 2020 (more than 14 days before the meeting date). The announcement followed the Board of Directors' resolution on 18 May 2020 that the meeting would take place on Friday 10 July 2020 at 14.00 hours at World Ballroom, Level 23, the Centara Grand and Bangkok Convention Center, Central World, No. 999/99 Rama 1 Road, Pathumwan, Bangkok. The venue is easily accessible with public transport and sufficiently large to accommodate meeting attendants.

- The meeting invitation and supporting documents, in Thai and English, was posted on the Company's website on 5 June 2020.

- The meeting notice and supporting documents were sent to shareholders, Thai version to Thai shareholders and English version to foreign shareholders, on 17 June 2020 (more than 21 days before the meeting date). Listed companies are required by laws and corporate governance guidelines to send out meeting notice to shareholders at least 7 days and 21 days in advance, respectively. The meeting notice provided details of the date, time, venue, map of the meeting venue, agenda which was arranged according to their priority, background, reasons and key issue of each agenda item proposed for shareholders' approval or acknowledgement. The Board of Directors' opinion on each agenda item was clearly and sufficiently provided.

- The Company sent the meeting notice to the Registrar on 17 June 2020 (well ahead of the requirement that it is sent no less than 7 days prior to the meeting date) and to the auditor on the same day.

- The Company gave shareholders an opportunity to submit additional questions and/ or opinions on the items already included in the meeting agenda and/ or other recommendation that is beneficial to the Company's operations prior to the meeting date by post or fax to the Company Secretary or email to CS@ratch.co.th in order to enable the Company to clarify or provide more information at the 2020 Shareholders' Annual General Meeting. The Company published the details on the matters on SET's disclosure system, the Company's website and in the meeting notice that was sent to shareholders. No shareholder submitted questions and/or recommendation for the 2020 Shareholders' Annual General Meeting to the Company.

- The Company published the meeting announcement in Thai and English newspapers from 17-19 June 2020 for 3 consecutive days and no less than 3 days prior to the meeting date in compliance with relevant laws and the Company's Articles of Association.

- The Company informed shareholders (by post) on 17 June 2020 about identification document; proxy document; proxy appointment procedure and instruction; the list of Independent Directors, Chief Executive Officer and other persons shareholders would appoint as proxy to attend the meeting and vote on their behalf; registration form; and the Company's Articles of Association related to shareholders' meeting to assist shareholders' voting on each agenda item.

2) Procedure on the meeting date

The 2020 Shareholders' Annual General Meeting was held at World Ballroom, Level 23, the Centara Grand and Bangkok Convention Center, Central World, No. 999/99 Rama 1 Road, Pathumwan, Bangkok which is conveniently accessible by public transport and sufficient large for the number of attendants. The registration began at 12.00 hours, (2 hours before the meeting time). Prior to the start of meeting, a video clip was played to advise shareholders of the venue's international guidelines for emergencies or fire incidents. Meeting attendants were then informed about the preventive guidelines and measures against COVID-19 which were aligned with public health measures and were stated in the meeting invitation, to safeguard all attendants and facilitate the screening process should any attendant be infected thereafter. The meeting began at 14.00 hours and adjourned at 15.30 hours, totaling 1 and a half hours.

Shareholders had a choice to register for the entire meeting or for a particular agenda item and maintained the right to vote on the agenda being discussed. As such, shareholders arriving after the meeting began were allowed to register and attend until the meeting adjourned.

- The Company provided necessary meeting facilities, including audio-visual equipment to support presentation, computer and barcode system recording individual shareholder's information for their registration and vote counting. This enabled convenient, fast, accurate, transparent and accountable vote counting.

- Identification documents that shareholders had to present to attend the meeting were checked by the persons appointed by the Company's Chairman. The checking was done in simple process and in the procedure as informed in the meeting notice.

- The Chairman of the Board acted as chairman of the meeting according to the Company's Articles of Association. The Chairman announced the quorum, assigned the Company Secretary to record and prepare the meeting minutes, and introduced the directors, executives, auditors and legal advisors present at the meeting who could provide additional information, answer questions asked in the meeting, and play a neutral role in determining the appropriateness and completeness of the meeting procedure.

- Shareholders were informed about the voting procedure on each agenda item, voting and vote counting method, and the announcement of individual resolutions, to comply with SET's guidelines on annual shareholders meeting and to affirm the clarity. The procedure followed the details included in the meeting notice.

- Separate ballot was prepared for each agenda item. All shareholders received such ballot at registration. Voting process was made simple: shareholders disagreeing or wishing to abstain simply raised their hands and the Company's staff members collected their ballots. Computerized and barcode systems were used in vote counting.

- Neutral legal advisors were invited to check the accuracy, completeness, transparency and accountability of various matters including the inspection procedure for shareholders' or their proxies' identification document, the quorum, persons with conflict of interests who could not exercise the voting right, the voting and vote counting method, to ensure that the process complies with the Company's Articles of Association and the rules announced to the meeting. The inspectors also ensured that all ballots were collected from all shareholders especially on the director appointment and that meeting resolutions and vote counting were correct.

- The meeting proceeded as announced earlier without abrupt addition of significant information or new agenda or abrupt change in significant information without prior notice. The matters proposed to the 2020 Shareholders' Annual General Meeting complied with law and the Company's Articles of Association.

- The meeting proceeded in the order as stated in the meeting notice without any switch in agenda items, as the Board of Directors realized the necessity that shareholders needed sufficient time to study the information before making decision and consequently avoided any action that would infringe or deprive shareholders' right at all shareholders' meetings.

- The discussion on each agenda item began with the Chairman completely and sufficiently providing background, details, full information and recommendation as stated in the meeting notice. The Chairman allocated appropriate time for questions. The Chairman and the Management then jointly clarified for full understanding on related matters, before shareholders were asked to cast their votes.

To keep the meeting short and time-efficient, VDO presentation summarizing the Company's operations in the previous year was shown when the 2nd agenda item was discussed for shareholders' acknowledgement. It also contained last-year performance and plans for next years. The VDO allowed more time for questions and answers.

- Director appointment and remuneration approval ware treated as two different agenda items and were voted separately. Shareholders voted separately for each director candidate. All ballots were kept for reference to ensure accuracy and transparency.

- In each agenda voting, the Company provided a ballot for each shareholder. A computerized system was used to facilitate vote counting.

- After vote counting of each agenda item, voting results were announced, divided into "approval", "disapproval", "abstention", and "voided ballot" votes.

- Other agenda items (if any) were allowed in order to provide shareholders an opportunity to propose additional issues other than those set in the meeting agenda. According to the Company's Articles of Association, the new agenda proposed for the shareholders meeting's consideration must be proposed by the shareholders whose combined shares are at least one third of the Company's tradable shares. In the 2020 Shareholders' Annual General Meeting, no other agenda item was proposed for voting. Only some recommendations and questions about the Company's operations were raised and recorded in the meeting minutes.

- The total of 2,227 shareholders and proxies (390 shareholders and 1,837 proxies) attended the 2020 Shareholders' Annual General Meeting, holding 1,066,260,552 shares or 73.54 percent of sold shares, which made a quorum as required. The Company's Chairman acted as the meeting chairman according to the Company's Articles of Association.

- The entire Board of Directors and all sub-committees attended the meeting, representing 100 percent of the Board/Sub-Committees members. Their attendance was recorded in the meeting minutes.

3) Post-meeting procedure

- The resolutions of the 2020 Shareholders' Annual General Meeting were published on SET's disclosure system immediately after the stock market closed on 10 July 2020. The resolutions were clearly presented with details on "approval", "disapproval", "abstention" and "voided ballot" with percentage of each category.

- The Company Secretary prepared written meeting minutes by clearly and adequately recording essence of each agenda, questions by the shareholders and clarifications by the Board of Directors and the Management, attendants' recommendations, and the meeting resolutions, including detailed voting results and percentage in all categories.

- The meeting minutes were published on the SET's disclosure system and the Company's website on 16 July 2020 (within 14 days after the meeting date as legally required). This was to allow shareholders

to express their opinions without waiting for the next meeting. After the publicizing, no shareholder asked the Company to amend, add or adjust the meeting minutes.

- The Company submitted the complete minutes signed by the Chairman of the meeting to the SET for reviewing and reference on 16 July 2020 (within 14 days from the meeting date as required).

- The financial statements reviewed by the auditor and approved by shareholders, the annual report, a copy of balance sheets and profit/loss account, a copy of the meeting minutes signed by the Company's authorized signatories, and a copy of the list of shareholders at the annual general meeting date (Bor Mor Jor 006) were submitted to the Registrar on 16 July 2020 (within 1 month as required by law).

- In compliance with the COVID-19 preventive measures and keep the meeting concise, shareholders and proxies who had questions or recommendations were asked to send their questions prior to the start of the particular agenda item. Should they seek to raise questions and opinions during the discussion of an agenda item, they were kindly asked to raise their hand and the Company's officer picked up their questions. Directors and the Management would answer the questions. In case that many questions followed, they would be recorded and included in the meeting minutes with answers.

- The Company's arrangement of 2020 Shareholders' Annual General Meeting was scored 100 percent by the Thai Investors Association, based on the compliance of required meeting process and guidelines in 3 parts - pre-meeting procedure, procedure on the meeting date and post-meeting procedure.

- **Right to appoint proxy to attend meeting and vote on their behalf:** The Company allows shareholders to appoint persons who have come of age as their proxies to attend shareholder meetings and vote on their behalf. Proxy appointment document must be in the format designed by the Registrar. The proxy has to present the proxy document to the meeting chairman or the person assigned by the chairman before joining the meeting.

- **Right to receive dividend:** The Company has a policy to pay dividend at no less than 40 per cent of consolidated net profits after the provisions of legal reserves and other reserves, depending on the Company's cash flow. In 2020, the Company set the "Record Date" on 5 March 2020 to gather the list of shareholders allowed to participate in the shareholders meeting and voting and receive dividend. The interim dividend was paid on 17 April 2020, in replacement of annual dividend payment, due to the COVID-19 outbreak. The dividend payment was announced in Thai and English newspapers for 3 consecutive days, during 17 - 19 June 2020, as required by law and the Company's Articles of Association.

The Company annually checks and follows dividend-received information to protect shareholders' rights. The Company finds a certain amount of accrued dividend payment that shareholders have not yet received. The Company has contacted the shareholders based on contact details in the Registrar's database, notifying them of their accrued dividend and the procedure to receive the dividend. The Company also facilitates shareholders on cheque reissuing in case of loss or expiration and also assists in the dividend transfer to shareholders' heirs in case the shareholders passed away.

The application form for e-Dividend service was also sent to shareholders, for a convenient, fast and safe means to receive dividends in the next rounds. More shareholders tend to switch to the e-Dividend service.

- **Right to appoint, dismiss and determine remuneration for directors**: The Company requires the Board of Directors to submit nominations to the annual general meeting so that shareholders consider and appoint directors to replace the ones whose term expires. Shareholders also determine remuneration for directors. Details are stated in Management Structure section.

- **Right to appoint auditors and set audit fee:** The Company requires the Board of Directors propose to shareholders at the annual general meeting for the appointment of auditors and set the audit fee on an annual basis.

- **Right to share ownership registration or transfer:** The Company appoints Thailand Securities Depositories Company Limited (TSD) as its registrar responsible for the depositing, collecting and updating shareholders' information and provides services to shareholders, such as issuing, depositing, withdrawing and transferring of share certificates, as well as remitting benefits to the shareholders. Shareholders can contact TSD directly at the TSD Call Center at +66 2009 9999 or apply for internet-based Investor Portal service at http://www.set.or.th/tsd/th/investorportal/investorportal.html

- **Right to receive significant information in accurate, sufficient and timely manner:** The Company has completely, accurately and timely followed the regulations, criteria, conditions and procedure related to listed companies' information disclosure and other activities.

In 2020, there was **no punishment** due to failure or delay in report submission or incident or action deemed **violating or depriving shareholders' rights**.

2. Equitable Treatment of Shareholders

The Company exercises equitable treatment of all shareholders regardless of their status as major shareholders, minority shareholders, institutional shareholders, or Thai and other nationalities. Key practices are as follows:

- **Access to the Company's information:** To ensure shareholders' equal access to the Company's information, the Company uses SET's disclosure system as the main communication channel and named the Chairman of the Board of Directors, directors, Chief Executive Officer and chief officers as the authorized persons responsible for the Company's information disclosure. The Company also publishes information on its website and establishes relevant functions such as the Company Secretary Office, Internal Audit Division, Corporate Relations Division and Investor Relations Department are another communication channels.

- **Preparation of bilingual documents:** For equitable access of both Thai and foreign investors, the Company's information published in the SET's disclosure system and the Company's website are prepared in Thai and English.

- **Encouraging minority shareholders to propose items for the shareholder meetings' agenda and/or nominate directors:** The Company publicly invited minority shareholders through the SET's disclosure system to propose meeting agenda and/or nominate qualified persons as directors at the 2020 Shareholders' Annual General Meeting. The proposal was welcomed from 1 September to 31 December 2019, totaling 4 months. The detailed criteria, method, process and channel for the agenda were published on the Company's website on 24 July 2019. At the end of the period, the Company received no proposal or nomination.

- **Proxy appointment:** The Company prepared 3 forms of proxy document as designed by the Department of Business Development, Ministry of Commerce, and delivered them to shareholders to facilitate those who cannot participate in the shareholders' meeting. They can appoint other persons to attend the meeting and vote on their behalf. The 3 forms are:

  - Form A, general proxy appointment form.
  - Form B, a proxy appointment that lists specific items for proxy appointment.
  - Form C, a proxy appointment that is used only when the shareholder is a foreign investor with a custodian in Thailand.

Shareholders can also download the forms from the Company's website or they can also use other forms of proxy or prepare it themselves as deemed appropriate.

At the 2020 Shareholders' Annual General Meeting, the Company nominated 3 independent directors - Mr. Samack Chouvaparnante, Mr. Chartchai Rojanaratanangkule and Mr. Somboon Nhookeaw - and the Chief Executive Officer (Mr. Kijja Sripatthangkura) who could serve as shareholders' proxies and vote on their behalf. Shareholders were supplied with detailed information of each person and their vested interest in the meeting agenda. The total of 1,633 shareholders appointed the Company's independent directors as their proxies and the Chief Executive Officer was the proxy of 14 shareholders.

- Ballots: All shareholders were instructed to cast their ballots at shareholder meetings. A computerized system was deployed for tallying and the legal advisor, as a neutral party, was assigned as an inspector to review the accuracy of vote counting. Concerning director appointment, votes were counted for each candidate and all the ballots were stored as reference for accuracy and transparency.

- Additional agenda item: No additional agenda was proposed for the 2020 Shareholders' Annual General Meeting as the Board of Directors realized the significance and necessity that shareholders should have sufficient time in studying information before making a decision. As such, no new agenda other than those included in the meeting notice was proposed. If shareholders found it necessary to propose additional agenda, they could do so when the agenda on other matters for consideration was being discussed, as specified in the Company's Articles of Association.

- Prevention of the abuse of inside information: The Company followed corporate governance practices in preventing the abuse of inside information. The written policy and guidelines were prepared to safely keep inside information from abusive acts. The policy and guidelines are included in the Company's Code of Conduct, regulations, orders and related announcements for the acknowledgement and compliance by directors, executives, employees and stakeholders. Directors, executives and employees signed their acknowledgement on their first day of employment or on the orientation day. Aside from the Audit Committee's control via the Internal Audit Division and other assigned units, the policy and guidelines were reviewed at least once a year by the Corporate Governance Working Group, the Corporate Governance and Social Responsibility Committee, and the Board of Directors. The policy and guidelines are published in the internal communication channel and the Company's website. The key measures are as follows;

- All executives and employees must protect the Company's confidential information and must not use such information for personal benefits or suggest others to do so, particularly concerning the trading of the Company's securities.

- Do not disclose/abuse/transfer inside information and/or confidential information to outsiders or irrelevant persons including family members, relatives, siblings and friends. Do not do anything that will hurt the Company's benefits.

- Sharing or giving confidential information to colleagues is alllowed only when necessary or if having to support the persons' tasks.

- The Company devised and enforced the "Network and Computer Usage Policy" and published it on the Intranet and the Company's website. The policy has been updated regularly to ensure maximum efficiency and alignment with the Computer Crimes Act. Cyber securities are continually improved. Key guidelines are summarized as follows:

  - Allow usage only with passwords which must be kept confidential.
  - Restrict computer use only for work and prohibit employees from sharing information that is against moral norm, tradition or laws.
  - Safely use emails, the Internet and computer device accordingly to the Company's rules and safety instructions, only for the Company's benefits.
  - Use only copyrighted programs.
  - Inspect, monitor, investigate and control the usage of information technology system, to ensure necessary and appropriate use.

In 2020, Mrs. Boontiva Dansamasatid, Executive Vice President - Corporate Administration, was appointed the Company's Data Protection Officer to ensure the alignment of the Company's practices with the Personal Data Protection Act B.E. 2562. As Mrs. Boontiva Dansamasatid retired on 31 December 2020, Mr. Nawapol Disathien, Executive Vice President - Corporate Administration, is assigned to take over the Data Protection Officer position.

3. Role of stakeholders

3.1 Stakeholders policy:

The Company's Board of Directors clearly outlines the stakeholder policy and guidelines. The Code of Conduct has been reviewed and improved, to guide directors, executives and employees how to treat each stakeholder group according to governance principles. This is to ensure that the lawful rights of stakeholders - shareholders, employees, customers, creditors, partners, competitors, the public sector and community - are protected. The Company publicizes the policy and guidelines on various communications channels and the Company's website for the acknowledgement of all. The guidelines are as follows:

Treatment of Shareholders

- Operate business to create growth, profit and positive returns to shareholders.
- Operate business with carefulness, caution, integrity and fairness for all shareholders.
- Respect the right to receive information and disclose quality, accurate, complete, sufficient, and equitable information.
- Monitor and ensure compliance with the stakeholder policy and Code of Conduct concerning their basic rights; fair and equitable treatment; access to quality information; participation in shareholders meetings to vote on significant issues, acknowledge the Company's operations and activities, raise opinions, make recommendations and monitor the Board of Directors and the Management's actions; and measures against directors and executives' exploitation of inside information for personal benefits and other actions that infringes or lessens shareholders' rights.

Treatment of Employees

- Promote quality of life by providing decent work environment, occupational health and safety.
- Emphasize continuous and thorough management and enhancement of personnel's knowledge and capability.
- Manage and ensure appropriate remuneration and welfare, comparable to that offered by other leading companies.
- Transfer, appoint, reward and punish employees equitably and fairly.
- Allow employees to lodge complaints accordingly to the prescribed system and procedure.
- Monitor and ensure compliance with work-related laws and regulations.

Treatment of Community, Society and Environment

- Promote community engagement mainly through communications.
- Support community development and enhance community strengths.
- Promote the conservation and restoration of local traditions and enhance social quality.
- Support environmental conservation and restoration.
- Operate business with responsibility for community, society and environment.

Treatment of Customers

- Produce and deliver quality products and services responsibly.
- Provide warranty for products and services under an appropriate condition and period of time.
- Disclose complete and accurate information on products and services.
- Provide a complaint-receiving system and process whereby customers can lodge complaints on products and services, and handle complaints as best as possible.
- All executives and employees must keep customers' information confidential.
- Do not ask for, receive or pay any dishonest benefits to customers and strictly comply with contractual conditions.

Treatment of Creditors

- Strictly follow creditors' conditions.
- Do not ask for, receive or pay any dishonest benefits to creditors.
- Full cooperation with creditors to solve problems related to requests for, acceptance or payment of dishonest benefits.
- Provide accurate, complete, timely and regular financial reports.
- Inform creditors in advance if the Company cannot meet conditions and seek mutually-agreed solutions.

Treatment of Partners/Suppliers

- Give Company's benefits the priority, not personal benefits.
- Offer partners and suppliers a fair and equitable opportunity.
- Adopt international standards for partner assessment and selection as well as contract formats.
- Put in place a system to monitor full compliance with contracts and conditions.
- Do not ask for, receive or pay any dishonest benefit to partners.
- Inform partners/suppliers in advance in case the Company cannot meet the conditions and seek mutually-agreed solutions

Treatment of Competitors

- Respect internationally-recognized competition guidelines and principles.
- Do not seek competitor's confidential information through dishonest or inappropriate means.
- Do not accuse competitors groundlessly.
- Do not ask for, receive or pay any dishonest benefits to trade competitors.
- Strictly respect trade conditions.

Treatment of Business Partners

- Strictly adhere to agreements and commitments.
- Provide business assistance that will bring about mutual benefits, having the Company's benefits as the priority but ensuring fair returns for both parties.
- Provide accurate information and reports and clear problems with concerns about business relations.

Treatment of Public Sector

- Support government activities and comply with government policies and related regulators' regulations.
- Promote and support collaboration for public organizations' activities.

Investors and the interested can find more information on the management of relationships and process to satisfy stakeholders in Sustainability Report 2020 on the Company's website.

3.2 Respect to Human Rights

The Company upholds and complies with human rights principles which are the basic rights of all, keeping in mind peaceful and sustainable coexistence, as reflected in:

Intention: The Company undertakes any business decision or activity with profound concerns about human rights principles, requiring all staff to include the principles in their practices. The Company has no policy to support any businesses that violate the principles; respects and strictly complies with laws and regulations; treat stakeholders fairly and equitably regardless of nationalities, religions, gender, race, social status and economic status; treat employees with respect in their human dignity and support to gender equality at workplace; and regularly engage in the development of neighboring communities' quality of life.

Respect to others' rights, freedom and equality: Employees' personal information will not be revealed to irrelevant parties. Employees treat each others with respect, accepting others' different opinions and not involving in conversations on nationalities, religions, gender, education or social and economic status or any issues that may lead to conflicts. Employees are prohibited from harassing others physically or psychologically or committing any acts unfair to others. However, employees maintain their political rights, able to support or become a member of political parties, to vote or to exercise other political rights.

Protection of individual rights and personal data: Safekeep and use personal data as deemed necessary, accordingly to legal and regulatory requirements or business requirements.

The Company also follows standard practices regarding to migrant workers. Since 2013, such practices have been integrated in the employment guidelines, which involve the employment of local workers. The Company also respects community's rights to be informed about community stewardship and the operations. Regular communications with communities through various channels have been established. Regarding suppliers, their treatment of employees is in focus. These practices applied with employees, community and suppliers are aligned with the International Labor Organization (ILO)'s guidelines. The Company states required practices on human rights in the Code of Conduct and holds employees responsible for the implementation, as human rights-related risks may dampen stakeholders' confidence and harm corporate reputation.

Violations against the Code of Conduct are subjected to prescribed disciplinary actions or legal punishment should they are against the laws.

3.3 Intellectual Property Utilization and Protection

The Company holds all employees responsible for the protection of the Company's intellectual property. They are instructed to use the intellectual property accordingly to the guidelines in the Code of Conduct and the Computer and Network Policy. Employees must respect intellectual property of the Company and others and avoid violations. Access to the Company's intellectual property is terminated along with the employment status.

Violations against the Code of Conduct are subjected to prescribed disciplinary actions or legal punishment should they are against the laws.

3.4 Utilization of Computer and Computer Network:

With given usernames and passwords, all employees are granted access to the Company's computer and network as well as the data system under the Network and Computer Usage Policy and the Group's information technology manual. A plan is in place to tackle Cyber Attacks and internal and external crises. Responsible persons to supervise, prevent, analyze, assess and tackle each incident are named and given manual. Also in place are counter-attack programs. To ensure safety, efficient use and business continuity which could be disrupted by Cyber Attacks, employees are prohibited from using computer or the network for illegal, defamation, unethical and commercial acts or personal gains; revealing confidential information earned as part of their jobs concerning the Company, employees and external parties; and any acts that infringe the Company and others' intellectual property. The prohibitions are in line with various corporate policies like the Computer and Network Usage Policy, Data Classification Policy and Business Continuity Management Plan; the Computer Crime Act; and the protocol to manage Cyber Attacks-related risks. Employees' access to the Company's data or intellectual property concerning computer and network is terminated along with the end of employment contracts. Any employee violating the rules and causing damage to the Company or any individual is subjected to disciplinary actions and liable to legal punishment if such acts are deemed legal violations. The Company demands relevant units to assess the sufficiency of information technology security system and undertakes regular improvement on the technology side.

3.5 Risk Management

The Board of Directors appointed "Risk Management Committee" to take control of risk management policy. The sub-committee is tasked to come up with a thorough and cautious process and outline preventive and remedying measures for each stakeholder group. The "Risk Management Policy" is communicated through internal channels and published on the Company's website for outsiders' acknowledgement. The policy is summarized as follows:

Risk Management Policy:

- Promote risk management culture
- Put in place quality, appropriate and sufficient process, guidelines and measures on risk management
- Assess risks in quality and quantity terms
- Define risk appetite and outline incidents that could serve as a warning sign
- Prepare work process in writing

Risk management guidelines: Risk factors must be identified along with management measures to contain risks within risk appetite, which will prevent or reduce possible impacts on business operations, corporate image and stakeholders. Risk management measures are reviewed. The management performance is assessed, with emphasis on warning signs and irregular incidents for prompt adjustments in the management strategy, work plan and techniques. The assessment results are reported to the Audit Committee and the Board of Directors, respectively, on a quarterly basis. (Details appear in the sections of Risk Management Committee's Report, Management Structure and Risk Factors.)

3.6 Anti-fraud and Corruption

The Company adheres to transparency, fairness and social and environmental responsibility with concerns about all stakeholders, in alignment with good governance practices, the Code of Conduct and the Company's policy to fight all forms of corruption. With the Board of Directors' consent, the Company has been a member of the Private Sector Collective Action Coalition Against Corruption (CAC) since 2016. The certified membership lasts 3 years from the certification date.

In 2019, the Company filed a request for the membership extension, confirming the Company's intention to operate business with governance, transparency and accountability and refrain from all forms of corruption, directly or indirectly, when dealing with the public or private sectors. All personnel, from the Board of Directors to employees, are prohibited from requesting or accepting dishonest offers. The second-round extension of CAC's membership was granted on 4 February 2019.

The Board of Directors outlined the anti-fraud and corruption risk management framework and the internal control system and defined the responsibilities of responsible persons, guidelines and rules on the issue in writing, to provide a clear operational framework against corruption in all business activities for the Company's sustainability. The framework is communicated to stakeholders through communications channels, for their strict compliance. On top of this, the Board of Directors, the Corporate Governance and Social Responsibility Committee, the Audit Committee and the Management must be role models in the fight against corruption for employees, business partners and the public, to garner trust in the Group's business operations.

Anti-Fraud and Corruption Policy

1. The Board of Directors outlined and imposed the written anti-fraud and corruption policy, which can be summarized as follows:

    - Promote the anti-fraud and corruption culture, to raise awareness and joint commitment on non-involvement in direct or indirect corruption.
    - Ensure clear principles, process and guidelines for business operations to prevent fraud and corruption. Relevant persons must be educated about the anti-corruption policy.

- Provide the internal control system related to fraud and corruption risks.
- Undertake appropriate assessment and supervision criteria for appropriate implementation of the anti-fraud and corruption policy.
- Put in place anti-corruption regulations and corruption-related risk management in writing.
- Establish an appropriate whistleblowing channel where fraud and corruption-related complaints and reports can be filed.

2. The Board of Directors outlined the Company's anti-fraud and corruption regulations which are as follows:

2.1 Define the role and responsibility of all relevant persons in the organization to assure compliance.

- The Board of Directors is tasked to oversee the overall picture, outline the anti-corruption policy and guidelines, as well as review the policy and regulations on a regular basis.
- The Corporate Governance and Social Responsibility Committee is to ensure compliance with the policy and regulations, manage corruption-related risks, outline preventive measures, spot possible traces, react and review the policy.
- The Audit Committee is to oversee the internal control, accounting standard, financial reporting and internal audit systems, to ensure all systems are appropriately controlled and the policy is fully and efficiently exercised.
- Chief Executive Officer and executives are to establish guidelines that support the anti-corruption regulations, communicate and organize training and workshops for employees at all levels.
- Employees must perform their jobs accordingly to the anti-corruption regulations and relevant orders. In case of doubt or witnessing any violations, they must report the incidents to the prescribed channel.

2.2 Define key anti-corruption principles

such as non-involvement with all forms of bribe offering or taking through business interactions with government or private parties. Being prohibited are inappropriate payments in return for facilitation or payments to a third party. The Company's employees must maintain integrity and honor transparency, not ignoring any possible corruption acts. They must not support political parties. Donations must be for charitable causes, not for corruption-related gains. Gift giving or taking must be in line with acceptable norms and the values must not significantly influence decisions. No corruption-related gains are expected from receptions and they must not significantly influence decisions. All must follow the Company's policy.

2.3 Define fraud risk management and internal control rules as summarized bellows:

- Outline measures to manage corruption-related risks, covering prevention, inspection and response to corruption cases.
- Put in place appropriate and sufficient internal control as well as a regular review, to ensure the efficiency and effectiveness of internal control.
- Arrange assessment on corruption-related enterprise risks to ensure the availability of management approaches for various risks.
- Establish measures and guidelines for some spending items that may cause corruption risks such as charitable donations or sponsorships funds, the giving and taking of gifts and souvenirs and reception allowance, as concrete approaches against fraud and corruption.
- Establish a transparent and accurate financial reporting mechanism, based on internationally-accepted accounting standards. Organize the financial documentation and storage process, to ensure accurate and complete booking and compliance with relevant rules. The process is also to assure that expenses are appropriate and are not for corrupt activities.

- Establish a channel to receive whistleblower reports, recommendations or complaints and put in place the investigation process and penalties. Corruption cases must be reported to the Board of Directors and high-level executives.
- Communicate and organize training on rules and orders relating to anti-corruption for personnel at all levels.

2.4 Whistleblower reports and protection: There is a rule that employees witnessing corrupt acts or possible corrupt activities, direct or indirect, must report such activities to the prescribed channel. To protect whistleblowers and witnesses, their identities will be concealed and be disclosed only by legal orders. No actions will be launched against the persons who deny corruption, though such acts may cause opportunity loss to the Company. Upon requests, executives and staff must cooperate with the investigating committee.

2.5 Communications and training: The Company uses internal communications channels and annual reports as the tools to communicate the anti-corruption policy and documents to raise employee awareness. Training is provided for all levels of employees. An orientation is arranged for newly-recruited employees, for their acknowledgement and understanding on the Company's anti-corruption policy and related rules and regulations.

Preventive measures against fraud and corruption

Under the anti-corruption policy and written regulations outlined by the Board of Directors, the Company enacted the following actions:

- **Issue orders or operational guidelines for fraud risk management:** To define activities and responsibility of persons in charge as well as procedure and guidelines to prevent fraud risks, so that the risks are tackled in an appropriate and timely manner.
- **Prepare, improve and review the Company's policy, rules, orders and Code of Conduct** on a regular basis and ensure thorough communications with employees so that they understand and strictly follow the Company's anti-fraud and corruption policy and practices.

In 2020, all executives and employees at all levels signed confidentiality agreements, to acknowledge their duty and guidelines in protecting the Company's significant business information. Under the agreement, they agree not to reveal the information to outsiders and penalties of failing to honor the obligations.

- **Assess fraud risks and prepare Fraud Risk Register as well as corruption-related risk profile, by defining risk assessment criteria, potential causes, impacts, likelihood and risk appetite:** The process is to assess the internal control system, identify risk-alleviating measures and analyze the scale of impacts, likelihood and residual risk under the current control system. The Company assigns the Corporate Governance Working Group to advise the Management on risk assessment, gathering of assessment reports and the monitoring of risk management plan implementation, before submitting reports to the Board of Directors, the Corporate Governance and Social Responsibility Committee, the Audit Committee and relevant units. Meanwhile, the Internal Audit Division is assigned to review the related anti-corruption policy, procedure and risk management process to ensure complete and effective compliance.
- **Communications and training:** The Company prepares annual communications and training plans, communications channels, frequency, content and implementation to ensure effective communications both internally and externally. The objective is to raise awareness on the importance of the anti-corruption policy, engage employees with corruption-rated risk management with transparency and determination, and pass the message on to business partners and stakeholders.

In 2020, the corruption-related communications and training plan was completed by a working committee that represented all functions. The committee convened quarterly meetings. Major activities under the plan are as follows:

1. The Internal Audit Division's representative joined the "Fraud, Bribery and Corruption Risk Management & New Types of Internet Fraud & Corruption" course. Organized by Ratchaburi Electricity Generating Company Limited (the Company's subsidiary), the session featured experts on corruption who shared their knowledge with executives and employees at all levels, to raise their awareness on fight against corruption. The session focused on the definition of corruption, patterns of corruption at workplace, new patterns of corruption, confidential information safeguarding, tips for prevention, wrongdoer investment, and punishments under relevant laws. There was also a talk on morals and ethics at workplace at the Company's annual "Environmental, Social and Governance (ESG)" event, to promote desirable work ethics.

2. A short-movie exhibition was organized, along with newsletter and VDO clips on corruption. The contents were released via the internal communications and television network.

3. A test was arranged to assess awareness, understanding and compliance through the E-learning system. All executives and employees must join the test and score at least 80 percent to be eligible for the annual performance evaluation.

4. Business partners and stakeholders are notified of the anti-fraud and corruption policy through announcements and official notifications, for their acknowledgement and strict compliance.

5. The orientation on the anti-corruption policy was organized for newly-recruited employees.

- **Run background checks before hiring new employees and contractors and before striking transactions:** The Human Resource Division is tasked to check the backgrounds, credibility and work experience of applicants for key positions, prior to the signing of employment contracts, to prove their integrity. Employment contracts contain corruption-related clauses. Meanwhile, the Office Administration Department is responsible for examining the background of suppliers, contractors and service providers, to check on their qualifications, reputation, financial status and credibility. It must also inform business partners about the Company's anti-fraud and corruption policy in writing.

- **Internal control:** All the Company's units shall have in place written work process and job descriptions and have them reviewed at least once a year. The Internal Audit Division is also designated to assess the internal control of each work process, to spot possible fraud risks. If finding any irregularities, it must analyze the probability.

- **Define corruption finding and response measures:** Establish the whistleblower channel for employees and outsiders who should be able to keep their identity concealed. The complainants must also be protected from harm or threats. Complaints can be filed to the Chairman, directors, the independent director/Audit Committee's members, Chief Executive Officer, Vice President - Head of Internal Audit Division or supervisors. Individuals knowing of corrupt acts are subjected to disciplinary actions if failing to report the acts to the Company or filing false reports.

- Chief Executive Officer formed an investigation committee, to collect facts relating to reported corrupt acts and report the results to Chief Executive Officer and subsequently the Board of Directors.

In 2020, **no fraudulent or unethical action was found and no director or executive resigned due to corporate governance issues.**

3.7 Complaint/whistleblower report and whistleblower protection

Stakeholders - employees and outsiders affected or risking to be affected by the Company's operations or by executives and employees' **illegal, unethical and possible corrupted acts -** can file their complaints, report suspicious acts or recommend improvements through the following channels.

Reporting Channels

Complaint / whistleblower receiver	Reporting channels		
	E-mail	Corporate website	By post
Chairman or directors	directors@ratch.co.th	www.ratch.co.th (Corporate Governance/ Whistleblower Channel pages and select the e-mail of the preferred compliant receiver)	Addressed to the receiver: RATCH Group PCL 72 Ngam Wong Wan Rd. Bangkhen, Muang Nonthaburi, 11000
Independent directors or Audit Committee's members	id@ratch.co.th or ac@ratch.co.th		
Chief Executive Officer	ceo@ratch.co.th		
Vice President - Head of Internal Audit Division	internalaudit@ratch.co.th		

Complaint-handling process

1. Complaint receiver collects facts related to violations or breaching of the Code of Conduct either by himself or by assigning other appropriate person.
2. Submit the facts to Chief Executive Officer who will consider forming an investigation committee.
3. The investigation committee gathers related facts through interviews and/or inspection of document.
4. The investigation committee processes the facts, makes a conclusion, and consider an appropriate settlement process for this matter.
5. The investigation committee sets a measure to solve or alleviate damages of the affected and reports the actions to Chief Executive Officer who will subsequently inform the Board of Directors.
6. The investigation committee informs the complainant of the investigation result if the person reveals his identity.

Internal process: In the Appeal and Complaint section, the Company outlines complaint reporting guidelines for employees who might have experienced unfair treatment: they can file appeals through the aforementioned reporting channels or supervisors. Meanwhile, there are guidelines on complainant protection, to protect them from employment termination or disciplinary actions for presenting information, facts or evidence concerning a complaint; and the protection of those who file reports in honesty though such reports may affect the Company.

Other reporting channels: The Company establishes channels to receive all stakeholders' complaints, opinions or recommendations, which will be used as the basis for further improvement. The channels are the Company's website, Company Secretary, Public Relations Department, Internal Audit Division or Investor Relations Division or other channels as deemed appropriate.

3.8 Reporting of directors' and executives' interests

The Board of Directors required all directors and executives to report the interests of their own and their related persons once taking their positions as specified in the "Directors' and Executives' Interests Report Form". The original report shall be submitted to the Company Secretary for record keeping and the copy shall be submitted to the Chairman of the Board of Directors and the Chairman of the Audit Committee. Subsequent reports must be submitted on an annual basis and updated immediately after a change, to assist the Board of Directors in deciding which person, with vested interests, should not involve in the voting on the Company's transactions or which persons have conflict of interest. The information will help the Board of Directors reach a conclusion that benefits the Company in an appropriate and transparent manner.

3.9 Promotion of community engagement

The Board of Directors reviewed the social and environmental policy and used it to guide the Company's operations that have continuously promoted community engagement, communications; the development and strengthening of communities; local tradition preservation and restoration; and environmental conservation and restoration. The emphasis reflects in every phase of the Company's projects. During project development period, the Company studies preliminary technical information in parallel with a study on the community's economic and social conditions, traditions and way of life, in order to prepare community participation plan and key communication message as well as activities to promote understanding in the project and receive communities' opinions on various issues as required by relevant government agencies and regulators. During the construction period, the Company regularly communicates with communities on its operations and the policy towards community. Close and regular communications continue after the project is operational, to welcome recommendations for further improvement of the Company's activities so that they truly address community needs.

In addition, Ratchaburi Electricity Generating Company Limited established the *"Ratchaburi Power Plant Environmental Inspector Committee"*, comprising representatives from communities, community leaders, as well as local and provincial administrative offices. The committee monitors and ensure that the Ratchaburi Power Plant's environmental impact prevention and mitigation measures follow the instructions stated in its environmental impact assessment report. The committee also acts as the coordinator, providing information and gathering communities' problems, concerns and recommendations. It serves as an important channel that promotes community engagement in the systematic and continuous monitoring of the Company's operations.

In 2020, the Company organized CSR activities to promote community engagement. Details appeared in Corporate Social and Environmental Responsibility section.

3.10 Transaction that involves or may involve conflict of interest

The Board of Directors defines the guidelines for transparent and accountable handling of conflict of interest in the Company' regulation on the Board of Directors. The guidelines state: "Directors with vested interest in any particular issue shall not have the right to vote on the issue". The Board strictly complies with the regulation. The Board of Directors and the Audit Committee have an important role in formulating measures to handle and prevent conflict of interest and ensure that the operations proceed in a reasonable manner. The measures include obligatory disclosure of complete information in accordance with related regulations for the overall benefit of the Company.

Based on the Audit Committee's screening and approval, the Board of Directors makes sure that related party transactions between the Company and subsidiaries are done for the benefits of the Company and subsidiaries, based on the same pricing and conditions as in transaction with other business under the arm's length principle. Accurate and complete disclosure of such transactions is required according to relevant regulations. For flexibility and convenience, the Board of Directors authorized the Chief Executive Officer to approve related party transactions or regular business-supporting transactions which

contain normal conditions and trade agreements and are valued no more than Baht 30 million. Such transactions shall be reported to the Board of Directors on a quarterly basis, as demanded by Section 89/12 of the Securities and Exchange Act.

The Company also establishes a written process to oversee subsidiaries, affiliates and joint ventures' operations through the secondment officers, who serve as directors or executives in the business ventures. In addition, the chiefs of all functions are bound to attend the Audit Committee's meetings at least once in every quarter, to brief the committee about the operations and obstacles of subsidiaries, affiliates and joint ventures.

In 2020, no director or executive was engaged in transactions that involved or may involve conflict of interest, except transactions with EGAT which were disclosed in the list of related party transactions. Regarding the transactions, directors representing EGAT were not present at the Board of Directors' meeting or cast their vote on the matters.

3.11 Environmental and occupational health international standards

The Company encourages all power plants to apply internationally-recognized standards like the ISO 14001 environmental standard and the OHSAS 18001 which is the standard on safety and occupational health. Also promoted are the Department of Industrial Works' standards. The Company has also been in earnest in continuously monitoring and improve the implementation of those standards.

3.12 Safety, occupational health and work environment

The Company places emphasis on the safety, occupational health and work environment guidelines of employees, suppliers and other stakeholders conducting jobs for the Company and especially at the Company's premises. Aside from continuous reviews on the guidelines, the Company organized training to raise safety awareness for all tasks to achieve the zero accident target. The Safety, Occupational Health and Work Environment Working Committee is tasked to monitor and assess the effectiveness of the guidelines. It is also tasked to define preventive and corrective measures for different circumstances and ensures efficient and effective resource utilization, as stated in the Company's policies and Code of Conduct that have been communicated to stakeholders through internal channels and the Company's website. The policy and guidelines are summarized as follows:

Safety, occupational health and work environment policy

- Support and improve safety, occupational health and work environment strictly in line with international standards, relevant laws and regulations.
- Prevent and contain losses; and preserve safe work environment, holding all executives and employees responsible for reporting accidents or incidents under the outlined process.
- Communicate with stakeholders to ensure their understanding and correct compliance.
- Exercise the "Stop Work" authority when encountering work conditions that are unsafe, do not meet standards or may cause impacts on safety, occupational health and work environment. The work must be stopped temporarily and such conditions must be report to relevant supervisors, for corrective actions.
- Monitor and evaluate the operations, to ensure earnest and efficient compliance with the policy.

In 2020, the Company inspected and ensured the safety, occupational health and work environment compliance with the policy and relevant law, under close supervision by the Safety, Occupational Health and Work Environment Committee. The inspection was aimed at reaching zero accident. The committee convened 9 meetings (down from the previous year due to the COVID-19 outbreak). Actions on safety, occupational health and work environment carried out in the year are summarized as follows:

1. Conduct the annual fire drill and evacuation plan together with Nonthaburi Town Municipality's disaster prevention and mitigation department and Nonthavej Hospital at Head Office on 20 August 2020, having Nonthaburi Provincial Labor Protection and Welfare Office, Instruction Fire and Safety Company

Limited and Touch Property Company Limited as the appraisers who also recommended on further improvement.

2. Inspect and assess work environment in terms of lighting, noise, temperature and air quality of the building twice in 2020 in May and November, to guard against health risks due to poor work condition as well as to control and improve work environment.

3. Enhance control on safety and work environment, by stepping up work-related risk assessment prior to the start of work inside buildings; and enforce strict control measures for high-risk jobs, medium-risk jobs and jobs that may affect work environment, and etc.

4. Apply more stringent measures on occupational health with executives, employees, visitors and contractors following the COVID-19 outbreak, including body temperature screening at the entrance, the distribution of self-protection tips against COVID-19, higher cleaning frequency, regular ozone disinfectants, adoption of online meetings, less travel out of buildings, and more online communications.

5. Organize and activity to promote understanding and awareness on safety, occupational health and work environment as well as energy and environmental conservation. The event, Hello-Saratem 2020 Exhibition, featured a talk on occupational health entitled "Thai clean food keeps away NCDs and Food against COVID-19" by health and nutrition export Mr. Sanga Damapong, an adviser to Network of Fatless Belly Thais; and a talk on waste and wastewater management and energy conservation entitled "Save Energy-Save Life-Save All" by Mr. Kirk Mankong from Ratchaburi Provincial Energy Office. The knowledge can be applied for work and daily life. A total of 185 executives and employees of the Company, subsidiaries, sub-contractor joined the exhibition.

6. Establish 5S working committee, as 5S system is a fundamental tool to promote favorable workplace and office tidiness, which allows employees to work at their full potential. The workplace inspection took place every month as scheduled. In 2020, Big Cleaning Day was organized on 25 December 2020 and more than 80 percent of employees passed the test.

7. Organize "Best Suggestion Award 2020" to hear employees' opinions and recommendations on safety. Five employees joined the project and submitted 5 recommendations, which will be considered by the Safety, Occupational Health and Work Environment Committee for further actions.

8. Organize regular safety training for employees and hand out personal protection equipment (face masks against hot steam and toxic substances) to the employees of the Company and subsidiaries as well as sub-contractors. In 2020, 24 newly-recruited employees attended training and received face masks.

Thanks to the commitment and strict compliance with safety, occupational health and work environment policy, the Company witnessed zero lost time injury for 1,671,110 hours worked during 26 January 2018 through 31 December 2020 and won ASEAN Building Fire Safety Awards 2020 from the Engineering Institute of Thailand and the ASEAN Federation of Engineering Organisations. The latter award confirmed RATCH Group Building's international-standard safety features like fire drill and disaster alert system which are installed for the confidence of all and to a role model for other buildings.

4. Information disclosure and transparency

4.1 Types of disclosed information

The Company discloses both financial and non-financial information in periodic and non-periodic reports. The objective of the reports is to provide accurate, complete, sufficient and timely information that support readers' investment decision. In 2020, the Company's disclosed information is summarized as follows:

Summary of reports in 2020	Times
- Periodic reports	26
- Non-periodic reports (including reports on analyst meetings)	55
- Analyst meeting reports **(Analysts were invited to question-and-answer sessions)**	4
- Meeting with domestic investors (Company Visit/Roadshow/Conference Call)	10
- Meeting with foreign investors (Roadshow/Conference Call)	15
- Press releases on financial statements and major activities **(Mass media and analysts were invited)**	4
- Media participation in CSR activities	3
- Press and photo releases	36
- Site visit by shareholders and investors, in Thailand and overseas	-
- Exhibition	-
- Executive interview	1
- Corporate website visit (monthly average) (From 1 January 2020 to 31 December 2020, totaling 200,698 times)	16,724

4.2 Information quality

Information quality refers to accuracy, clarity, completeness, sufficiency, timeliness, transparency and accountability. The Company disclosed both significant financial and non-financial information. It is not one-sided as it presented both positive and negative aspects. The disclosure complies with related criteria and regulations, such as immediate disclosure of significant information, comprehensive distribution to the general public, clarification on rumors and news, actions on irregular stock trading, unnecessary promotional disclosure, and insider trading. The disclosure must not cost the Company excessively or infringe the Company's competitiveness. Other details are presented under the Rights of Shareholders section and Board of Directors' Report on Its Responsibility to the Financial Reports which is published along with the Independent Auditor's Report in the Annual Report and the Audit Committee's opinion on the quality of financial reports as published in Audit Committee's Report.

Disclosing quality information to outsiders not only reflects the Company's transparency but also enhances the confidence and trust of investors and related persons. As a result, the Board of Directors closely supervised and monitored to ensure that responsible persons not only meet minimum legal disclosure requirement but also emphasize investors' equal access to information.

4.3 Disclosure channels

The Company primarily discloses information via SET's disclosure system and uses other channels as deemed appropriate, like the Company's website, press conferences to reveal financial results, analyst meetings, press releases, roadshows in Thailand and overseas, and other activities as detailed in Types of Disclosed Information.

The Board of Directors and the Management give importance to the disclosure of significant information. They closely monitored the disclosure to ensure that it meets specified principles and rules and strictly supervised the implementation of such activity. Authorized and responsible persons are designated while information distribution channels are developed to ensure information disclosure quality as follows:

- Authorized persons for information disclosure: Designated to disclose the Company's information are the Chairman, directors, Chief Executive Officer and chief officers, who are supported by the information prepared by all functions.

- Communication channels: Based on the commitment to providing complete and equitable access to the Company's significant information, the Company communicates via various channels that cover both one-way and two-way communication. The distributed information is prepared in Thai and English and distributed at the same time chiefly via SET's electronic channel. Information is also published on the Company's website (www.ratch.co.th), for better understanding and greater convenience of shareholders, investors, the interested and the general public. The Company also released information via analyst meetings; domestic and international roadshows; press conferences to announce quarterly and annual performances; distribution of news releases and photo releases of the Company's activities; executive interviews; exhibitions; site visits for shareholders, institutional investors and analysts; and media relations activities.

4.4 Investor relations

The Company assigned "*Investor Relations Department*" to be the communication center, responsible for communications, supply of information and activities to build and strengthen relationship between the Company and its shareholders, institutional investors, individual investors, analysts and concerned government agencies. The division is also responsible for preparing annual investor relations activities like analyst meetings where Chief executive officer and high-level executives announced the operating results and answered questions as well as domestic and overseas roadshows.

Investor Relations can be contacted at: by post under the Company's address; phone number +66 2794 9841 or fax +66 2794 9888 Ext. 9841; the Company's website or email to IR@ratch.co.th

4.5 Disclosure of directors and executives remuneration and payment policy

The Board of Directors revealed the director and executive remuneration payment policy by disclosing the remuneration of individual directors and executives and remuneration by type. Overall employees' remuneration is also disclosed. (Details are explained in Management Structure section.)

5. Board of Directors' responsibilities

5.1 Board of Directors Structure

- *Component and qualification*
  (Details appeared in Management Structure section)
- *Chairman's independence*

The Chairman is a non-executive director. Despite the fact that the Chairman is the representative of EGAT, the major shareholder holding a 45 percent stake in the Company, the Board of Directors comprises 6 independent directors, representing 50 percent which is more than one-third of the total of 12 directors. All can rest assured that the Board of Directors can independently perform their duties as the shareholders' representative with appropriate checks and balances. The Chairman independently performs his duty and does not influence or convince other directors during discussions. He also encourages all directors to discuss and express opinion openly, giving them sufficient and appropriate time for thorough, complete and beneficial decisions. Resolutions are thus reasonable and effective.

- *Separation of Chairman and Chief Executive Officer positions*

The Chairman is not the same person as the Chief Executive Officer and has no relations with the Management. The separation of Chairman and Chief Executive Officer positions ensures proper checks and balances and prevents excessive use of power. Their roles and scopes of responsibility are

clearly defined: while the Chairman is the leader and plays a significant role in deciding the Company's policy based on the Board of Directors' resolutions as well as business goals per discussions with the Management. The Chairman leads and conducts the meetings in efficient and effective manner, and encourages directors to be engaged with the meetings and openly express their opinion. The Chairman also supports and regularly provides the Management with recommendations on the operations through the Chief Executive Officer without interfering routines which are the Management's responsibilities. Meanwhile, the Chief Executive Officer is the only executive director and is the Management's top officer whose roles and responsibilities are explained in Management Structure section.

- *Directorship in Other Companies*

None of the Company's directors holds positions in more than three listed companies, which complies with the Company's regulation on the Board of Directors and the SET's recommendation on director's efficiency and time contribution. More information about individual directors is revealed in Profiles of Directors and Executives section.

Mr. Kijja Sripatthangkura, Chief Executive Officer, does not hold directorship in other company aside from the Company's subsidiaries and joint ventures. For other directors and executives, the Board of Directors has approved their directorship and executive position in subsidiaries and joint ventures depending on their capability, responsibility and time slots.

The Board of Directors has formulated the Company's regulation on Subsidiaries, Affiliates and Joint Ventures Supervision, which outlines clear criteria for the appointment and responsibilities of the Company's representatives assigned to hold directorship or hold stakes in the entities in which the Company invests. Such is to relay the Board of Directors' policy and maintain flows of reports on the entities' operations. (Details of the assigned directors and shareholders in subsidiaries and joint ventures appeared in Position of Directors and Executives in the Group section).

- *Director nomination*
  (Details appeared in Management Structure section)
- *Board of Directors' secretary and Company Secretary*
  (Details appeared in Management Structure section)

5.2 Sub-committees

The Board of Directors has appointed 5 sub-committees namely the Audit Committee, the Human Resources and Remuneration Committee, the Corporate Governance and Social Responsibility Committee, the Investment Committee and the Risk Management Committee for necessary assistance in studying details and screening particular issues. The sub-committees also enhance the efficiency of the Board of Directors. (Details appeared in Management Structure section.)

5.3 Roles, Duties and Responsibilities of the Board of Directors

The Board of Directors is aware of its roles, duties and responsibilities, being committed to independence in the decision making process for the best benefits of the Company and its shareholders. All directors give importance and honor the responsibility towards shareholders who own the business and appoint directors so as to supervise the operations for shareholders' maximum benefits. The Fiduciary Duty covers four major responsibilities namely Duty of Care (perform with care), Duty of Loyalty (perform with integrity), Duty of Obedience (compliance with laws, goals, regulations and shareholders' resolutions), and Duty of Disclosure (disclosure of accurate, complete, transparent and timely information).

Board of Directors' roles, duties and responsibilities are summarized as follows:

- Outline, review and approve the Company's strategy, business plan, policy, budget, business direction and operational supervision with participation of the Management on an annual basis.

- Consider and approve the human resource management strategy, the executive development plan, the organization structure, the remuneration structure, and the remuneration plan.

- Oversee the criteria, approach and process for the recruitment, dismissal and termination of directors and high-level executives.

- Ensure the effective evaluation process of high-level executives by benchmarking the performance against mutually agreed goals.

- Demand the communications on the Company's vision, business objectives and corporate performance to directors, executives and employees to ensure acknowledgement and understanding throughout the entire organization.

- Monitor the progress, efficiency and results of the strategic plan implementation, benchmarking against short and long term targets and competitors' operational efficiency; disclose the implementation result and governance under good corporate governance principles in the annual report; and require regular reports from the Management as follows:

  - Monthly reports covering monthly operational performance analysis; summary of short and long term invested capital; cash flow statement; progress of invested projects; peak load and electricity supply of EGAT and Thailand; securities holdings and/or change in holdings of directors, executives as well as their spouses and minor children; and share prices of energy stocks.

  - Quarterly reports on quarterly financial results, risk management and performance of CSR projects.

  - Annual reports covering annual financial statements, annual performance evaluation against targets, sub-committees' meeting minutes and the Board of Directors' annual report.

In 2020, the Board of Directors reviewed and adjusted the strategic plan as the Company is diversifying to new businesses, to cope with changing circumstances in today's business and future trends. The revision was also to solidify the business foundation and sustainability at present and in the future, having the Company's vision, mission and objectives as the goal. The Board of Directors also outlined the performance evaluation criteria, to be applied with the performance in 2021 and 2025 targets to achieve 10,000 MW capacity or Baht 200,000 million in enterprise value.

In case that the operational performance does not meet targets due to controllable factors, the cause of problems will be analyzed and corrected. In case that such problem arises from uncontrollable factors, the plan has to be reviewed and new and/or alternative target shall be set at least every quarter or as deemed appropriate.

To promote mutual understanding between directors and among directors, the Management and employees, in 2020, the Company arranged informal meetings of directors, the Management and employees, which included activities such as those under CSR projects, annual recreational activity for directors and internal knowledge development activity.

- Ensure completeness of significant issues namely the right mix of independent directors to balance the power of the Management and/or major shareholders; review and approve vision, strategy, mission and Code of Conduct, and communicate with employees at all levels for their acknowledgement and implementation; scrutinize and approve annual financial reports to strengthen shareholders' confidence; supervise internal audit procedure, internal control and risk management system, prevention of conflict of interest, related party transactions, protection of corporate reputation, optimal resources exploitation efficiency and effectiveness; and ensure full compliance with related laws, rules, regulations, Articles of Association, Code of Conduct as well as good corporate governance principles.

- Outline and approve the roles and responsibilities of the Company's sub-committees as deemed appropriate and necessary.

- Set the annual evaluation criteria for the Board of Directors and sub-committees, covering the whole Board and sub-committees as well as their individual members, and disclose the results in the annual report.

- Schedule Board of Directors' meetings and voting

- Schedule Board of Directors' meeting at least once a month (pre-set schedules for next year) and hold at least one meeting for non-executive directors per year to offer the directors a chance to review the performance of the Board of Directors, the Management and the Company, and to discuss significant management issues without the Management's presence. The Chief Executive Officer will be informed of the meeting results and subsequently improve operational efficiency.

- Directors with vested interests in specific agenda item shall not be present at the meeting and shall abstain from voting.

- Assign one vote to each director. Directors with vested interests in specific agenda item shall not have the right to vote on the item. In case the number of votes is equal, the chairman of the meeting shall make the casting vote.

5.4 Preventing and managing conflict of interest

(Details in Role of Stakeholders Item 3.10)

5.5 Risk management

(Details in Role of Stakeholders Item 3.5)

5.6 Board of Directors meeting

- *Meeting principle and guidelines:* For the best benefits of the Company and its shareholders, the Company highly emphasizes directors' independence. Directors must perform their duty with loyalty, integrity and care for the Company's benefits, always holding in mind that they represent shareholders in leading, overseeing, advising, assisting and closely supporting the Management.

- *Meeting schedule/agenda and document preparation:* The Board of Directors, around November and December, set the meeting schedules for the next year. For 2021, the meetings are scheduled once a month, at 14.00 hr on the third Tuesday of each month. Sub-committees also fix meeting schedules in advance, accordingly to their assignments. Directors are notified of the schedules, for their planning. More meetings may be arranged if necessary or when other matters come up.

The Chairman and CEO jointly considered the matters to be included in meeting agenda to ensure that all significant matters are included. Directors were informed of the agenda in advance and the meeting notice was distributed at the appropriate time according to the Company's regulation. Directors were allowed to propose other matters by submitting the proposal 10 days prior to the meeting date. In case of urgent matters which may directly or indirectly affect the Company, directors were free to propose such matters for consideration or acknowledgement during the meeting. (Method to include special issues in the meeting agenda and how directors can propose their agenda are stated in the Company's regulation on the Board of Directors which is published on the Company's website. Board members were individually informed about the process via meeting notices.)

Meeting agenda was grouped and the meeting was run in the pre-set sequence namely matters to be informed by the chairman, approval of minutes of the previous meeting, matters related to issues considered at the previous meeting, matters proposed for consideration, matters proposed for acknowledgement, and others (if any). Regular matters to be proposed to the Board of Directors at specific periods such as monthly, quarterly and annual agenda are set in advance. Monthly performance analysis and progress of investment projects are to be reported to the Board of Directors on a monthly basis.

The Company sends meeting notice, agenda and related documents to each director approximately one week prior to the meeting date, providing them sufficient time to study the information. Directors

may ask for more information from Chief Executive Officer and the Company Secretary Office. Members of the sub-committees can ask for more information related to their tasks from Chief Executive Officer and through the secretary of each sub-committee.

- Roles of Chairman, directors, executives and meeting atmosphere

- *Chairman:* Leads the meeting; ensures a 100 percent quorum (which is more than two thirds of directors present at the meeting); sufficiently, adequately and equally allocates time for directors to discuss and express opinions; encourages directors to participate in the discussion and freely express opinions; and reaches a conclusion.

- *Directors:* Share opinions based on the information provided by the Management and other necessary and relevant information; discuss constructively, taking into account the comprehensive benefits and impact as well as risks for the Company and all stakeholders in order to obtain appropriate meeting resolutions; and fully contribute knowledge and experience to their role as directors of a listed company.

- *Executives:* Provide accurate, sufficient, complete, timely, relevant and necessary information to support the Board of Directors' decision; submit the information in advance in order to allow the Board of Directors sufficient time to study the information; propose options; clarify or provide more information when asked to be present at the meetings; and orders functions' chiefs to attend the meetings and summons other executives and/or relevant advisers to the meetings for clarification on specific issues.

- *Atmosphere of meetings and expression of opinions:* The Company provided appropriate and sufficient meeting equipment and facilities. The meeting atmosphere was stimulative, as all directors were encouraged to discuss and express opinions in a constructive and creative manner having in mind mutual benefits and impacts on all stakeholders. Each meeting appropriately lasted 2 hours to 2 and a half hour on average.

- *Meeting process:* For the consideration and discussion on general issues, the Management presented the background, rationale, necessity, clarifications and related information. The Chairman then allowed thorough discussion on the matter, with each director being given opportunity to express opinions or ask for more information from the Management. Then, they were asked to vote on the agenda.

- *Directors with vested interests* on specific issues cannot vote on the matters (based on the reports of the interests of each director and executive and related persons which were submitted to the Company Secretary. This has been strictly honored at all Board of Directors meetings.

- *Consideration of related party transaction and items that may involve conflict of interest* is done by taking benefits of the Company and shareholders into consideration. Necessity and reasons for each matter is compared with transactions of similar nature. Correct and complete process and the disclosure of accurate and complete information as required by laws are highly weighted.

- *Company Secretary* provides preliminary recommendation to the Management and the Board of Directors to ensure that the Company and the Board of Directors perform their duties in line with laws and related regulations, such as the disclosure of asset acquisition or disposal, related party transactions and compliance with good corporate governance principles.

- Preparation and storage of meeting minutes

- *Company Secretary Office* is assigned by the Board of Directors to record, prepare and keep the minutes of the Board of Directors' meeting and shareholders' meetings.

- Meeting minutes are in writing and cover all important details, including date and time, the start and the end, meeting venue, list of attending directors and executives, list of absent directors, summary of the matters presented in the meeting, summary of the

matters being discussed, opinions and observation of the directors, meeting resolutions, and the signatures of the minutes taker and the meeting chairman. Meeting minutes are completed within approximately three days after meeting dates and sent to all directors for their consideration. Without request for revision within 7 days, the minutes are considered approved and then delivered to the meeting chairman for his signature. A copy of the signed meeting minutes is then delivered to each director for reference. The minutes will be added as an agenda for acknowledgement in the next Board of Directors meeting.

The Company deploys both paper-based and E-document systems to keep important documents such as those concerning Board of Directors' meetings and shareholder meetings, to assist the Company's operations and facilitate the usage. Storage sites are reported as required by the SEC. Proper security system is in place for the documents: individuals with access to important documents are named accordingly to the Company's confidential information management policy; passwords are issued; the number of meeting attendants is limited; and the information is automatically recorded in the backup systems at Head Office and branches in case of emergencies.

- *Dissemination of meeting resolutions:* Chief Executive Officer as the secretary to the Board of Directors informs function chiefs in writing about the Board of Directors' resolutions for acknowledgement and/or implementation accordingly. The implementation will be monitored and reported to the Board of Directors.

- *Board of Directors and sub-committee's meetings* (Details are in Management Structure section.)

5.7 Performance assessment

- *Self-assessment of Board of Directors and sub-committees*

In 2020, the Board of Directors reviewed and approved the self assessment form for the Board of Directors and sub-committees, as a group and individual, as endorsed by the Human Resources and Remuneration Committee. The Board of Directors viewed that the form was up to date and aligned with its roles and the Company's business context. The Board of Directors conducted self-assessment with the objective to use the result, observation and recommendations for further improvement of the Board and sub-committees in line with good corporate governance principles and the Company's regulation on the Board of Directors. The regulation requires the Board of Directors and sub-committees to conduct self-assessment at least once a year, in December, on a group and individual basis, so that members review their performance and seek improvement. The assessment criteria, process and results must be included in the Annual Report. The results are also used to enhance specific knowledge and skills of individual directors.

The assessment is conducted as a whole covering the dimensions involving the Board of Directors and sub-committees as well as on an individual basis. In both aspects, the assessment covers many important areas according to the good corporate governance principles for listed companies, including 1) the Board of Directors' readiness (in terms of structure, component, independence, responsibilities and director development) 2) formulation of strategy, business plan and budget 3) separation of roles, responsibilities and assignments 4) supervision and monitoring 5) human resource management 6) risk management, internal control and conflict of interest 7) communications with stakeholders 8) Board of Directors meeting (covering the entire process from (1) pre-meeting: meeting notice is sent in advance to provide sufficient time for consideration and requests for additional information from the Management (2) during meeting: presentation of information and key issues, discussion and question answering, absence and vote abstention in the agenda in which they have vested interests, and voting and (3) post-meeting: ensuring accurate, complete, sufficient meeting minutes, which should be completed in an appropriate period, endorsed and stand ready for relevant parties' cross-examination.)

The sub-committees' self-assessment, as a "whole" or "individual", is based on the following factors: 1) sub-committee's readiness (covering structure, component, independence, roles and responsibilities, and members' development) 2) sub-committees' meetings (meeting dates scheduled a year in advance, completion of assignments from the Board of Directors, and meeting process from (1) pre-meeting: provision of document ahead of meetings for sufficient consideration period and requests for additional information from the Management and (2) during meeting: presentation of data and key issues, discussion and question answering, and voting to (3) post-meeting: ensuring accurate, complete, sufficient meeting minutes, which should be completed in an appropriate period, endorsed and stand ready for relevant parties' cross-examination and 3) roles, duties and responsibilities of sub-committees.

Criteria of Board of Directors and sub-committee's self-assessment, on "whole" and "individual" basis are as follows:

1. Assessment on opinion and action in 5 levels

Opinion/action	Score
Strongly disagree/No action	0
Disagree/Slight action on that issue	1
Agree/Enough action on that issue	2
Strongly agree/positive action on that issue	3
Extremely agree/excellent action on that issue	4

2. Criteria of Board of Directors' self-assessment:

2.1 Criteria of the self-assessment of the Board of Directors: The "whole" assessment contains 25 factors with 100 points. Assessment is put into 5 levels, each containing 10 points. The "individual" assessment criteria contain 15 factors with 60 points. Assessment is put into 5 levels, each assigned 6 points.

Level	Whole assessment	Individual assessment
	Average score	Average score
Excellent	90 points or higher	54 points or higher
Very good	80-89 points	48-53 points
Good	70-79 points	42-47 points
Fair	60-69 points	36-41 points
Improvement needed	Below 60 points	Below 36 points

2.2 Criteria of self-assessment of sub-committees: The "whole" assessment contains 20 factors with 80 points. Assessment is put in 5 levels, each given 8 points. On "individual" basis, there are 10 factors with 40 points and 5 assessment levels, each given 4 points.

Level	Whole assessment	Individual assessment
	Average score	Average score
Excellent	72 points or higher	36 points or higher
Very good	64-89 points	32-35 points
Good	56-63 points	28-31 points
Fair	48-55 points	24-27 points
Improvement needed	Below 48 points	Below 24 points

The following are the results of the Board of Directors' and sub-committees' self-assessment.

Board of Directors	Whole assessment				Individual assessment			
	Score (100 points)		Level		Score (60 points)		Level	
	2020	2019	2020	2019	2020	2019	2020	2019
	97.67	97.09	Excellent	Excellent	58.67	58.73	Excellent	Excellent

Sub-committees	Score (80 points)		Level		Score (40 points)		Level	
1. Audit Committee	76.70	77.33	Excellent	Excellent	37.70	39.00	Excellent	Excellent
2. Human Resources and Remuneration Committee	79.00	79.00	Excellent	Excellent	39.67	40.00	Excellent	Excellent
3. Corporate Governance and Social Responsibility Committee	78.30	79.00	Excellent	Excellent	39.00	39.50	Excellent	Excellent
4. Investment Committee	79.30	78.67	Excellent	Excellent	40.00	39.67	Excellent	Excellent
5. Risk Management Committee	78.50	79.67	Excellent	Excellent	39.70	40.00	Excellent	Excellent

The results will be the basis for the Company's further improvement in the Board of Directors and sub-committees' efficiency as well as individual director development, for the alignment with the Corporate Governance Policy.

- *High-level executives' performance assessment*

With the screening from the Human Resources and Remuneration Committee, the Board of Directors conducts an annual assessment of high level executives' performance, based on the KPI that were mutually agreed upon early of each year.

In 2020, the performance of Chief Executive Officer, the top executive, was assessed twice, in June and December, by individual directors according to the form and pre-set criteria. The criteria covered 2 fronts: 1) performance against corporate targets in quantitative and qualitative terms (70 percent) concerning Capacity Target Including Equivalent Capacity, New Business or Start Up Project, Net Profit Before FX and Special Items, Financial Ratio management, Sustainability Awards Score, High Performance Organization and Engagement in raising enterprise value or achieving corporate targets 2) competency (30 percent) concerning leadership; formulation and compliance to strategy; financial planning and management; relationship building and networking; understanding in business; and personal character traits.

The assessment results were used in improving Chief Executive Officer's performance, to be in line with the director and executive effectiveness development principles under the Company's business context and corporate governance principles. The results were also factored in the determining of Chief Executive Officer's remuneration.

- *Director and high level executive remuneration* (Details in Management Structure section.)

5.8 New director orientation and the development of directors and executives

Newly-appointed directors will be given orientation and/or a briefing by Chief Executive Officer on the nature of business, the roles and duties of the Board of Directors and sub-committees, investment structure, corporate structure, financial performance, the Company's projects and assets, the Company's corporate governance practices, regulations, policies, Code of Conduct, as well as directors' remunerations and privileges. They will be handed annual reports, sustainability reports, the manual for listed companies' directors, compliance database of listed companies' regulators, and documents regarding the above subjects. The orientation is held according to the Board of Director's policy to prepare directors for their role.

Director development: To enhance understanding in their roles, duties and Responsibilities as well as necessary skills for efficient performance as a listed company's directors, the Company financially supports directors' participation in training and seminars arranged by related organizations, such as Thai Institute of Directors Association (IOD), Stock Exchange of Thailand and Thailand Energy Academy. Financial supports cover seminars and field trips in Thailand and overseas, to broaden their knowledge and experiences which will benefit the Company's business development.

Directors' attendance in director-related training courses in 2020 and other years appeared in individual directors' profiles.

Additional training for directors in 2020 besides those disclosed in their profiles are summarized as follows:

1. Four directors appointed to the Board of Directors in 2020 (Mr. Kriengkrai Rukkulchon, Mr. Nutthavutthi Chamchang, Mr. Suthon Boonprasong and Miss Niramarn Laisathit) attended the Company's orientation. They were briefed on the Group's nature of business, operational information, strategies, and business direction. The orientation took place at the Board of Directors meeting when a new director is appointed to the Board. The new directors were handed documents and manuals to support their role.

2. All the 12 incumbent directors joined the 2020 annual seminar and field trip in Phuket Province during 20-23 August 2020, to reinforce their relationships and support the government's domestic tourism promotion policy after the COVID-19 outbreak. During the trip, they witnessed a CSR project of a local community.

3. The six members of the Audit Committee and the Risk Management Committee (all serving the sub-committees at the time) attended an in-house lecture on "Cybersecurity" on 14 September 2020, to improve their knowledge and understanding in the issue; seek guidance on the supervision, monitoring, controlling and managing risks; and gain insights on the improvement of information technology security to formulate a systematic and timely prevention and response plan. With the knowledge and insights, they intended to support the Company's business continuity for sustainable growth. The 6 directors were Mr. Chartchai Rojanaratanangkule, Mr. Somboon Nhookeaw, Mr. Boonsong Kerdklang, Mr. Samack Chouvaparnante, Mr. Boonyanit Wongrukmit and Miss Nantika Thangsuphanich.

4. All directors received the summary and video tapes of the online seminar on "Strengthening Good Corporate Governance by Audit Committee and Independent Director: Experiences form Fraud Cases", organized by the SEC on 29 September 2020, aside from their presence at the seminar. The SEC aimed to inform listed companies' directors of fraud cases globally, to raise their awareness in the importance of anti-corruption measures and available tools that can effectively support their duties. Financial reports with sustainable quality will facilitate investors in making right investment decisions and bolster directors' performance in improving governance and preventing frauds.

5. The Board of Directors was informed about the announcements and circulars on the newly-issued and revised rules and regulations and guidelines of the SEC and the SEC on a regular basis, through communications channels like Board of Directors meetings, summary reports, video clips and others. The Board of Directors used the information as the guideline to adjust the Company's practices accordingly to the regulators' rules and regulations and find ways for sustainable development.

The Company also encouraged the attendance of relevant executives and employees in training courses on company secretary, good governance, internal audit, anti-fraud and corruption, risk management and other subjects which were organized by the Company and external organizations, offline and online. The attendance was expected to foster their knowledge and understanding in their respective roles and deliver more effective support to the undertakings by the Board of Directors, sub-committees and the Management.

5.9 Succession plan for high-level executives

The succession plan for the Chief Executive Officer follows the policy of EGAT, the Company's major shareholder. EGAT picks its executive who has appropriate qualifications, knowledge and capability beneficial to the Company and nominates the person for the Human Resources and Remuneration Committee's nomination to the Board of Directors. The sub-committee is assigned by the Board of Directors to outline and prepare succession plans for high level executives.

Regarding the succession plans for other executive positions, the Company has prepared and developed career path of individual position by employing competency model which has been developed in systematic manner, covering analysis of competency and expected qualifications for different positions. The results will be use in human resource development and nomination of qualified persons to be promoted, demoted, dismissed and transferred and to prepare the Company's personnel for current and future business expansion as outlined in the Company's vision and mission.

In 2020, the Human Resources and Remuneration Committee held a joint discussion with the Management on the appointment of competent and qualified replacements for vacant positions. The decision took into account factors like experience, performance, knowledge and understanding in business, leadership, personality, enthusiasm, relationship and teamwork spirit, in line with the process and plan of successor and talents selection to match the Company executives' retirement annually.

5.10 Directors and Officers Liability Insurance

The Board of Directors requires the Management propose the Directors and Officers Liability Insurance (D&O) for its consideration on an annual basis, to protect directors and Chief Executive Officer from lawsuits filed as a result of their earnest actions for the Company. The proposal must contain insurance conditions and premiums. Such lawsuits are possible as the Company's business portfolio has been expanded, resulting in massive business transactions that directors and Chief Executive Officer must dutifully endorse, give opinions, guarantee or involve with. The insurance is necessary as directors and Chief Executive Officer may receive lawsuits from outsiders like shareholders or other stakeholders that hold them liable to claims for their actions. However, the directors and Chief Executive Office will not be covered by the insurance for malpractices and they must be responsible for all expenses incurring from the legal process.

6. Code of Conduct

In doing business, the Company upholds governance, ethics, morals, integrity, transparency and importantly commitment to fight all kinds of corruption to safeguard the country, stakeholders and the organization against negative impacts and lead the Company towards success and fulfillment of its vision, mission, policies and sustainable development despite rapid changes around the world. Joining the Thailand's Private Sector Collective Action Coalition against Corruption (CAC) since 22 April 2016 is a mechanism to fight corruption. The Company's 3-year membership was certified for the second round on 4 February 2019.

In 2020, the Company reviewed and improved the Company's compliance with rules and regulations, to cope with changing situations and ensure the comprehensiveness for the entire business. Such process follows CAC's guidelines and the Company's Code of Conduct, which serve as the basis for the Board of Directors' decisions on corporate policies and desirable behaviors of directors, executives, employees and stakeholders. The Code of Conduct must be honored by all parties as part of the Company's Corporate Governance Policy, to establish trust among investors and stakeholders and uplift the Group's governance to the international level. The Company establishes a systematic process to build awareness and follow up on personnel's compliance on a regular basis. Newly-recruited employees will be given orientation and must sign to acknowledge the Code of Conduct. The Code of Conduct has been enforced and all relevant parties have been informed via various channels. The Board of Directors also reviews the Code of Conduct on an annual basis, taking into account changing business circumstances and context. In 2020, **there was no report on incident or acts that breached the Code of Conduct**. The interested can study the Code of Conduct on the Company's website.

7. Communications and compliance monitoring on governance policy and Code of Conduct

While newly-appointed directors are given orientation upon their appointment as stated in Item 5.8, the same process is given to newly-recruited employees who will be briefed by the Human Resources Department's officers about business overview, investment structure, organization structure, performance, governance principles, fraud and corruption policy, social and environmental responsibility, regulations, policies, the Code of Conduct, remuneration, benefits and welfare. They will receive a copy of Code of Conduct and other manuals, which will be their references while performing their tasks. The employees must sign to acknowledge the Code of Conduct. Meanwhile, the Corporate Governance Policy, the Anti-Fraud and

Corruption Policy and other relevant policies will be communicated from the Board of Directors to executives and employees at all levels. The Company is open for reports and proposals from employees and ready to act accordingly to ensure compliance with the Corporate Governance Policy and distributes updates on governance practices through the Intranet and E-mail, which is accessible by all employees. Communications are also carried out through official and unofficial meetings, to raise awareness and bind all with the Code of Conduct. All actions are reported to the Corporate Governance and Social Responsibility Committee and subsequently the Board of Directors.

The Company assigns the "Internal Audit Division" to monitor the compliance on an annual basis and report the result to the Audit Committee and subsequently the Board of Directors. Then, on a quarterly basis, the Board of Directors will come up with recommendations and devise preventive measures.

The Company also prepares Compliance Database for the Board of Directors and for the internal data system, to follow the SET's guidelines on listed companies. The database, updated whenever there is a change, gathers data on the disclosure of information, related party transactions, the acquisition or disposal of assets and etc. All employees have access to the database and can retrieve the data for their work.

The Board of Directors prepares "Directors and Executives' Vested Interest Form", to be filled up by all directors and executives and sent to the Company Secretary for safekeeping. The copies are sent to the Board of Directors and the chairman of the Audit Committee, as required by the Securities and Exchange Act. The forms assist in the consideration which director cannot exercise the voting right at the Board of Directors meetings or shareholders' meetings.

The Company has established the Corporate Governance Working Group, having the chiefs of all function as its members. The working group is tasked to communicate, monitor, review and propose guidelines in alignment with the Corporate Governance Policy. Its responsibilities also involve the reporting on compliance with the guidelines and implementation of anti-corruption work plans to the Board of Directors, the Corporate Governance and Social Responsibility Committee, the Audit Committee, the Management and relevant organizations.

In 2020, the Company followed the prescribed governance practices which has been updated to better meet international standards like CG Code 2017, CGR, ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard), and other best practices. The compliance also reflects the Company's concerns for stakeholders and concerns about the impacts on economic, social and environmental dimensions as well as governance. In the year, the Company witnessed **zero violation** of laws, rules, the Corporate Governance Policy, the Code of Conduct and the Anti-Fraud and Corruption Policy. However, in some areas, other practices, different from the aforementioned, were applied. The Company is of the opinion that its current governance guidelines are appropriate for the Company's business contexts and will not cause impacts on the good corporate governance principles. The concerns are summarized as follows:

Chairman of the Board should be an independent director: Though the Company's chairman is not an independent director, he is not the same person Chief Executive Officer and has no relationship whatsoever with the Management, though representing the major shareholder. At the Board of Directors meetings, the Chairman encourages and gives all directors an opportunity to express their opinions and discuss openly before voting on a given agenda, without manipulating or guiding others during the discussion. Moreover,

the Board of Directors consists of 6 independent directors from a total of 12 (50 per cent), or half, which assures proper checks and balances. The process and board structure indicates the Chairman's independence.

Half of the directors are independent directors, in line with the Capital Market Supervisory Board's requirement that at least one third of directors or at least 3 directors must be independent directors.

At least 1 female independent director: Though none of the Company's independent directors is female, the Company has promoted equality and equitability without gender discrimination. At present, the Company has 2 female directors.

Cumulative voting for director election: The Company specifies that directors are elected by the majority votes of shareholders present at the meeting and casting their votes. In each vote, each shareholder is entitled to one vote. The process does not equate to cumulative voting.

The Company's commitment to strictly follow good governance practices has been recognized, as reflected in the following **governance awards** bestowed in 2020.

- Assessment under ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard) scheme for 6 consecutive years. In 2019, the Company was presented "ASEAN Asset Class PLCs", the award that was given to listed companies that scored 97.50 points or higher. The Company was among 135 award recipients which include 42 from Thailand.

- Assessment of Corporate Governance Report of Thai Listed Companies in 2020: Excellent Level for 13 consecutive years

- Annual General Shareholders' Meeting Assessment in 2020 by Thai Investor Association, receiving full points (100 points)

- Best Innovative Company Awards from SET Award 2020

- Sustainability Disclosure Award 2020 and selection to Thailand Sustainability Investment ("THSI") for sixth year in a row

- ASEAN Building Fire Safety Awards 2020 for RATCH GROUP Building, from the Engineering Institute of Thailand under the royal patronage and ASEAN Federation of Engineering Organisations





Social and Environmental Responsibility

The Company's path towards sustainability has been paved with challenges in the past two decades, mainly due to technological changes and innovation related to renewable energy. Much of the Company's attention has been placed on growing the main business through capability building and the enhancement of internal efficiency in terms of human resources and advanced environmental-friendly production technology in light of climate change. Good technology will prevent or reduce impacts on community as guided by the Company's governance policy. The Company also has to deal with various external factors that may disrupt the organization's sustainability. Amid these challenges, the Company continues with social and environmental responsible projects, at local and national levels, as part of its commitment towards fair and sustainable operations and strict compliance with relevant laws and regulations. The projects are undertaken under 3 main goals as follows;



- **Environmental:** Emphasizing natural resources and environmental conservation and rehabilitation, to help reduce carbon dioxide emissions and mitigate climate impact. Projects in highlight are "Love the Forest and the Community Project", "Community Energy Project" and a project in support of Plant Genetic Conservation Project under the Royal initiative of HRH Princess Maha Chakri Sirindhorn (RSPG).



- **Social:** Aiming to improve the quality of life of stakeholders and society at large. Key projects include@CareLine Happy Community Network Project, Education for Career Empowerment Project in Lao PDR, and employee volunteer activities.



- **Corporate image and reputation:** Strengthening relationship and building trust and confidence among stakeholders in community level and society. Social and environmental-responsible projects will reflect the Company's good citizenship, which will sustainably support the operations.

The Company's social and environmental-responsible projects are in alignment with the United Nations Sustainable Development Goals (SDGs), that public and private organizations have rushed to achieve. In 2020, the Company carried out the following social and environmental-responsible projects to achieve the 3 main goals:

3 Environmental Projects

1. Love the Forest and the Community Project

Love the Forest and the Community Project or Kla Yim Project was initiated in cooperation with the Royal Forest Department in 2008. Conceptualized on His Majesty King Bhumibol Adulyadej The Great's speech on "Grow trees in people's heart", the project aims to guard forests against encroachment and use them as carbon sink which will help ease global warming and climate impacts. It supports the establishment of community forests in all parts of Thailand, the efficiency of forest management and utilization of forest products, as well as supportive and sustainable coexistence of community and forests.

Activities under the project are: 1) National Community Forest Competition 2) Kha Yim Youth Camp and 3) Community Forest Leaders' Network Seminar. Details of the 3 activities are summarized below:







1.1 Community Forest Competition

Best-managed community forests will be awarded in praise of tree guardians. The awarded forests will be role models for other forests and raise social awareness on the values of forests. The competition has been organized every year since 2008. The total of 1,828 community forests have been awarded, covering the combined forest areas of 1,605,871.44 rai and 3,211,742.88 ton CO_2e/yin carbon sink capacity. In 2020, the project received 1,525 entries, a 14.49 percent increase from 1,332 forests in the previous year or a 41 percent increase from the 12-year annual average of 1,082 forests. The project awarded supports to 145 community forests which covered 93,023.45 rai in total forest areas.





1.2 Kla Yim Youth Camp

The project aims to promote knowledge, understanding, awareness and the integrated thought process on natural resource conservation and the environment among young generations. These youth leaders are appointed to take part in conserving natural resources and the environment, to ensure sustainability.

Kla Yim Youth Camp has been organized continuously since 2008. A number of 1,978 youths have participated in 26 classes. In 2020, in cooperation with the Royal Forest Department, a camp was organized under the theme “Plant, water and environment-caring youth”. It taught the 31 participants the connection of forests, water, soil and global warming, through seeding cultivation.

1.3 Community Forest Leaders' Network Seminar

The seminar highlights the exchange of experiences and approaches in managing, improving and rehabilitating community forests, as well as the establishment of a strong network of leaders who will apply His Majesty King Bhumibol Adulyadej The Great’s ideas on natural resource conservation and sufficiency economy philosophy in community forest management for efficient and sustainable management. The seminar has been organized every year since 2008. To date, there are 24 leader classes, participated by 1,857 forest leaders. In 2020, 2 seminars were organized in cooperation with the Royal Forest Department, designed to promote knowledge on smog and damage caused by forest fires which is a situation at present. The 2 seminars had 81 attendees.





2. Community Energy Project

The project aims to equip community with knowledge and understanding in community energy management so that they become aware of value of energy, learn about locally-sourced materials that can be used to produce energy and know how to apply suitable technology for household use. The knowledge helps them reduce energy cost and generate extra income. Once the community is turned to a learning center, it supports knowledge sharing and the extension of success to other communities which will lead to efficient and sustainable use of local resources and energy consumption.

The 3-year project (2020-2022) covers Yang Hak Sub-district, Pak Thor District, Ratchaburi Province, having Provincial Energy Office of Ratchaburi and local administrative body as partners. It is carried out in 3 phases.

- Year 1: Promote community knowledge and understanding in energy management.
- Year 2: Educate communities on the invention of their own energy technology and ensure they can share knowledge with others.
- Year 3: Strengthen their competency until they can be turned to learning centers.

In 2020, the first year in the third phase, the Company and Provincial Energy Office of Ratchaburi jointly selected 40 community energy volunteers to collect data on household energy consumption in 4 categories - cooking, electricity usage, transportation and agriculture. A trip was arranged for 54 volunteers and community leaders to study how to apply renewable energy. A community energy plan was prepared for Yang Hak Sub-district and pilot community and household energy projects were implemented.








3. Project in support of Plant Genetic Conservation Project under the Royal initiative of HRH Princess Maha Chakri Sirindhorn (RSPG)

RATCH was granted the royal endorsement to support the Plant Genetic Conservation Project under the Royal initiative of HRH Princess Maha Chakri Sirindhorn (RSPG), which extended His Majesty King Bhomibol Adulyadej The Great's idea on resource conservation and consumption. The project aims to educate the public about the Plant Genetic Conservation Project's mission, which is to publicize the importance and benefits of plant genetics resources and raise awareness in sustainable use of plant genetics.

In 2020, the Company and RSPG hosted an activity to support resource conservation. Four workshop-based courses were organized: school botanical garden operations (5 elements), local resources operations (6 local resources bases), local resources operations (assistant speakers), and school botanical garden operations (assistant speakers). A number of 333 persons attended the 4 workshops.





3 Social Projects





1. Education for Career Empowerment Project in Lao PDR

The project responded to the Company's mission on community and social responsibility, in achieving SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The project in particular aims to achieve Target 4.3: ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university; and Target 4.4: substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

The Education for Career Empowerment Project was initiated in 2011 and is now in its 2nd phase (2018-2023) following the first phase which was carried out during 2011-2016. Organized in cooperation with Lao PDR's Ministry of Education and Sports, the project reflects the Company's commitment to long-term investment in the country, which is a major investment base. The CSR project responds to Lao PDR's strategy in improving vocational learning, to produce quality local workforce and quality local entrepreneurs who will sustainably drive the Lao economy forward. In 2020, key activities are as follows:

- Construct renewable energy lab (solar power) at Khammouane Technical-vocational College.
- Formulation of 3-module solar panel installation course for vocational students. The course demands 70 hours of training.
- Organize 4 training for teachers and students, for 74 attendees: 12 teachers and 62 students. The training is on renewable energy installation (solar power), welding, PLC electricians, and general maintenance.

2. @CareLine Happy Community Network Project

The project responded to the Company's mission on community and social responsibility, in achieving SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Promoting the Company's image as a "good business citizen and neighbor", the project is implemented in Nonthaburi Province where the Company's Head Office is located. Under this project are 2 main activities.

2.1 Brain Based Learning (BBL)

The activity emphasizes Brain Based Learning (BBL) through 5 main elements - playground, classroom, learning process, textbooks and worksheets, as well as learning materials. It targets the kindergarten to elementary-level teachers of schools under the supervision of Nonthaburi Provincial Education Office1. These teachers are expected to attend training and apply new knowledge with their students.





In 2020, a training class was organized for 32 teachers from 30 schools under the supervision of Nonthaburi Provincial Education Office1.

2.2 Kids Love the World Project

On a perception that children will play a significant role in extending natural resource and environmental conservation efforts, the Company came up with the "Kids Love the World" project, an out-of-class activity to teach children about the relationship between human and nature that include natural resources, the environment and ecosystems. Special teaching materials are used to simplify the subject, which highlights the importance of ecosystems and the conditions of living beings in light of climate change.

The concept of Kids Love the World Project was initiated in 2020 and the course and learning lessons were prepared, supported by 5 series of 2D animation designed specifically for the target - elementary-level students at schools supervised by Nonthaburi Provincial Education Office 1. The activity is expected to kick off in 2021.

3. Employee Volunteer Activities

The Company aims to establish the volunteering corporate culture, expecting employees to be both smart and good by instilling the idea that employees must put social interests before their own. Employees are required to volunteer at least 5 days per year assisting the Company's volunteering programs. While doing good deeds, employees will build up good relationship with community members and society through volunteering.

In 2020, 11 volunteer activities were arranged under 12 employee volunteering programs. The program were participated by 184 employees, or 87.61 percent of the total 210 employee, or 738 persons/day. The number of employees volunteering 5 days or more accounted for 41.90 percent from the 184 volunteering employees.







Corporate Image Survey

The Company has given importance to social responsibility, extending its assistance to both operational sites' neighboring communities and other communities across the country. Suan Dusit Poll, Suan Dusit University, was contracted in 2020 to survey public attitudes and opinions towards RATCH Group Public Company Limited's social activities. The poll is also expected to answer if the projects have benefits for society and if they satisfy community or social needs. Randomly selected, respondents, totaling 300, were the general public and individuals involved with the Company's social activities. The results are as follows:

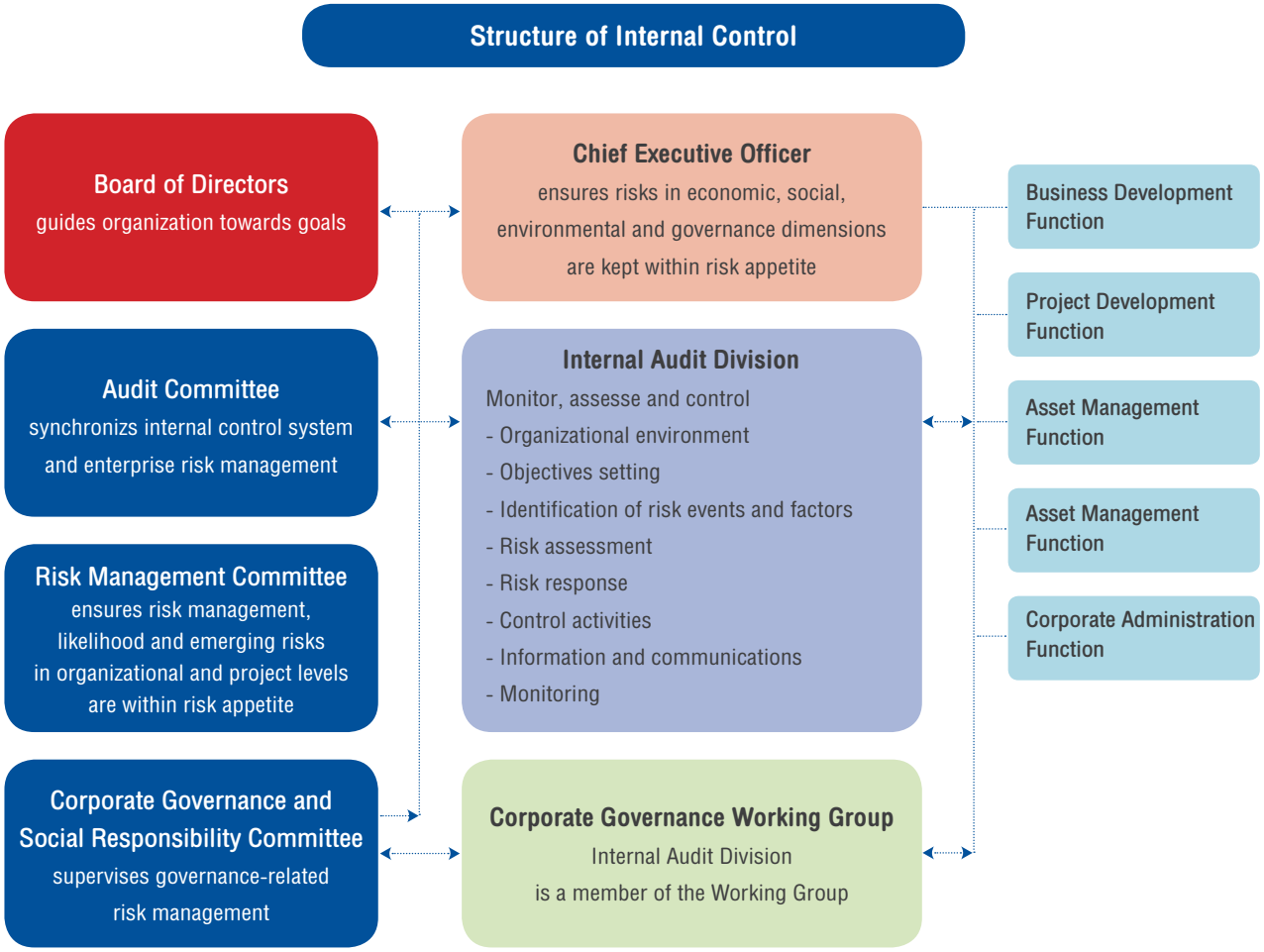
- **Attitude on corporate image**, after their participation in RATCH Group Public Company Limited's social activities: 99.10 percent of respondents expressed a more positive thought about the Company thanks to - educational opportunities extended to children, 26.94 percent; care for forests, 24.42 percent; community strengthening efforts, 23.99 percent; and efforts to promote knowledge on energy, 22.23 percent.

- **Satisfaction on RATCH Group Public Company Limited's social activities** in 5 aspects: The most satisfying aspect concerned the projects' merits, 92.60 percent. It is followed by satisfaction on facilities, 92.00 percent; activity/project quality, 92.00 percent; contents, 91.60 percent; and event process, 91.40 percent. Overall satisfaction on RATCH Group Public Company Limited's social activities was 92.20 percent.

- **Recommended social activities:** Respondents recommended the Company organize forest conservation programs, followed by CSR projects. They also recommended ongoing projects. The recommendations will be included in RATCH's planning for social and environmental-responsible programs, to better satisfy stakeholders' expectations and deliver greater benefits to society.

Internal Control and Risk Management

The Company believes that operating business with ethics, morals and integrity supported by good management and corporate governance as well as efficient and effective internal control is the keys to achieve success, promote sustainable business and maintain leadership.



The Board of Directors appointed and tasked the Audit Committee to define the targets in supervising, monitoring and assessing the Company's internal control, to be implemented by the Internal Audit Division. The targets are set in accordance with the Committee of Sponsoring Organizations of the Treadway Commission - Enterprise Risk Management (COSO-ERM) framework on internal control and risk management. The targets are also aligned with the guidelines of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET), which concern the Company's operations and management. The framework and the guidelines contain 8 elements. Actions implemented in 2020 and their results are summarized below:

1. Organizational Environment

- **Management Structure**
  - Board of Directors is the Company's top governing body.
  - Board of Directors performs duties with expertise and independence from the Management, responsible for the formulation of the Company's policies and rules for the Management's implementation and supervision on the implementation.
  - Supervision is in line with the line of command, with job descriptions and responsibilities clearly defined accordingly to the Company's vision, mission and business objectives.
  - The Code of Conduct, rules, orders, penalties and reporting procedure on suspicious corruption acts were prepared.
  - The Management appropriately reviewed and updated operational requirements on a regular basis for operational efficiency.

- **Compliance with Good Governance Policy**
  - The Company upholds ethical business philosophy, translating it to written regulations and guidelines as shown in the Code of Conduct.
  - The Corporate Governance and Social Responsibility Committee was appointed to endorse and supervise the policy, strategy, objective, guidelines and action plans relating to governance and social responsibility. The Committee submits work plans and monitoring reports to the Board of Directors as well as ensures compliance with the anti-corruption policy and procedures.
  - The Company receive CG Score assessment at 5-star level from Corporate Governance Report of Thai Listed Company (CGR) as assessed by Thai Institute of Directors Association.
  - The Company's 2nd-round membership of Thailand's Private Sector Action Coalition Against Corruption (CAC) was certified on 4 February 2019.

- **Risk Management**
  - The Company puts in place a systematic risk management process that covers economic, governance, environmental and social dimensions aside from the management of information technology risks.
  - The Risk Management Committee was appointed with a written order. It reports directly to the Board of Directors on a quarterly basis. Its duties are to identify the roles and duties of responsible persons and the management approach of risks in all dimensions.
  - In formulating the process to assess probability, impacts and approaches to prevent economic, social and environmental as well as corruption risks, the Company takes into account stakeholders' recommendations submitted to the Company's communications channels - the Company's website, Public Relations Department, the Internal Audit Division and Investor Relations Department; and shareholders' opinions and recommendations proposed at shareholders' meetings.
  - Risks are managed systematically and continually, to ensure proper internal control and risk management system that can effectively prevent or mitigate possible damage and keep risks within risk appetite, to allow the Company to achieve objectives in a stable and sustainable way.

- **Human Resources**
  - Favorable work environment is promoted.
  - Corporate culture has been in place.
  - The evaluation and remuneration criteria are clearly-defined along with Key Performance Indicators (KPI) for all functions that support the Company's strategic and business plans.
  - The performance benchmarked against KPI is reported to the Board of Directors on a regular basis.
  - Continuous and regular training is organized accordingly to the Individual Development Plan, to further enhance employees' capabilities.

- **Organization Structure**
  - The line of command, authorization and duties are clearly identified.
  - The assessment committee, chaired by Chief Executive Officer, was set up to formulate policies, targets, work plans and supervision. The committee assesses the performance every quarter to make sure that the operational targets are on their course and in line with assessment criteria, before submitting a report for the Board of Directors' approval.

- **Internal Audit**
  - The Audit Committee reviews the Internal Audit Division's operations at least once every quarter.
  - The Internal Audit Division reviews the sufficiency and suitability of the internal control system. It prepares annual assessment reports and a long-term assessment plan, which is to be approved by the Audit Committee. The Audit Committee receives regular reports on the assessment. The Audit Committee is tasked to ensure that the assessment is in line with work plans and international standards on auditing profession.
  - The Audit Committee sets the policy framework and gives recommendations to the Internal Audit Division on efficiency enhancement. The division's performance is evaluated by an external advisor, to make sure its practices meet the international standards on audit profession.

2. Setting of Operational Objectives and Risk Management

- The objectives or operational targets and the management of risks are clearly defined, covering different elements like strategy, operations, reporting and compliance with policy, rules and regulations.
- Risk assessment criteria, principles and approaches as well as work processes are in writing, aligning with the Company's goals and mission as well as being consistent with risk appetite.
- Work plans, strategy and objectives are regularly adjusted to correspond with changing circumstances and risks.

3. Identification of Risk Events and Factors

- Potential incidents or factors associated with the Company's strategies and targets that may cause an impact on the organization's objectives and operational process are identified.
- Potential risks from internal or external sources are identified, to facilitate the Management's formulation of management guidelines and policy. Such risks include those related to production, new businesses, performance, financial status and sustainable development.
- Executives or relevant persons are regularly informed.

4. Risk Assessment

- Apply systemic risk assessment tools and approaches, having the Risk Management Committee and the Risk Management Working Group review the risk assessment policy direction; identify the review strategy and process; as well as monitor the efficiency and suitability of risk management in project and organizational levels.
- Risks are assessed on both qualitative and quantitative terms, considering their likelihood and impacts, to determine the levels of possible risks (high, medium or low) and the organization's risk appetite.

5. Risk Response

The Company adopts a systematic and integrated process to manage risks. A risk response plan is outlined to prevent the likelihood of unexpected incidents or maintain operational fluctuations at an acceptable risk level, and ensure the overall risk is tackled and will not cause risks on other fronts. This response plan works in tandem with well-maintained internal control measures, to cope with evolving risks.

6. Control Activities

- Risks are kept within risk appetite, through the risk management system and internal control measures that cover the operations in all fronts and at all levels. Details are as follows:
  - Clearly identify the scope of authority and duty as well as the values of authorized transactions involving procurements, other expenses and cheque issuance for executives at different levels in the Company's regulations/order.
  - Connected transactions must be reviewed and approved by the authorized persons who must not have vested interest, before submission to the Audit Committee and the Board of Directors for approval, or subsequently to the annual general meeting for shareholders' approval if needed.
  - Performances of affiliated companies are regularly monitored. Asset Management Function was responsible for monitoring the affiliated companies' performance and reporting to the Board of Directors and the Management on a monthly basis. The Asset Management Function also ensured the operations were aligned with the Company's strategic plan and regulations on the supervision of subsidiaries, affiliates and joint ventures. Under the regulations, the Board of Directors shaped the companies' policies concerning supervision of subsidiaries, affiliates and joint ventures through the Company's representatives and the representatives must submit quarterly reports on the companies' performance.
- A concise control policy is in place along with the Related Party Transaction Policy, to prevent conflict of interest particularly when it concerns the transactions and authorization of Board of Directors and high-level executives, as well as the supervision of subsidiaries and joint ventures in appropriate timeframe. The policies are constantly reviewed.
- An information technology system was developed to support risk control throughout the Company's operational process, along with the safety policy, emergency plan, procurement, the development and maintenance of the system.

- Protection measures are in place to ensure network security against Phishing mail, malware attacks or hackers. A program is installed to protect the computer system as well as the assessment on IT system risks. Monthly reports on computer network and email watch are prepared for the Management, containing attack incidents on the computer and email systems, the condition of mail filtering system and the condition of Antivirus system.
- Strategic planning approach and targets in short, medium and long terms are designed, to ensure the implementation by all units.
- The anti-corruption policy and regulations are established, for the implementation by the Corporate Governance Working Group and relevant divisions. The policy called for anti-corruption measures, the registration of corruption risks, as well as communications and training for employees' acknowledgement. The Corporate Governance Working Group monitors compliance and reports the results to the Corporate Governance and Social Responsibility Committee. The Internal Audit Division, as an independent unit, is tasked to review the policy and corruption risk management process and procedures. It also assesses the internal control of the process that presents corruption risks, so that the risks could be tackled accordingly.
- A working committee was established for personal data projection. It is tasked to set the policy and guidelines for the Company's personal data management system, to safeguard the information in alignment with the Personal Data Protection Act B.E.2562.

7. Information and Communication

The Company's information and communication channels are as follows:

- Data system is in place along with the management policy, procedure and classification of confidential information. Access to the information from other divisions must be granted by the persons authorized for the particular classification level, to prevent the leak of important information and increase the efficiency of cross-functional cooperation.
- Meeting notices and supporting document with sufficient information were sent to the Board of Directors ahead of the legally-required timeframe. Questions, explanations, opinions, remarks and recommendations of each director present at the Board of Directors and sub-committee meetings were recorded in meeting minutes along with the resolutions, for reference and subsequent review.
- An efficient internal communication process is in place. There is a channel where suspicious corruption acts could be reported. Executives at each level convened meetings to follow up on work progress, obstacles and solutions and the message was circulated to all executives. Important information was reported to the Board of Directors on a regular basis.
- In communicating with outsiders, information was posted on the Stock Exchange of Thailand (SET)'s system and the Company's website to ensure thorough and equitable access of shareholders, investors and the interested to the Company's information.
- Financial reports were reviewed by accounting and finance executives together with the independent auditor. The reviewed information was submitted to the Audit Committee for possible questions on a review in financial policies, changes in important accounting standards, indicators or issues that may send an impact on the financial statements, and etc.

- Accounting information and supporting document was systematically stored and grouped in electronic and paper formats, along with financial reports and other significant documents.
- An anti-corruption working team was set up, represented by all functions. It is tasked to communicate with employees on the policy. The working team convenes at least once in every 3 months and reports respectively to the Corporate Governance Working Group, the Corporate Governance and Social Responsibility Committee, and the Board of Directors.
- Intranet communication channel and e-mail systems, Lotus Notes and Microsoft Outlook, are provided to allow all operators' convenient and updated access to information. The Knowledge Management Portal is created to gather knowledge and support capability building. Knowledge Sharing activities are organized on a regular basis where experienced and skilled employees and executives share their knowledge.
- A policy and plan to strengthen employee engagement is in place, for both organizational and functional levels, for more efficient and faster communications and collaboration within the organization. Annual employee engagement survey is conducted on an annual basis.
- An efficient security system and an emergency plan are established to protect the information system in times of severe incidents that may lead to operational disruption. An emergency drill is scheduled. The Company's data storage system also allows an audit trail while the information system is able to analyze and pinpoint risks based on the statistical data of completely recorded risks, assessment and responses.

8. Monitoring

- The Internal Audit Division followed up on the implementation of plans agreed upon by the Management of the Company and affiliated companies on a quarterly basis and reported the results to the Audit Committee, which will subsequently forward the results to the Board of Directors.
- The Internal Audit Division's members are entitled to a fully-budgeted capability enhancement through internal and external training. There is a plan to assist them in obtaining international auditing certificates. The training schedules are reported to the Audit Committee and training details are recorded, for the integration into the Knowledge Management Portal.
- There are a policy and guidelines on the immediate reporting of serious frauds, violations of laws or wrongdoings that may significantly affect the Company's reputation and financial positions to the Board of Directors. Involved units are required to devise preventive measures and the implementation results are reported to the Management and the Board of Directors, respectively.
- Business targets are set accordingly to the strategic planning and business plan, with the specification of Key Performance Indicator (KPI) for all functions and all levels. The performance is benchmarked against targets. Failures to achieve the targets and impacts are analyzed. The response and impact-mitigation plans are outlined and reported to the Management and the Board of Directors periodically.

- Risk Matrix is prepared, to describe the likelihood and impact level of strategic, operating, financial and sustainability risks. Approaches to handle the risks are prepared accordingly to risk appetite. The performance is monitored and the Risk Management Committee and the Board of Directors are informed when required, to ensure the effectiveness of the Company's strategy and targets in the short, medium and long terms.

Details of the internal control system sufficiency evaluation form are available on the Company's website.

Internal Audit

The Internal Audit Division maintains its independence. Vice President - Head of Internal Audit Division serves as the Division's Head and as the Audit Committee's secretary, reporting directly to the Audit Committee with administrative reporting to the Chief Executive Officer as guided by the Company's order on the division's responsibility and the order on internal audit. The Internal Audit Division's scope of responsibility and authority is clearly defined. It is also tasked to implement the Board of Directors' assignments to the Audit Committee. The Internal Audit Division's main responsibility is to assert assurance through activities and provide independent advice, ultimately to raise enterprise value and improve the organization's operations. Its responsibilities are summarized as follows:

- Assess the effectiveness of the internal control system, the risk management system and anti-corruption activities as well as assert assurance and offer advice. The division draws up short and long-term assessment plans, taking into account strategic risks, operating risks, financial risks, compliance risks and corruption probability. The likelihood and impact of the risks are analyzed. The plans were approved by Chief Executive Officer and the Audit Committee. The division schedules regular monitoring on its performance, through self-assessment and external verifier, to ensure continuous improvement and completely and efficiently fulfill the internal audit objectives.
- In reviewing the efficiency and appropriateness of risk management, the division collaborates with those responsible for risk management. Being reviewed were the indicators of risk incidents or factors that may affect risk-management objectives, strategy and approaches, to ensure that risks were properly identified and assessed, systematically tackled, efficiently maintained at the acceptable risk level, and timely reported. The Internal Audit Division schedules continuous and constant reviews on risk management.
- In reviewing the effectiveness of the internal control system, the division prepares evaluation forms on internal control sufficiency for each function, under the SEC guidelines. The operational performance was reviewed and each division was encouraged to review its work process, to ensure that the Company would efficiently and effectively achieve its operating, financial and compliance goals and guard against corruption risks.

The Audit Committee maintained its independence with at least 3 members appointed by the Board of Directors being independent directors (Details of the Audit Committee appeared in Management Structure Section, Page 75-76). Below is the summary of the Audit Committee's opinions on key aspects in 2020:

Aspects	Audit Committee's opinions
Significant deficiency of the Company or subsidiaries' internal control	• Finding no sign of deficiency • Suggesting the Internal Audit Division to follow up on the sufficiency of the internal control of the Company's information technology security system and the control of access to information.
Results of internal control review	• The Company's internal control is sufficient and suitably supportive to the achievements of business objectives and compliance. The system ensures appropriate utilization of resources and credible financial reporting. • The Audit Committee was informed about anti-corruption updates and found no violation or possible corrupt acts in the Company or subsidiaries subjected to the annual audit. • The Audit Committee recommended the Accounting and Finance Function and Business Development Function to continuously monitor to be enforced accounting standards, so that impacts on the Company's financial reporting and new investment projects can be assessed. Such will prepare the Company for any possible change and reach decisions that will ensure maximum enterprise benefits. • The Audit Committee suggested a new subsidiary adopt the Company's accounting system, to facilitate the preparation of consolidated financial statements.
Conflict of interest	• The Audit Committee acknowledged the audit report which found no conflict of interest involving employees, the Management or the Board of Directors. • The Accounting and Finance Function was required to report connected transactions as shown in the quarterly financial statements to the Audit Committee and subsequently to the Board of Directors. The reports showed no conflict of interest among connected parties. • The Audit Committee considered the reasons of connected transactions, having the Company's benefits as the priority, and reported their opinions to the Board of Directors that the connected transactions showed no sign of conflict of interest.

The Internal Audit Division performs its duty in line with the International Standards for the Professional Practice of Internal Auditing (IPPF) and COSO-ERM. Its charter and manual has been regularly reviewed. While self-assessment takes place every year, the assessment by an external independent party is every 5 years to meet international standards. All team members maintain independence and fairness, in alignment with the internal audit's Code of Ethics. They have received continuous and regular training under the Individual Development plan for short and long-term goals.

In 2020, the Internal Audit Division improved the quality of its audit reports based on the external advisor's Quality Assurance Review (QAR) in 2019, in order to meet international auditing standards and enhance the efficiency in oversight on human resources, infrastructure and operations. Upon completion, reports were submitted to Chief Executive Officer, the Audit Committee and the Board of Directors.

Related Party Transactions

RATCH Group Public Company Limited
Related Party Transactions
For the year 2020, ended 31 December 2020

The Company and its subsidiaries have related party transactions. The relations are either by being shareholders of one another or having mutual shareholders or directors as disclosed in the 2020 financial statements under Notes to financial statements Section. Significant related party transactions are summarized as follows:

1. RATCH Group Public Company Limited

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1 Revenue from service and management fee					
1.1.1 Providing management service through secondment agreement, assigning employees to be Managing Director and Deputy Managing Director; as well as internal audit, legal, secretariat to the Board of Directors, accounting, budgeting, financial, tax, information technology, human resource management, corporaterelations and corporate image enhancement services	Ratchaburi Electricity Generating Co., Ltd.	105.53	105.82	102.17	Ratchaburi Electricity Generating Co., Ltd. does not have employees with these skills and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.2 Providing legal, secretariat to the Board of Directors, accounting, budgeting, financial and tax services, and power plant management, supervision, planning and performance tracking	Ratchaburi Energy Co., Ltd.	0.82	0.18	0.21	Ratchaburi Energy Co., Ltd. does not have employee with these skills and the Company has experts with the required skills. It is charged a quarterly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.3 Providing internal audit, legal, tax, secretariat to the Board of Directors, information technology, financial and human resource management services	RATCH-Lao Services Co., Ltd.	4.02	4.02	4.02	RATCH-Lao Services Co., Ltd. requested for the services and the Company has experts in these areas. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.4 Providing legal, secretariat to the Board of Directors, accounting, budgeting, financial and tax services, and power plant management, supervision, planning and performance tracking	Ratchaburi Alliances Co., Ltd.	0.54	0.15	0.15	Ratchaburi Alliances Co., Ltd. requested for the services and the Company has experts in these areas. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1.5 Providing legal, secretariat to the Board of Directors, accounting, budgeting, financial and tax services	RH International Corporation Ltd.	0.95	0.95	0.92	RH International Corporation Ltd. requested for the services and the Company has experts in these areas. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.6 Providing legal, human resource management, accounting, financial management and tax services *Details in 2020* - *Management fee : Baht 20.92 million* - *Service fee from advance expense payment : Baht 2.56 million*	RH International (Singapore) Corporation Pte. Ltd.	23.48	87.38	28.63	RH International (Singapore) Corporation Pte. Ltd. requested for the services and the Company has experts in these areas. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.7 Providing loan securing and loan guarantee service	RH International (Singapore) Corporation Pte. Ltd.	14.90	15.73	3.25	RH International (Singapore) Corporation Pte. Ltd. requested for the assistance, as the Company is capable of guaranteeing the loan and its employee can assist in securing a loan.
1.1.8 Providing USD 300 million bond issuance service, charging fee according to success (Success fee)	RH International (Singapore) Corporation Pte. Ltd.	-	-	11.13	RH International (Singapore) Corporation Pte. Ltd. requested for the service from the Company which has experienced staff in this area. Success fee is applied plus other actual expenses.
1.1.9 Providing service in buying 20 percent of RATCH-Australia Corporation Pty Ltd shares from a shareholder, charging fee according to success (Success fee)	RH International (Singapore) Corporation Pte. Ltd.	-	-	3.36	RH International (Singapore) Corporation Pte. Ltd. requested for the service from the Company which has experienced staff in this area.
1.1.10 Providing accounting, budgeting and financial services	RE Solar 1 Co., Ltd.	0.06	0.06	0.06	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.11 Providing accounting, budgeting and financial services	CN Biomass Co., Ltd.	0.03	0.06	0.06	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1.12 Providing accounting, budgeting and financial services	LP Biomass Co., Ltd.	0.03	0.06	0.06	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.13 Providing accounting, budgeting and financial services	PB Biomass Co., Ltd.	0.03	0.06	0.06	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.14 Providing accounting, budgeting and financial services	RATCH O&M Co., Ltd.	0.06	0.06	0.06	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.15 Providing accounting, budgeting and financial services	RATCH China Power Ltd.	0.11	0.11	0.12	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.16 Providing accounting, budgeting and financial services	RH International (Mauritius) Corporation Ltd.	0.11	0.11	0.12	Such company has no staff in the areas and the Company has experts with the required skills. It is charged an annual fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.17 Providing management service through secondment agreement, assigning employees to work at RATCH Cogeneration Co., Ltd. *Details in 2020* - *Management fee : Baht 7.20 million* - *Service fee from advance expense payment : Baht 6.33 million*	RATCH Cogeneration Co., Ltd.	13.53	1.88	-	Such company has no staff in the areas and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1.18 Providing management service through secondment agreement, assigning an employee to be Ratchaburi Power Co., Ltd.'s Financial Executive	Ratchaburi Power Co., Ltd.	4.83	4.82	4.83	Ratchaburi Power Co., Ltd. has no staff in the area and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.19 Management Agreement with Ratchaburi Power Co., Ltd.	Ratchaburi Power Co., Ltd.	77.32	78.08	80.63	The Company provides public relations service and technical consultation on power plant construction, operations and maintenance. The fee is charged quarterly from the first day Power Plant Unit 1 commenced commercial operations (1 Mar 2008). The agreement lasts 25 years and 3 months.
1.1.20 Providing management service through secondment agreement, assigning employees to be Chubu Ratchaburi Electric Services Co., Ltd.'s Managing Director and Administration and Finance Manager	Chubu Ratchaburi Electric Services Co., Ltd.	10.52	10.42	10.32	Chubu Ratchaburi Electric Services Co., Ltd. requested the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate stated in the Management Service Agreement plus other actual expenses.
1.1.21 Service Agreement with Nam Ngum 2 Power Co., Ltd.	Nam Ngum 2 Power Co., Ltd.	25.00	25.00	25.00	Nam Ngum 2 Power Co., Ltd. entered into a Service Agreement with the Company. It is charged a quarterly fee at the rate stated in the Management Service Agreement.
1.1.22 Providing management service through secondment agreement, assigning employees to be Hongsa Power Co., Ltd.'s Deputy Managing Director	Hongsa Power Co., Ltd.	-	-	16.84	Hongsa Power Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a quarterly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.23 Providing management service through secondment agreement, assigning employees to be Nava Nakorn Electricity Generating Co., Ltd.'s Managing Director, Deputy Managing Director, Manager and engineer	Nava Nakorn Electricity Generating Co., Ltd.	13.94	12.27	11.16	Nava Nakorn Electricity Generating Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1.24 Providing management service through secondment agreement, assigning employees to be Solarta Co., Ltd.'s Managing Director and Deputy Managing Director	Solarta Co., Ltd.	10.31	9.85	9.38	Solarta Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.25 Leasing office space and other services	Solarta Co., Ltd.	0.84	0.86	0.76	The Company leased out 72-square meter office space in its premises and other services including computer and network system and telephone system. The contract period is 36 months (from 1 Jan 2019 through 31 Dec 2021).
1.1.26 Providing management service through secondment agreement, assigning an employee to be Xe-Pian Xe-Namnoy Power Co., Ltd.'s Chief Financial Officer	Xe-Pian Xe-Namnoy Power Co., Ltd.	6.44	6.76	6.64	Xe-Pian Xe-Namnoy Power Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.27 Providing construction control and inspection service for the Xe-Pian Xe-Namnoy Hydroelectric Power Plant in Lao PDR	Xe-Pian Xe-Namnoy Power Co., Ltd.	15.04	77.84	62.47	The Company signed the Construction Supervision Contractor Services with Xe-Pian Xe-Namnoy Power Co., Ltd. and charged a monthly service fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.28 Providing management service through secondment agreement, assigning an employee to be Songkhla Biomass Co., Ltd.'s Managing Director	Songkhla Biomass Co., Ltd.	-	1.12	2.58	Songkhla Biomass Company Limmited requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses. The contract period is 36 months (from 1 May 2016 to 30 April 2019.)

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1.29 Providing management service through secondment agreement, assigning employees to be Co., Ltd.'s Managing Director, a Vice President, and a Manager	Berkprai Cogeneration Co., Ltd.	6.25	6.12	5.77	Berkprai Cogeneration Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.30 Providing management service for Huay Bong 3 Wind Farm	First Korat Wind Co., Ltd.	1.14	1.12	1.09	First Korat Wind Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.31 Providing management service for Huay Bong 2 Wind Farm	K. R. Two Co., Ltd.	1.14	1.12	1.09	K. R. Two Co., Ltd. requested for the Company's service and the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.32 Providing legal, secretariat service to the Board of Directors, accounting, budgeting, financial and tax services	Hin Kong Power Holding Co., Ltd.	-	0.10	-	Such company has no staff in the area the Company has experts with the required skills. It is charged a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.33 Providing management service through secondment agreement, assigning employees to work for Hin Kong Power Co., Ltd. *Details in 2020* - *Management fee : Baht 36.00 million* - *Service fee from advance expense payment : Baht 5.85 million*	Hin Kong Power Co., Ltd.	41.85	11.80	-	Hin Kong Power Co., Ltd. requested the Company to provide the service and the Company has experts with the required skills. It is charged a fee at the rate as stated in the Management Service Agreement plus other actual expenses.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.1.34 Providing management service through secondment agreement, assigning employees to be Project Quality Assurance Manager and Contract Management Manager *Service fees in 2020* - *Management fee = Baht 8.68 million* - *Service fee from advance expense payment = Baht 48.34 million*	PT Medco Ratch Power Riau	57.02	8.48	-	The Company has experts with the required skills. It is charged a quarterly fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.35 Providing management service through secondment agreement, assigning an employee to be Chief Operating Office	Nexif RATCH Energy Rayong Co., Ltd.	1.80	-	-	The Company has experts with the required skills. The fee is charged monthly at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.36 Providing legal, accounting, financial, tax, information technology and human resource management services	Smart Infranet Co., Ltd.	1.20	-	-	Smart Infranet Co., Ltd. requested the Company to provide the service and the Company has experts with the required skills. It is charged a fee at the rate as stated in the Management Service Agreement plus other actual expenses.
1.1.37 Providing management service through secondment agreement, assigning an employee to be Managing Director	R E N Korat Energy Co., Ltd.	0.46	-	-	The Company has experts with the required skills. The fee is charged monthly at the rate as stated in the Management Service Agreement plus other actual expenses.
1.2 Interest income from loans to subsdiaries/joint ventures					
1.2.1 Loan to Ratchaburi Electricity Generating Co., Ltd. through promissory notes.	Ratchaburi Electricity Generating Co., Ltd.	-	-	29.53	To use as Ratchaburi Electricity Generating Co., Ltd. working capital. The interest rate is 2.10-4.50% per annum.
1.2.2 Loan to Ratchaburi Power Co., Ltd. through promissory notes. Outstanding amount as of 31 Dec 20: Million baht 1 Jan 20: Previous loan 14 Repayment (14) 31 Jan 20: Loan amount -	Ratchaburi Power Co., Ltd.	0.16	4.03	7.54	To finance the purchase of shares in Solarta Co., Ltd., Solar Power (Korat 3, 4, 7) Co., Ltd., Songkhla Biomass Co., Ltd. and Songkhla Biofuel, Co., Ltd. The interest rate was 4.00-4.50% per annum.
1.2.3 Loan to RATCH-Lao Services Co., Ltd. through a loan agreement. Outstanding loan value as of 31 Dec 20 was USD 32.60 million.	RATCH-Lao Services Co., Ltd.	36.21	35.80	39.50	To finance purchase shares of EDL Gen listed on Lao Securities Exchange. The interest rate was 3.65% per annum.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
1.2.4 Loan to RATCH-Lao Services Co., Ltd. through a loan agreement. Outstanding loan value as of 31 Dec 20 was USD 160.20 million.	RATCH-Lao Services Co., Ltd.	7.23	2.47	-	To repay loans and finance investment projects. The interest rate was 4.50% per annum.
1.2.5 Loan to RATCH Cogeneration Co., Ltd. through a loan agreement. Outstanding loan value as of 31 Dec 20: Million baht 1 Jan 20: Previous loan 132.35 Additional loan 3.78 31 Dec 20: Loan balance 136.13	RATCH Cogeneration Co., Ltd.	6.07	1.51	-	To repay short-term loans. The interest rate was 4.50% per annum.
1.2.6 Loan to RATCH Cogeneration Co., Ltd. through promissory notes. Outstanding amount as of 31 Dec 20: Baht 60 million.	RATCH Cogeneration Co., Ltd.	0.53	0.01	-	Reserved for working capital. The interest rate was 2.09% per annum.
1.2.7 Loan to Xe-Pian Xe-Namnoy Power Co., Ltd. through a Shareholders' Loan Agreement. Outstanding loan value as of 31 Dec 20 USD 1.32 million.	Xe-Pian Xe-Namnoy Power Co., Ltd.	1.89	1.84	2.60	To support Lao Holding State Enterprise's equity guarantee. A total of USD 4 million was borrowed from shareholders for repayment within 27 years for both principal and interest. The loan rate is 3M LIBOR plus fixed margin per annum.
1.2.8 Loan to Xe-Pian Xe-Namnoy Power Co., Ltd. through a Shareholders' Loan Agreement. Outstanding loan value as of 31 Dec 20 USD 16.78 million.	Xe-Pian Xe-Namnoy Power Co., Ltd.	23.81	6.58	-	Reserved for project financing. A total of USD 51 million was borrowed from shareholders and will be repaid, for both principal and interest, whenever the borrower has excess cash. The loan rate is 3M LIBOR plus fixed margin per annum.
1.2.9 Loan to Hin Kong Power Co., Ltd. through a loan agreement. Outstanding loan value as of 31 December 2020: Million baht 1 Jan 20: Previous loan 20 Additional loan 5 Repayment (25) 31 Dec 20: Loan balance -	Hin Kong Power Co., Ltd.	0.36	0.31	-	Reserved for working capital. The interest rate was 4.50% per annum.
1.3 Interest expenses on loans extended by subsidiaries/joint ventures					
1.3.1 Loan to Ratchaburi Elecricity Generating Co., Ltd. through promissory notes. Outstanding loans as of 31 Dec 20 were Baht 3,465 million.	Ratchaburi Elecricity Generating Co., Ltd.	9.87	-	-	Reserved for working capital and short-term loan repayment. The notes carry 1.10% in interest rate per annum.

2. Ratchaburi Elecricity Generating Company Limited

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
2.1 Income from Power Purchase Agreement					
2.1.1 Power Purchase Agreement: Ratchaburi Power Plant *Details in 2020* - *Power sales income: Baht 26,301.33 million* - *Finance lease income: Baht 2,415.68 million*	EGAT	28,717.01	33,061.12	32,703.51	Under the conditions stated in the 25-year Power Purchase Agreement with EGAT (signed on 9 Oct 2000), Ratchaburi Power Plant is obligated to supply electricity to EGAT and receive income from EGAT. This is considered a normal business practice.
2.1.2 Power Purchase Agreement: Tri Energy Power Plant *Details in 2020* - *Power sales income: Baht 538.47 million* - *Finance lease income: Baht 137.53 million*	EGAT	676.00	1,763.87	4,583.90	Under the conditions stated in the 20-year Power Purchase Agreement with EGAT (signed on 22 May 97), Tri Energy Power Plant is obligated to supply electricity to EGAT and receive income from EGAT. This is considered a normal business practice.
2.2 Expenses on contracts for backup electricity and power for water supply system	EGAT	142.84	160.02	171.84	Ratchaburi Electricity Generating Co., Ltd. needs electricity supply from EGAT for its power plant operations and the water supply system. It is charged at the same rate paid by other EGAT customers.
2.3 Expenses on Operation and Maintenance contracts Ratchaburi Electricity Generating Co., Ltd. hires EGAT to provide power plant operation and major/general maintenance services for Ratchaburi Power Plant. *Details in 2020* - *Monthly fee: Baht 1,083.67 million* - *Other expenses: Baht 112.94 million*	EGAT	1,196.61	1,249.13	1,184.01	EGAT has experience and expertise in power plant operations and maintenance. Service fee is charged with annual incremental adjustment according to Thailand's consumer price index, which is considered a normal business practice.
2.4 Expenses on EGAT's contracts					
2.4.1 Ratchaburi Electricity Generating Co., Ltd. hires EGAT to provide maintenance service for Ratchaburi Power Plant's wastewater quality monitoring system.	EGAT	1.33	1.31	1.26	Ratchaburi Electricity Generating Co., Ltd. does not have experts in this area while EGAT has highly experienced specialists and charges normal business fee.
2.4.2 Ratchaburi Electricity Generating Co., Ltd. hires EGAT to coordinate the procurement and transport of fuel (bunker oil).	EGAT	2.17	2.16	2.14	As a major client of PTT, EGAT possesses strong bargaining power in terms of pricing, supply volume and speed of delivery. EGAT also charges normal service fee.

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
2.5 Management service income					
2.5.1 Ratchaburi Electricity Generating Co., Ltd. leased 143 rai of land to Ratchaburi Power Co., Ltd. for the construction of a power plant and another 2 rai for the construction of natural gas receiving station.	Ratchaburi Power Co., Ltd.	12.07	12.07	12.07	Ratchaburi Power Plant's premises are equipped with comprehensive facilities and utilities that support power generating business. Ratchaburi Electricity Generating Co., Ltd. charges leasing fee, which is adjusted every 5 years in accordance with Thailand's consumer price index. The transaction is considered a normal business practice.
2.5.2 Ratchaburi Electricity Generating Co., Ltd. grants Ratchaburi Power Co., Ltd. an access to its facilities. *Details in 2020* - *Environmental service fee: Baht 3.42 million* - *Diesel tank rental fee: Baht 2.49 million* - *Utility service fee Baht 16.77 million*	Ratchaburi Power Co., Ltd.	22.68	29.94	34.25	Ratchaburi Electricity Generating Co., Ltd. sits on comprehensive utilities and facilities that support power generating business comprising: - Environmental service - Diesel oil tank rental service of which fee will be increased every 5 years according to Thailand's inflation rate, which is considered a normal business practice. - Utilities of which fee is based on the contract, which is considered a normal business practice.
2.5.3 Ratchaburi Electricity Generating Co., Ltd. provides management service through secondment agreement, assigning executives and employees to work at RATCH Cogeneration Co., Ltd.	RATCH Cogeneration Co., Ltd.	2.71	0.84	-	RATCH Cogeneration Co., Ltd. has no staff in the areas and the Company has experts with the required skills It charges a monthly fee at the rate as stated in the Management Service Agreement plus other actual expenses.

3. RATCH Cogeneration Company Limited

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
3.1 Income from Power Purchase Agreement: RATCH Cogeneration SPP Power Plant	EGAT	1,826.46	448.71	-	Under the conditions stated in the 25-year Power Purchase Agreement with EGAT (signed on 3 Dec 09), RATCH Cogeneration SPP Power Plant is obligated to supply electricity to EGAT and receive income from EGAT. This is considered a normal business practice.

4. RH International (Singapore) Corporation Pte. Limited

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
4.1 RH International (Singapore) Corporation Pte. Ltd. provided a loan to RATCH-Autralia Corporation Pty Ltd. The outstanding balance as of 31 Dec 20 was AUD 232.50 million.	RATCH-Autralia Corporation Pty Ltd.	211.59	279.32	353.54	To repay a loan and assist RAC's loan restructuring. The loan is charged at the BBSY rate plus fixed margin per annum.

5. RATCH-Lao Services Company Limited

Related party transaction	Related company	Value (million baht)			Necessities and reasons
		2020	2019	2018	
5.1 Income from operation and maintenance service for Hongsa Thermal Power Plant in Lao PDR	EGAT	55.93	53.19	50.90	EGAT considered RATCH-Lao Services Co., Ltd. is a Lao legal entity which has high flexibility in coordinating in Lao PDR. Therefore, EGAT hires RATCH-Lao Services Co., Ltd. to provide O&M services for Hongsa Thermal Power Plant.
5.2 Income from operation and maintenance service for Nam Ngiep 1 Hydroelectric Power Plant in Lao PDR	EGAT	4.10	-	-	EGAT considered RATCH-Lao Services Co., Ltd. is a Lao legal entity which has high flexibility in coordinating in Lao PDR. Therefore, EGAT hires RATCH-Lao Services Co., Ltd. to provide O&M services for Nam Ngiep 1 Hydroelectric Power Plant.
5.3 Income from operation and maintenance, accounting, procurement, and human resource services	Asia Water Co., Ltd.	1.06	0.25	-	Asia Water Co., Ltd. requested for the service as the Company has experienced staff. It charges a monthy fee at the the rate as stated in the Management Service Agreement plus other actual expenses.
5.4 Income from operation and maintenance service for Sandin Water Supply Project in Lao PDR	Asia Water Co., Ltd.	1.99	0.52	-	Asia Water Co., Ltd. requested for the service as the Company has experienced staff. It charges a monthy fee at the the rate as stated in the Management Service Agreement plus other actual expenses.

Relationship between related parties is as follows:

1. RATCH Group Public Company Limited

1.1 The Company and Ratchaburi Electricity Generating Company Limited are related as:
- The Company holds a 99.99 percent stake in Ratchaburi Electricity Generating Company Limited.
- Some of the Company's executives are directors of Ratchaburi Electricity Generating Company Limited.

1.2 The Company and Ratchaburi Energy Company Limited are related as:
- The Company holds a 99.99 percent stake in Ratchaburi Energy Company Limited.
- Some of the Company's executives are directors of Ratchaburi Energy Company Limited.

1.3 The Company and RATCH-Lao Services Company Limited are related as:
- The Company holds a 99.99 percent stake in RATCH-Lao Services Company Limited.
- Some of the Company's executives are directors of RATCH-Lao Services Company Limited.

1.4 The Company and Ratchaburi Alliances Company Limited are related as:
- The Company holds a 99.99 percent stake in Ratchaburi Alliances Company Limited.
- Some of the Company's executives are directors of Ratchaburi Alliances Company Limited.

1.5 The Company and RH International Corporation Limited are related as:
- The Company holds a 99.99 percent stake in RH International Corporation Limited.
- Some of the Company's executives are directors of RH International Corporation Limited.

1.6 The Company and RH International (Singapore) Corporation Pte. Ltd. are related as:
- The Company holds a 99.99 percent stake in RH International Corporation Limited.
- RH International Corporation Limited, the Company's subsidiary, holds a 100.00 percent stake in RH International (Mauritius) Corporation Limited.
- RH International (Mauritius) Corporation Limited holds a 100.00 percent stake in RH International (Singapore) Corporation Pte. Ltd.
- Some of the Company's executives are directors of RH International (Singapore) Corporation Pte. Ltd.

1.7 The Company and RE Solar 1 Company Limited are related as:
- Ratchaburi Energy Company Limited, the Company's subsidiary, holds a 99.99 percent stake in RE Solar 1 Company Limited.
- Some of the Company's executives are directors of RE Solar 1 Company Limited.

1.8 The Company and CN Biomass Company Limited are related as:
- Ratchaburi Energy Company Limited, the Company's subsidiary, holds a 99.99 percent stake in CN Biomass Company Limited.
- Some of the Company's executives are directors of CN Biomass Company Limited.

1.9 The Company and LP Biomass Company Limited are related as:
- Ratchaburi Energy Company Limited, the Company's subsidiary, holds a 99.99 percent stake in LP Biomass Company Limited.
- Some of the Company's executives are directors of LP Biomass Company Limited.

1.10 The Company and PB Biomass Company Limited are related as:
- Ratchaburi Energy Company Limited, the Company's subsidiary, holds a 99.99 percent stake in PB Biomass Company Limited.
- Some of the Company's executives are directors of PB Biomass Company Limited.

1.11 The Company and RATCH O&M Company Limited are related as:
- The Company holds a 99.99 percent stake RATCH O&M Company Limited.
- Some of the Company's executives are directors of RATCH O&M Company Limited.

1.12 The Company and RATCH China Power Limited are related as:
- The Company holds a 99.99 percent stake in RH International Corporation Limited.
- RH International Corporation Limited, the Company's subsidiary, holds a 100.00 percent

stake in RH International (Mauritius) Corporation Limited.
- RH International (Mauritius) Corporation Limited holds a 100.00 percent stake in RH International (Singapore) Corporation Pte. Ltd.
- RH International (Singapore) Corporation Pte. Ltd holds a 100.00 percent stake in RATCH China Power Limited.
- Some of the Company's executives are directors of RATCH China Power Limited.

1.13 The Company and RH International (Mauritius) Corporation Limited are related as:
- The Company holds a 99.99 percent stake in RH International Corporation Limited.
- RH International Corporation Limited, the Company's subsidiary, holds a 100.00 percent stake in RH International (Mauritius) Corporation Limited.
- Some of the Company's executives are directors of RH International (Mauritius) Corporation Limited.

1.14 The Company and RATCH Cogeneration Company Limited are related as:
- The Company holds a 99.97 percent stake in RATCH Cogeneration Company Limited.
- Some of the Company's executives are directors of RATCH Cogeneration Company Limited.

1.15 The Company and Ratchaburi Power Company Limited are related as:
- Ratchaburi Alliances Company Limited, the Company's subsidiary, holds a 25.00 percent stake in Ratchaburi Power Company Limited.
- Some of the Company's executives are directors of Ratchaburi Power Company Limited.

1.16 The Company and Chubu Ratchaburi Electric Services Company Limited are related as:
- The Company holds a 50.00 percent stake in Chubu Ratchaburi Electric Services Company Limited.
- Some of the Company's executives are directors of Chubu Ratchaburi Electric Services Company Limited.

1.17 The Company and Nam Ngum 2 Power Company Limited are related as:
- SouthEast Asia Energy Limited, the Company's joint venture, holds a 75.00 percent stake in Nam Ngum 2 Power Company Limited.
- Some of the Company's executives are directors in Nam Ngum 2 Power Company Limited.

1.18 The Company and Hongsa Power Company Limited are related as:
- RH International (Singapore) Corporation Pte. Limited, the Company's indirect subsidiary, holds a 40.00 percent stake in Hongsa Power Company Limited.
- Some of the Company's executives are directors of Hongsa Power Company Limited.

1.19 The Company and Nava Nakorn Electricity Generating Company Limited are related as:
- Ratchaburi Electricity Generating Company Limited, the Company's subsidiary, holds a 40.00 percent stake in Nava Nakorn Electricity Generating Company Limited.
- Some of the Company's executives are directors of Nava Nakorn Electricity Generating Company Limited.

1.20 The Company and Solarta Company Limited are related as:
- Ratchaburi Energy Company Limited, the Company's subsidiary, holds a 49.00 percent stake in Solarta Company Limited.
- Some of the Company's executives are directors of Solarta Company Limited.

1.21 The Company and Xe-Pian Xe-Namnoy Power Company Limited are related as:
- The Company holds a 25.00 percent stake in Xe-Pian Xe-Namnoy Power Company Limited.
- Some of the Company's executives are directors of Xe-Pian Xe-Namnoy Power Company Limited.

1.22 The Company and Songkhla Biomass Company Limited are related as:
- Ratchaburi Energy Company Limited, the Company's subsidiary, holds a 40.00 percent stake in Songkhla Biomass Company Limited.

- Some of the Company's executives are directors of Songkhla Biomass Company Limited.

1.23 The Company and Berkprai Cogeneration Company Limited are related as:
- Ratchaburi Electricity Generating Company Limited, the Company's subsidiary, holds a 35.00 percent stake in Berkprai Cogeneration Company Limited.
- Some of the Company's executives are directors of Berkprai Cogeneration Company Limited.

1.24 The Company and First Korat Wind Company Limited are related as:
- The Company holds a 20.00 percent stake in First Korat Wind Company Limited.
- Some of the Company's executives are directors of First Korat Wind Company Limited.

1.25 The Company and K. R. Two Company Limited are related as:
- The Company holds a 20.00 percent stake in K. R. Two Company Limited.
- Some of the Company's executives are directors of K. R. Two Company Limited.

1.26 The Company and Hin Kong Power Holding Company Limited are related as:
- The Company holds a 51.00 percent stake in Hin Kong Power Holding Company Limited.
- Some of the Company's executives are directors of Hin Kong Power Holding Company Limited.

1.27 The Company and Hin Kong Power Company Limited are related as:
- Hin Kong Power Holding Company Limited, the Company's joint venture, holds a 99.99 percent stake in Hin Kong Power Company Limited.
- Some of the Company's executives are directors of Hin Kong Power Company Limited.

1.28 The Company and PT Medco Ratch Power Riau are related as:
- The Company holds a 99.99 percent stake in RH International Corporation Limited.
- RH International Corporation Limited, the Company's subsidiary, holds a 100.00 percent stake in RH International (Mauritius) Corporation Limited.
- RH International (Mauritius) Corporation Limited holds a 100.00 percent stake in RH International (Singapore) Corporation Pte. Ltd.
- RH International (Singapore) Corporation Pte. Ltd holds a 49.00 percent stake in PT Medco Ratch Power Riau.
- Some of the Company's executives are directors of PT Medco Ratch Power Riau.

1.29 The Company and Nexif RATCH Energy Rayong Company Limited are related as:
- The Company holds a 99.99 percent stake in RH International Corporation Limited.
- RH International Corporation Limited, the Company's subsidiary, holds a 100.00 percent stake in RH International (Mauritius) Corporation Limited.
- RH International (Mauritius) Corporation Limited holds a 100.00 percent stake in RH International (Singapore) Corporation Pte. Ltd.
- RH International (Singapore) Corporation Pte. Ltd holds a 49.00 percent stake in NEXIF RATCH ENERGY SINGAPORE PTE. LTD.
- NEXIF RATCH ENERGY SINGAPORE PTE. LTD. holds a 100.00 percent stake in Nexif RATCH Energy Rayong Company Limited.
- Some of the Company's executives are directors of Nexif RATCH Energy Rayong Company Limited.

1.30 The Company and Smart Infranet Company Limited are related as:
- The Company holds a 51.00 percent stake in Smart Infranet Company Limited.
- Some of the Company's executives are directors of Smart Infranet Company Limited.

1.31 The Company and R E N Korat Energy Company Limited are related as:
- The Company holds a 40.00 percent stake in R E N Korat Energy Company Limited.
- Some of the Company's executives are directors of R E N Korat Energy Company Limited.

2. Ratchaburi Electricity Generating Company Limited

2.1 Ratchaburi Electricity Generating Company Limited and EGAT are related as:
- EGAT holds a 45.00 percent stake in the Company.
- The Company holds a 99.99 percent stake in Ratchaburi Electricity Generating Company Limited.
- Some of EGAT executives are directors in Ratchaburi Electricity Generating Company Limited.

2.2 Ratchaburi Electricity Generating Company Limited and Ratchaburi Power Company Limited are related as:
- The Company holds a 99.99 percent stake in Ratchaburi Electricity Generating Company Limited.
- Ratchaburi Alliances Company Limited, the Company's subsidiary, holds a 25.00 percent stake in Ratchaburi Power Company Limited.
- Some of the Company's executives are directors of Ratchaburi Power Company Limited.

2.3 Ratchaburi Electricity Generating Company Limited and RATCH Cogeneration Company Limited are related as:
- The Company holds a 99.99 percent stake in Ratchaburi Electricity Generating Company Limited.
- The Company holds a 99.97 percent stake in RATCH Cogeneration Company Limited.
- Some of the Company's executives are directors of Ratchaburi Electricity Generating Company Limited.
- Some of the Company's executives are directors of RATCH Cogeneration Company Limited.

3. RATCH Cogeneration Company Limited

3.1 RATCH Cogeneration Company Limited and EGAT are related as:
- EGAT holds a 45.00 percent stake in the Company.
- The Company holds a 99.97 percent stake in RATCH Cogeneration Company Limited.
- Some of the Company's executives are directors of RATCH Cogeneration Company Limited.

4. RH International (Singapore) Corporation Pte. Limited

4.1 RH International (Singapore) Corporation Pte. Limited and RATCH-Australia Corporation Pty Ltd are related as:
- RH International (Singapore) Corporation Pte. Limited holds a 100.00 percent stake in RATCH-Australia Corporation Pty Ltd.
- Some of the Company's executives are directors of RATCH-Australia Corporation Pty Ltd.

5. RATCH-Lao Services Company Limited

5.1 RATCH-Lao Services Company Limited and EGAT are related as:
- EGAT holds a 45.00 percent stake in the Company.
- The Company holds a 99.99 percent stake in RATCH-Lao Services Company Limited.

5.2 RATCH-Lao Services Company Limited and Asia Water Company Limited are related as:
- RATCH-Lao Services Company Limited holds a 40.00 percent stake in Asia Water Company Limited.
- The Company holds a 99.99 percent stake in RATCH-Lao Services Company Limited.

Related Party Transaction Approval Measures and Procedures

Responsible units carry out preliminary screening on the transactions by gathering information and analyzing whether the transactions are reasonable and meet normal business process. The Company may hire independent experts to provide additional comments. The transactions will then proceed until they secure approval. The Management then prepares a summary of the related party transactions and submit the summary to the Audit Committee on a quarterly basis.

To ensure that each transaction is not for the transfer of benefits between the Company or the Company's shareholders but is executed for the maximum benefits of all shareholders, the Company discloses related party transactions in notes to the financial statements which are audited by the Company's auditor, in the Annual Report, and in the Company's Annual Registration Statement (Form 56-1).

Audit Fee

Audit fee and other expenses in 2020

The audit fee of the Company and subsidiaries namely Ratchaburi Electricity Generating Company Limited, Ratchaburi Energy Company Limited, Ratchaburi Alliances Company Limited, RH International Corporation Limited, RATCH-Lao Services Company Limited, RATCH O&M Company Limited, RE Solar 1 Company Limited, and RATCH Cogeneration Company Limited, in the previous accounting year was valued at Baht 3,360,000 (excluding out-of-pocket cost of Baht 135,000 and the examination fee of compliance with an investment promotion certificate worth Baht 70,000). Out of total, the audit fee for the Company was Baht 1,500,000 (excluding out-of-pocket cost of Baht 45,000) while the audit fee for subsidiaries, shouldered by the subsidiaries, totaled Baht 1,860,000 (excluding out-of-pocket cost of Baht 90,000 and the examination fee of compliance with an investment promotion certificate worth Baht 70,000).

In addition, in 2020 the Company awarded a consulting contract to a business unit of the audit company to which the auditor works for, for a special project. The fee worth Baht 3,560,978 was booked in the year. The contract that involved the auditor's employer for a service other than auditing incurred no conflict of interest. The auditor did not audit the contract, hence maintaining independence and neutrality in performing the auditing task.

Board of Directors' Report on Its Responsibility to the Financial Reports





(Mr. Boonyanit Wongrukmit)
Chairman

(Mr. Kijja Sripatthangkura)
Director and Chief Executive Officer

As the Board of Directors is obliged by the Public Company Act B.E. 2535, the Accounting Act B.E. 2543, the Securities and Exchange Act B.E. 2535 and the Securities and Exchange Commission's Announcement on the Rules, Conditions and Procedures for Disclosure regarding Financial and Non-financial Information of Security Issuers to prepare financial statements which contain factual, reasonable and transparent financial status, performance and cash flow in the previous year for the benefits of shareholders and general investors.

The consolidated and separate financial statements for the year ended 31 December 2020 were audited by the Company's auditor, KPMG Phoomchai Audit Limited. The Board of Directors provided information and documents, enabling the auditor to examine and express his opinions in conformity with generally accepted auditing standards. The auditor's opinions appear in Independent Auditor's Report which is included in this Annual Report.

In this regard, the Board of Directors appointed the Audit Committee to review the accounting policy and the quality of financial reports, the internal control system, and internal audit. The Audit Committee's opinions appeared in the Audit Committee's Report which is included in this Annual Report.

The Board of Directors has provided and maintained an appropriate and effective internal control system to reasonably ensure that the financial reports did not include material misstatements, whether due to fraud or error.

Based on the evaluation of internal control system sufficiency in five components namely organizational structure and environment, risk management, control activities for information and communication, and operation monitoring; the Board of Directors is of the opinion that the Company's overall internal control system was satisfactory and could reasonably ensure that the consolidated and separate financial statements for the year ended 31 December 2020 were reliable and prepared accordingly to financial reporting standards and in compliance with relevant laws and regulations.

Independent Auditor's Report

To the Shareholders of RATCH Group Public Company Limited

Opinion

I have audited the consolidated and separate financial statements of RATCH Group Public Company Limited and its subsidiaries (the "Group") and of RATCH Group Public Company Limited (the "Company"), respectively, which comprise the consolidated and separate statements of financial position as at 31 December 2020, the consolidated and separate statements of 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 2020 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 judgement, 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.

Impairment testing of goodwill, right to power purchase agreements and property, plant and equipment particularly the power plants in Australia in the consolidated financial statements and investment in subsidiary in the separate financial statements	
Refer to Notes 4, 9, 12 and 14 to the consolidated and separate financial statements.	
The key audit matter	**How the matter was addressed in the audit**
As at 31 December 2020, the Group holds significant amounts of goodwill, right to power purchase agreements and property, plant and equipment on the consolidated statement of financial position which contains a net book value of goodwill of Baht 170 million and net book value of right to power purchase agreements and property, plant and equipment of Baht 24,661 million together representing approximately 22% of total assets. There is a risk that the carrying values of the Group's goodwill, right to power purchase agreements and property, plant and equipment balances might exceed its recoverable amounts. The Company also has an investment in RH International Corporation Limited ("RHIC"), a subsidiary in Thailand, amounting to Baht 25,930 million which holds, via RH International (Singapore) Corporation Pte. Ltd., investments in the power plants in Australia. The recoverability of the investment in RHIC is a key audit matter because the investments in the power plants in Australia might be impaired. I focused on the estimated value in use of the cash generation units "CGUs" of the operation of the power plants in Australia because the determination of future cash flows and the recoverable amounts are highly judgemental and subject to material uncertainty.	My audit procedures in this area included, among others: - assessing the Group's process for identifying indicators of impairment; - assessing the Group's response to the identified impairment indicators; - understanding process for estimating the impairment; - involving KPMG in Australia to assist in evaluating the appropriateness of discount rates applied, which included comparing the weight average cost of capital with sector averages for the relevant markets in which the Group operate and evaluating the appropriateness of the assumptions applied to key inputs such as contracted revenue, prices, operating costs, inflation rate and long-term growth rates, which included comparing these inputs with externally derived data. In addition, KPMG in Australia performed sensitivity analysis, which included assessing the effect of reasonably possible reductions in growth rates and forecast cash flows to evaluate the impact on the CGUs; - assessing the appropriateness of discount rates applied; - involving KPMG in Singapore to evaluate the appropriateness of key assumptions applied in determining the recoverable amounts of the investments in the power generation in Australia, including the consistency of the assumptions with business plans and forecasts used for impairment testing as described in my response above; and - evaluating the adequacy of the financial statement disclosures in accordance with Thai Financial Reporting Standards.

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 judgement 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.



(Vairoj Jindamaneepitak)
Certified Public Accountant
Registration No. 3565

KPMG Phoomchai Audit Ltd.
Bangkok
15 February 2021

RATCH Group Public Company Limited and its subsidiaries

Statement of financial position

Assets	Note	Consolidated financial statements 31 December 2020	Consolidated financial statements 31 December 2019	Separate financial statements 31 December 2020	Separate financial statements 31 December 2019
		(in Baht)			
Current assets					
Cash and cash equivalents	6	4,856,588,850	4,917,163,131	2,231,434,858	1,780,104,131
Trade receivables from related parties	5, 26	4,982,246,143	5,277,659,290	-	-
Trade receivables from other parties	26	207,697,412	236,193,762	-	-
Other current receivables		165,244,989	299,430,687	33,799,302	34,640,738
Dividend receivables	5	-	600,000	-	600,000
Advances to and other current receivables from related parties	5	62,512,207	90,392,540	137,661,035	88,231,434
Short-term loans to related parties	5	-	-	59,667,643	134,000,000
Current portion of lease receivable from related party	5	2,575,600,533	3,268,373,863	-	-
Spare parts and supplies	7	1,782,603,745	1,880,392,925	-	-
Other current financial assets	26	3,757,435,640	4,451,848,525	1,198,043,203	542,065,029
Other current assets		94,762,999	57,713,545	22,578,358	1,806,160
Total current assets		**18,484,692,518**	**20,479,768,268**	**3,683,184,399**	**2,581,447,492**
Non-current assets					
Other non-current financial assets	26	1,828,785,579	1,995,551,686	89,932,236	53,000,000
Investments in associates	8	6,228,054,327	2,795,777,985	3,144,604,000	764,604,000
Investments in subsidiaries	9	-	-	50,836,609,974	42,560,609,974
Investments in joint ventures	8	34,559,745,405	28,307,367,806	6,346,256,691	4,916,502,884
Investments in other companies	10, 26	247,299,900	2,442,299,900	247,299,900	2,442,299,900
Other non-current receivables from related parties	5	44,011,302	18,316,560	47,804,393	19,817,713
Derivative assets	26	5,821,259	266,637,280	-	-
Long-term loans to related parties	5, 26	522,661,930	540,897,665	1,753,796,258	1,807,709,571
Long-term loan to other parties	8, 26	2,384,774,934	-	-	-
Land for future development projects	11	380,447,869	398,490,216	305,389,850	305,389,850
Property, plant and equipment	12	29,479,296,440	24,107,887,896	520,219,554	538,511,103
Right-of-use assets	3, 13	2,029,586,919	-	41,717,185	-
Goodwill	14	169,654,828	170,315,099	-	-
Intangible assets other than goodwill	14	3,283,874,662	3,626,578,104	1,757,316	4,333,630
Lease receivable from related party	5	10,561,883,101	13,139,323,209	-	-
Deferred tax assets	22	42,057,427	38,896,697	49,295,402	38,896,697
Other non-current assets	15	1,879,603,961	1,901,318,127	4,516,774	4,486,638
Total non-current assets		**93,647,559,843**	**79,749,658,230**	**63,389,199,533**	**53,456,161,960**
Total assets		**112,132,252,361**	**100,229,426,498**	**67,072,383,932**	**56,037,609,452**

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

RATCH Group Public Company Limited and its subsidiaries

Statement of financial position

Liabilities and equity	Note	Consolidated financial statements 31 December 2020	Consolidated financial statements 31 December 2019	Separate financial statements 31 December 2020	Separate financial statements 31 December 2019
			(in Baht)		
Current liabilities					
Short-term loans from financial institutions	*16*	60,074,200	603,080,000	-	-
Short-term loans from related party	*5, 16*	-	-	3,465,000,000	-
Trade payables		3,643,029,682	3,906,333,813	-	-
Other current payables	*5*	1,157,970,623	1,707,754,528	326,574,947	286,540,211
Derivative liabilities	*26*	225,923,272	140,193,769	-	-
Current portion of long-term loans from financial institutions	*16, 26*	1,486,205,468	1,091,191,923	-	-
Current portion of lease liabilities *(2019: Current portion of finance lease liabilities)*	*3, 16*	118,091,720	741,415	16,290,079	-
Current tax payable		150,579	3,676,848	-	-
Other current liabilities		185,743,151	121,083,050	20,769,266	21,233,967
Total current liabilities		**6,877,188,695**	**7,574,055,346**	**3,828,634,292**	**307,774,178**
Non-current liabilities					
Long-term loans from financial institutions	*16, 26*	16,768,088,099	15,273,252,762	-	-
Lease liabilities *(2019: Finance lease liabilities)*	*3, 16*	1,362,555,893	414,886	26,593,861	-
Derivative liabilities	*26*	1,051,608,153	748,411,942	-	-
Debentures	*16, 26*	23,338,357,086	15,167,590,698	7,987,986,087	-
Deferred tax liabilities	*22*	1,831,406,359	1,710,235,519	-	-
Non-current provisions for employee benefits	*17*	225,498,462	203,820,910	178,407,987	166,231,851
Other long-term provisions		153,377,313	135,121,715	-	-
Other non-current liabilities		2,600,000	2,600,000	-	-
Total non-current liabilities		**44,733,491,365**	**33,241,448,432**	**8,192,987,935**	**166,231,851**
Total liabilities		**51,610,680,060**	**40,815,503,778**	**12,021,622,227**	**474,006,029**
Equity					
Share capital:					
Authorised share capital *(1,450,000,000 ordinary shares, par value at Baht 10 per share)*		14,500,000,000	14,500,000,000	14,500,000,000	14,500,000,000
Issued and paid-up share capital *(1,450,000,000 ordinary shares, par value at Baht 10 per share)*		14,500,000,000	14,500,000,000	14,500,000,000	14,500,000,000
Share premium on ordinary shares	*18*	1,531,778,000	1,531,778,000	1,531,778,000	1,531,778,000
Difference arising from common control transaction		-	-	221,308,748	221,308,748
Retained earnings					
Appropriated					
Legal reserve	*18*	1,450,000,000	1,450,000,000	1,450,000,000	1,450,000,000
Unappropriated	*3*	53,585,646,723	50,802,260,025	37,393,869,408	37,887,722,290
Other components of equity		(10,546,536,831)	(8,870,765,604)	(46,194,451)	(27,205,615)
Equity attributable to owners of the parent		**60,520,887,892**	**59,413,272,421**	**55,050,761,705**	**55,563,603,423**
Non-controlling interests		684,409	650,299	-	-
Total equity		**60,521,572,301**	**59,413,922,720**	**55,050,761,705**	**55,563,603,423**
Total liabilities and equity		**112,132,252,361**	**100,229,426,498**	**67,072,383,932**	**56,037,609,452**

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

RATCH Group Public Company Limited and its subsidiaries

Statement of comprehensive income

	Note	Consolidated financial statements		Separate financial statements	
		Year ended 31 December		Year ended 31 December	
		2020	2019	2020	2019
		(in Baht)			
Revenue from sales and rendering of services	5, 19	31,652,536,013	35,441,113,801	-	-
Revenue from lease contracts	5	2,553,209,226	2,923,233,480	-	-
Cost of sales and rendering of services	5, 21	(30,228,688,704)	(33,228,035,300)	-	-
Gross profit		**3,977,056,535**	**5,136,311,981**	-	-
Management service income	5	276,307,350	244,242,542	439,448,107	482,756,023
Interest income	5	159,412,199	205,522,111	95,978,778	133,507,132
Dividend income	5, 8, 9, 10	61,184,256	100,881,446	3,463,629,570	3,341,958,711
Gain on bargain purchase		-	269,917,945	-	-
Other income	5	219,002,836	66,785,309	5,009,984	7,985,856
Administrative expenses	5, 21	(1,601,096,914)	(1,595,991,960)	(930,216,123)	(934,216,744)
Net foreign exchange gain (loss)		304,452,937	(132,479,303)	(5,717,374)	(98,492,839)
Gain (loss) on fair value adjustment of derivatives		(130,239,655)	350,383	-	-
Finance costs	5	(1,551,352,466)	(1,430,569,771)	(71,953,352)	-
Share of profit of joint ventures and associates accounted for using equity method	8	4,600,342,636	3,968,379,850	-	-
Profit before income tax expense		**6,315,069,714**	**6,833,350,533**	**2,996,179,590**	**2,933,498,139**
(Tax expense) income	22	(28,357,829)	(870,066,448)	2,514,702	1,273,559
Profit for the year		**6,286,711,885**	**5,963,284,085**	**2,998,694,292**	**2,934,771,698**
Other comprehensive income (expense)					
Items that will be reclassified subsequently to profit or loss					
Exchange differences on translating financial statements		318,077,769	(1,246,564,722)	-	-
Loss on cash flow hedges		(141,232,876)	(476,422,088)	-	-
Share of other comprehensive income (expense) of joint ventures and associates accounted for using equity method	8	(1,162,084,981)	(560,767,010)	-	-
Total items that will be reclassified subsequently to profit or loss		**(985,240,088)**	**(2,283,753,820)**	-	-
Items that will not be reclassified to profit or loss					
Loss on investments in equity instruments designated at fair value through other comprehensive income	26	(665,536,995)	(520,435,779)	-	-
Losses on remeasurements of defined benefit plans	17	(28,912,830)	(8,171,482)	(23,736,045)	(5,482,908)
Share of other comprehensive income (expense) of joint ventures and associates accounted for using equity method	8	(1,863,880)	(11,508,542)	-	-
Income tax relating to items that will not be reclassified	22	5,782,566	1,634,296	4,747,209	1,096,581
Total items that will not be reclassified to profit or loss		**(690,531,139)**	**(538,481,507)**	**(18,988,836)**	**(4,386,327)**
Other comprehensive income (expense) for the year, net of tax		**(1,675,771,227)**	**(2,822,235,327)**	**(18,988,836)**	**(4,386,327)**
Total comprehensive income (expense) for the year		**4,610,940,658**	**3,141,048,758**	**2,979,705,456**	**2,930,385,371**
Profit (loss) attributable to:					
Owners of the parent		6,286,677,775	5,963,281,245	2,998,694,292	2,934,771,698
Non-controlling interests		34,110	2,840	-	-
Profit for the year		**6,286,711,885**	**5,963,284,085**	**2,998,694,292**	**2,934,771,698**
Total comprehensive income (expense) attributable to:					
Owners of the parent		4,610,906,548	3,141,045,918	2,979,705,456	2,930,385,371
Non-controlling interests		34,110	2,840	-	-
Total comprehensive income (expense) for the year		**4,610,940,658**	**3,141,048,758**	**2,979,705,456**	**2,930,385,371**
Basic earnings per share *(in Baht)*	24	**4.34**	**4.11**	**2.07**	**2.02**

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

RATCH Group Public Company Limited and its subsidiaries
Statement of changes in equity

		Consolidated financial statements												
				Retained earnings		Other components of equity								
	Note	Issued and paid-up share capital	Share premium	Legal reserve	Unappropriated	Translation reserve	Fair value reserve	Hedging reserve	Share of other comprehensive income (expense) of joint ventures and associates using equity method	Losses on remeasurements of defined benefit plans	Total other components of equity	Total equity attributable to owners of the parent	Non-controlling interests	Total equity
							(in Baht)							
Year ended 31 December 2019														
Balance at 31 December 2018 - as reported		14,500,000,000	1,531,778,000	1,450,000,000	48,502,769,121	(4,598,889,843)	(845,039,548)	(319,842,378)	(268,779,253)	(15,979,255)	(6,048,530,277)	59,936,016,844	-	59,936,016,844
Impact of changes in accounting policy - TFRS15		-	-	-	(183,790,341)	-	-	-	-	-	-	(183,790,341)	-	(183,790,341)
Balance at 1 January 2019		14,500,000,000	1,531,778,000	1,450,000,000	48,318,978,780	(4,598,889,843)	(845,039,548)	(319,842,378)	(268,779,253)	(15,979,255)	(6,048,530,277)	59,752,226,503	-	59,752,226,503
Transactions with owners, recorded directly in equity														
Distributions to owners of the parent														
Dividends	25	-	-	-	(3,480,000,000)	-	-	-	-	-	-	(3,480,000,000)	-	(3,480,000,000)
Changes in ownership interests in subsidiaries														
Minority interests at acquisition date of subsidiary		-	-	-	-	-	-	-	-	-	-	-	647,459	647,459
Total transactions with owners, recorded directly in equity		-	-	-	(3,480,000,000)	-	-	-	-	-	-	(3,480,000,000)	647,459	(3,479,352,541)
Comprehensive income for the year														
Profit		-	-	-	5,963,281,245	-	-	-	-	-	-	5,963,281,245	2,840	5,963,284,085
Other comprehensive income (expense)		-	-	-	-	(1,246,564,722)	(520,435,779)	(476,422,088)	(572,275,552)	(6,537,186)	(2,822,235,327)	(2,822,235,327)	-	(2,822,235,327)
Total comprehensive income (expense) for the year		-	-	-	5,963,281,245	(1,246,564,722)	(520,435,779)	(476,422,088)	(572,275,552)	(6,537,186)	(2,822,235,327)	3,141,045,918	2,840	3,141,048,758
Balance at 31 December 2019		14,500,000,000	1,531,778,000	1,450,000,000	50,802,260,025	(5,845,454,565)	(1,365,475,327)	(796,264,466)	(841,054,805)	(22,516,441)	(8,870,765,604)	59,413,272,421	650,299	59,413,922,720

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

RATCH Group Public Company Limited and its subsidiaries

Statement of changes in equity

		Consolidated financial statements												
				Retained earnings		Other components of equity								
	Note	Issued and paid-up share capital	Share premium	Legal reserve	Unappropriated	Translation reserve	Fair value reserve	Hedging reserve	Share of other comprehensive income (expense) of joint ventures and associates using equity method	Losses on remeasurements of defined benefit plans	Total other components of equity	Total equity attributable to owners of the parent	Non-controlling interests	Total equity
							(in Baht)							
Year ended 31 December 2020														
Balance at 31 December 2019 - as reported		14,500,000,000	1,531,778,000	1,450,000,000	50,802,260,025	(5,845,454,565)	(1,365,475,327)	(796,264,466)	(841,054,805)	(22,516,441)	(8,870,765,604)	59,413,272,421	650,299	59,413,922,720
Impact of changes in accounting policies	3	-	-	-	(23,291,077)	-	-	-	-	-	-	(23,291,077)	-	(23,291,077)
Balance at 1 January 2020		14,500,000,000	1,531,778,000	1,450,000,000	50,778,968,948	(5,845,454,565)	(1,365,475,327)	(796,264,466)	(841,054,805)	(22,516,441)	(8,870,765,604)	59,389,981,344	650,299	59,390,631,643
Transactions with owners, recorded directly in equity														
Distributions to owners of the parent														
Dividends	25	-	-	-	(3,480,000,000)	-	-	-	-	-	-	(3,480,000,000)	-	(3,480,000,000)
Total transactions with owners, recorded directly in equity		-	-	-	(3,480,000,000)	-	-	-	-	-	-	(3,480,000,000)	-	(3,480,000,000)
Comprehensive income for the year														
Profit		-	-	-	6,286,677,775	-	-	-	-	-	-	6,286,677,775	34,110	6,286,711,885
Other comprehensive income (expense)		-	-	-	-	318,077,769	(665,536,995)	(141,232,876)	(1,163,948,861)	(23,130,264)	(1,675,771,227)	(1,675,771,227)	-	(1,675,771,227)
Total comprehensive income (expense) for the year		-	-	-	6,286,677,775	318,077,769	(665,536,995)	(141,232,876)	(1,163,948,861)	(23,130,264)	(1,675,771,227)	4,610,906,548	34,110	4,610,940,658
Balance at 31 December 2020		14,500,000,000	1,531,778,000	1,450,000,000	53,585,646,723	(5,527,376,796)	(2,031,012,322)	(937,497,342)	(2,005,003,666)	(45,646,705)	(10,546,536,831)	60,520,887,892	684,409	60,521,572,301

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

RATCH Group Public Company Limited and its subsidiaries

Statement of changes in equity

		Separate financial statements						
					Retained earnings		Other components of equity	
	Note	Issued and paid-up share capital	Share premium	Difference arising from common control transaction	Legal reserve	Unappropriated	Losses on remeasurements of defined benefit plans	Total equity
				(in Baht)				
Year ended 31 December 2019								
Balance at 1 January 2019		**14,500,000,000**	**1,531,778,000**	**221,308,748**	**1,450,000,000**	**38,432,950,592**	**(22,819,288)**	**56,113,218,052**
Transactions with owners, recorded directly in equity								
Distributions to owners of the parent								
Dividends	*25*	-	-	-	-	(3,480,000,000)	-	(3,480,000,000)
Total transactions with owners, recorded directly in equity		-	-	-	-	**(3,480,000,000)**	-	**(3,480,000,000)**
Comprehensive income for the year								
Profit		-	-	-	-	2,934,771,698	-	2,934,771,698
Other comprehensive income (expense)		-	-	-	-	-	(4,386,327)	(4,386,327)
Total comprehensive income (expense) for the year		-	-	-	-	**2,934,771,698**	**(4,386,327)**	**2,930,385,371**
Balance at 31 December 2019		**14,500,000,000**	**1,531,778,000**	**221,308,748**	**1,450,000,000**	**37,887,722,290**	**(27,205,615)**	**55,563,603,423**

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

RATCH Group Public Company Limited and its subsidiaries

Statement of changes in equity

		Separate financial statements						
					Retained earnings		Other components of equity	
	Note	Issued and paid-up share capital	Share premium	Difference arising from common control transaction	Legal reserve	Unappropriated	Losses on remeasurements of defined benefit plans	Total equity
				(in Baht)				
Year ended 31 December 2020								
Balance at 31 December 2019 - as reported		**14,500,000,000**	**1,531,778,000**	**221,308,748**	**1,450,000,000**	**37,887,722,290**	**(27,205,615)**	**55,563,603,423**
Impact of changes in accounting policies	*3*	-	-	-	-	(12,547,174)	-	(12,547,174)
Balance at 1 January 2020		**14,500,000,000**	**1,531,778,000**	**221,308,748**	**1,450,000,000**	**37,875,175,116**	**(27,205,615)**	**55,551,056,249**
Transactions with owners, recorded directly in equity								
Distributions to owners of the parent								
Dividends	*25*	-	-	-	-	(3,480,000,000)	-	(3,480,000,000)
Total transactions with owners, recorded directly in equity		-	-	-	-	**(3,480,000,000)**	-	**(3,480,000,000)**
Comprehensive income for the year								
Profit		-	-	-	-	2,998,694,292	-	2,998,694,292
Other comprehensive income (expense)		-	-	-	-	-	(18,988,836)	(18,988,836)
Total comprehensive income (expense) for the year		-	-	-	-	**2,998,694,292**	**(18,988,836)**	**2,979,705,456**
Balance at 31 December 2020		**14,500,000,000**	**1,531,778,000**	**221,308,748**	**1,450,000,000**	**37,393,869,408**	**(46,194,451)**	**55,050,761,705**

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

RATCH Group Public Company Limited and its subsidiaries

Statement of cash flows

	Note	Consolidated financial statements		Separate financial statements	
		Year ended 31 December		Year ended 31 December	
		2020	2019	2020	2019
			(in Baht)		
Cash flows from operating activities					
Profit for the year		6,286,711,885	5,963,284,085	2,998,694,292	2,934,771,698
Adjustments to reconcile profit to cash receipts (payments)					
Tax expense (income)	22	28,357,829	870,066,448	(2,514,702)	(1,273,559)
Finance costs		1,551,352,466	1,430,569,771	71,953,352	-
Depreciation	12, 13	1,504,306,699	1,273,309,552	35,754,096	22,257,004
Amortisation	14	328,225,233	254,606,473	2,576,314	2,915,305
Impairment loss recognised in profit or loss	26	22,623,034	-	36,820,421	-
Impairment losses on goodwill		-	42,312,620	-	-
Unrealised (gain) loss on exchange		(224,520,304)	124,215,577	5,854,454	84,472,015
(Gain) loss on fair value adjustment of derivatives		130,239,655	(350,383)	-	-
(Gain) loss on fair value adjustment of other financial assets	26	(10,144,144)	(4,135,616)	262,076	(4,118,766)
(Gain) loss on disposal of other financial assets		(3,669,581)	(358,060)	(713,962)	150,702
Fair value adjustment of lease receivable from related party		(77,678,174)	(96,693,665)	-	-
Share of profit of joint ventures and associates accounted for using equity method, net of tax	8	(4,600,342,636)	(3,968,379,850)	-	-
Gain on dissolution of joint venture		-	(2,077,131)	-	(1,625,031)
Loss on spare parts and supplies devaluation	7	74,612,903	50,403,209	-	-
(Reversal of) loss on fuel oil devaluation	7	65,884,276	(25,564,810)	-	-
Gain on disposal of spare parts and supplies		(250,000)	-	-	-
Gain on disposal of land for future development projects		(1,801,903)	-	-	-
(Gain) loss on write-off and disposal of plant and equipment		2,765,778	368,059	(7,346)	5,901
Dividend income	5, 8, 9, 10	(61,184,256)	(100,881,446)	(3,463,629,570)	(3,341,958,711)
Interest income		(159,412,199)	(205,522,111)	(95,978,778)	(133,507,132)
Gain on bargain purchase		-	(269,917,945)	-	-
Write-off withholding tax deducted at source and others		172	1,410,603	-	-
		4,856,076,733	5,336,665,380	(410,929,353)	(437,910,574)
Changes in operating assets and liabilities					
Trade receivable from related parties		295,413,147	306,092,876	-	-
Trade receivable from other parties		48,558,675	153,942,394	-	-
Other current receivables		40,519,917	55,988,912	(3,416,938)	431,162
Advances to and other current receivables from related parties		27,518,985	(39,272,855)	(49,800,653)	(27,720,567)
Lease receivable from related party		3,346,052,037	1,359,511,473	-	-
Spare parts and supplies		(16,624,094)	56,683,419	-	-
Other current assets and other non-current assets		(157,832,781)	(539,984,393)	(20,791,177)	2,003,510
Trade payable		(271,813,667)	(621,946,123)	-	-
Other current payables		(582,575,392)	155,295,264	508,533	(76,440,545)
Other current liabilities		66,106,348	58,301,182	(415,499)	(1,202,053)
Non-current provisions for employee benefits		(7,308,969)	21,824,943	(11,559,908)	13,071,564
Long-term provisions		5,923,747	21,099,367	-	-
Net cash generated from (used in) operating		7,650,014,686	6,324,201,839	(496,404,995)	(527,767,503)
Taxes received (paid)		(358,661,699)	(734,949,383)	641,143	(964,661)
Net cash from (used in) operating activities		**7,291,352,987**	**5,589,252,456**	**(495,763,852)**	**(528,732,164)**

RATCH Group Public Company Limited and its subsidiaries
Statement of cash flows

	Note	Consolidated financial statements		Separate financial statements	
		Year ended 31 December		Year ended 31 December	
		2020	2019	2020	2019
			(in Baht)		
Cash flows from investing activities					
Proceeds from disposal of subsidiary	9	1,960,000	-	1,960,000	-
Cash decreased from disposal of subsidiary		(3,765,979)	-	-	-
Acquisition of subsidiaries, net of cash acquired		-	(1,977,100,386)	-	(1,998,400,000)
Payments for investment in subsidiary	9	-	-	(8,280,000,000)	(4,000,000)
Net cash inflow (outflow) in other current financial assets		728,657,861	(2,162,292,177)	(632,539,036)	289,664,127
Net cash outflow in other non-current financial assets		(513,116,250)	-	(60,000,000)	-
Proceeds from repayment of short-term loans to related parties	5	25,000,000	-	1,239,000,000	100,000,000
Short-term loans to related parties	5	(5,000,000)	-	(1,165,000,000)	(220,000,000)
Proceeds from repayment of long-term loans to related parties	5	-	-	132,348,026	161,000,000
Long-term loans to related parties	5	-	(507,524,941)	(136,133,542)	(667,721,521)
Long-term loan to other party	8	(2,500,768,000)	-	-	-
Proceeds from disposal of joint venture		-	2,077,131	-	2,077,131
Payments for investments in joint ventures	8	(4,511,633,068)	(582,612,704)	(1,427,713,807)	(263,898,117)
Payments for investment in associates	8	(1,484,045,658)	(1,173,479,571)	-	-
Payments for investments in other companies	10	(185,000,000)	-	(185,000,000)	-
Advance payments for investments		-	194,697,320	-	-
Proceeds from sale of land for future development projects		19,844,250	-	-	-
Payment for acquisition of land for future development projects		-	(18,042,347)	-	-
Proceeds from sale of equipment		2,184,944	11,302	7,382	10,023
Payment for acquisition of plant and equipment		(4,628,729,219)	(2,441,871,548)	(469,159)	(10,784,631)
Payment for acquisition of intangible assets		(3,857,513)	(1,784,509)	-	(315,000)
Dividends received		2,047,010,551	3,716,587,334	3,464,229,570	3,405,449,871
Interest received		98,053,132	201,730,404	69,880,488	138,557,578
Net cash from (used in) investing activities		**(10,913,204,949)**	**(4,749,604,692)**	**(6,979,430,078)**	**931,639,461**
Cash flows from financing activities					
Proceeds from short-term loans from financial institutions	16	11,405,912,200	1,376,635,500	8,335,000,000	-
Repayment for short-term loans from financial institutions	16	(11,946,580,000)	(755,582,500)	(8,335,000,000)	-
Proceeds from long-term loans from financial institutions	16	2,239,229,895	1,200,880,439	-	-
Repayment for long-term loans from financial institutions	16	(1,549,790,061)	(965,541,724)	-	-
Proceeds from short-term loans from related party	5, 16	-	-	3,465,000,000	-
Proceeds from early unwinding of derivative		227,783,123	-	-	-
Proceeds from issue of debentures	16	8,000,000,000	-	8,000,000,000	-
Redemption payment of debentures		-	(3,407,832,300)	-	-
Payment of lease liabilities	13, 16	(62,810,603)	(857,950)	(18,500,460)	-
Dividend paid to owners of the Company		(3,480,049,203)	(3,479,780,179)	(3,480,049,203)	(3,479,780,179)
Finance costs paid		(1,408,571,319)	(1,402,061,328)	(39,925,680)	-
Net cash from (used in) financing activities		**3,425,124,032**	**(7,434,140,042)**	**7,926,524,657**	**(3,479,780,179)**
Net increase (decrease) in cash and cash equivalents, before effect of exchange rates		(196,727,930)	(6,594,492,278)	451,330,727	(3,076,872,882)
Effect of exchange rate changes on cash and cash equivalents		136,153,649	(183,591,815)	-	-
Net increase (decrease) in cash and cash equivalents		**(60,574,281)**	**(6,778,084,093)**	**451,330,727**	**(3,076,872,882)**
Cash and cash equivalents at 1 January		4,917,163,131	11,695,247,224	1,780,104,131	4,856,977,013
Cash and cash equivalents at 31 December		**4,856,588,850**	**4,917,163,131**	**2,231,434,858**	**1,780,104,131**

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

RATCH Group Public Company Limited and its subsidiaries
Notes to the financial statements
For the year ended 31 December 2020

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RATCH Group Public Company Limited and its subsidiaries
Notes to the financial statements
For the year ended 31 December 2020

These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from the Thai language statutory financial statements, and were approved and authorised for issue by the Board of Directors on 15 February 2021.

1 General information

RATCH Group Public Company Limited, the "Company", is incorporated in Thailand and was listed on the Stock Exchange of Thailand in October 2000. The Company's registered office is at 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi, Thailand.

The Company's major shareholder during the financial year was Electricity Generating Authority of Thailand ("EGAT") (45% shareholding), which was incorporated in Thailand.

The principal businesses of the Company are the investing in companies, whose objectives are to generate and sell electricity, develop power energy project and infrastructure project. Details of the Company's subsidiaries, associates and joint ventures as at 31 December 2020 and 2019 were as follows:

Name of entities	Type of business	Country of incorporation	Ownership interest (%)	
			2020	2019
Direct subsidiaries				
Ratchaburi Electricity Generating Company Limited	Generating and selling electricity and investing in the power energy business	Thailand	99.99	99.99
Ratchaburi Energy Company Limited	Investing in the power energy business	Thailand	99.99	99.99
RH International Corporation Limited	Investing in the power energy business	Thailand	99.99	99.99
RATCH O&M Company Limited	Providing operation and maintenance services	Thailand	99.99	99.99
Ratchaburi Alliances Company Limited	Investing in the power energy business	Thailand	99.99	99.99
Hin Kong Power Holding Company Limited *	Investing in the power energy business	Thailand	-	99.99
RATCH Cogeneration Company Limited	Generating and selling electricity and cooling water	Thailand	99.97	99.97
RATCH-Lao Services Company Limited	Providing operation maintenance services and investing in the related business	Lao PDR	99.99	99.99

RATCH Group Public Company Limited and its subsidiaries
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For the year ended 31 December 2020

Name of entities	Type of business	Country of incorporation	Ownership interest (%)	
			2020	2019
Indirect subsidiaries				
RH International (Mauritius) Corporation Limited	Investing in the power energy business internationally	Mauritius	100	100
RH International (Singapore) Corporation Pte. Ltd.	Investing in the power energy business internationally	Singapore	100	100
RATCH-Australia Corporation Pty. Ltd. and its subsidiaries	Developing and operating power plant and investing in the power energy business	Australia	100	100
RATCH China Power Company Limited	Investing in the power energy business internationally	Hong Kong	100	100
RE Solar 1 Company Limited	Generating and selling electricity	Thailand	99.99	99.99
CN Biomass Company Limited (In process of liquidation)	Generating and selling electricity	Thailand	99.99	99.99
PB Biomass Company Limited (In process of liquidation)	Generating and selling electricity	Thailand	99.99	99.99
LP Biomass Company Limited (In process of liquidation)	Generating and selling electricity	Thailand	99.99	99.99
Hin Kong Power Company Limited *	Generating and selling electricity	Thailand	-	99.99
Direct associates				
First Korat Wind Company Limited	Generating and selling electricity	Thailand	20	20
K.R. TWO Company Limited	Generating and selling electricity	Thailand	20	20
Northern Bangkok Monorail Company Limited **	Mass transit system	Thailand	10	-
Eastern Bangkok Monorail Company Limited **	Mass transit system	Thailand	10	-
Indirect associates				
Solar Power (Korat 3) Company Limited	Generating and selling electricity	Thailand	40	40

RATCH Group Public Company Limited and its subsidiaries
Notes to the financial statements
For the year ended 31 December 2020

Name of entities	Type of business	Country of incorporation	Ownership interest (%)	
			2020	2019
Indirect associates				
Solar Power (Korat 4) Company Limited	Generating and selling electricity	Thailand	40	40
Solar Power (Korat 7) Company Limited	Generating and selling electricity	Thailand	40	40
Direct joint ventures				
Chubu Ratchaburi Electric Services Company Limited	Providing operation and maintenance services	Thailand	50	50
SouthEast Asia Energy Limited	Investing in the power energy business	Thailand	33.33	33.33
Smart Infranet Company Limited	Investing in Underground Optic Fiber Network Project	Thailand	51	51
Things on Net Company Limited	Investing in installation and development of telecommunication networks	Thailand	35	35
Hin Kong Power Holding Company Limited *	Investing in the power energy business	Thailand	51	-
R E N Korat Energy Company Limited	Generating and selling electricity and steam	Thailand	40	-
Xe-Pian Xe-Namnoy Power Company Limited	Generating and selling electricity	Lao PDR	25	25
NEXIF RATCH ENERGY SINGAPORE PTE. LTD.	Investing in the power energy business	Singapore	49	-
Indirect joint ventures				
Ratchaburi Power Company Limited	Generating and selling electricity	Thailand	25	25
Nava Nakorn Electricity Generating Company Limited	Generating and selling electricity and steam	Thailand	40	40
Ratchaburi World Cogeneration Company Limited	Generating and selling electricity and steam	Thailand	40	40
Berkprai Cogeneration Company Limited	Generating and selling electricity and steam	Thailand	35	35

RATCH Group Public Company Limited and its subsidiaries
Notes to the financial statements
For the year ended 31 December 2020

Name of entities	Type of business	Country of incorporation	Ownership interest (%)	
			2020	2019
Indirect joint ventures				
Solarta Company Limited	Generating and selling electricity	Thailand	49	49
Songkhla Biomass Company Limited	Generating and selling electricity	Thailand	40	40
Songkhla Biofuel Company Limited	Providing material of biofuel	Thailand	40	40
Hongsa Power Company Limited	Generating and selling electricity	Lao PDR	40	40
Phu Fai Mining Company Limited	Coal mining and trading	Lao PDR	37.50	37.50
Asia Water Co., Ltd.	Generating and selling water	Lao PDR	40	40
SIPHANDONE-RATCH LAO CO., LTD.	Generating and selling wood pellet	Lao PDR	25	-
PT Medco Ratch Power Riau	Generating and selling electricity	Republic of Indonesia	49	49
Fareast Renewable Development Pte. Ltd.	Investing in the power energy business internationally	Singapore	50	50
RATCH & AIDC Wind Energy Pte. Ltd.	Investing in the power energy business internationally	Singapore	63.80	-
An Binh Energy and Infrastructure Fund	Investing in the power energy business and infrastructure	Vietnam	49	-
Subsidiaries of direct joint ventures				
Hin Kong Power Company Limited *	Generating and selling electricity	Thailand	51	-
Nexif Ratch Energy Rayong Company Limited	Generating and selling electricity and steam	Thailand	49	-
Nam Ngum 2 Power Company Limited	Generating and selling electricity	Lao PDR	25	25
Subsidiaries of indirect joint ventures				
PT Bajradaya Sentranusa	Generating and selling electricity	Republic of Indonesia	26.61	26.61

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Name of entities	Type of business	Country of incorporation	Ownership interest (%)	
			2020	2019
Subsidiaries of indirect joint ventures				
An Binh Investment Group Joint Stock Company	Investing in the power energy business and infrastructure	Vietnam	49	-
Ecowin Energy Corporation	Generating and selling electricity	Vietnam	51.04	-
Joint venture of an indirect joint venture				
Thang Long Power Plant Joint Stock Company	Generating and selling electricity	Vietnam	22.05	-

* *See note 9*
** *See 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 2020. The initial application of these new and revised TFRS has resulted in changes in certain of the Group's accounting policies.

The Group has initially applied TFRS - Financial instruments standards which comprise TFRS 9 Financial Instruments and relevant standards and interpretations and TFRS 16 Leases and disclosed impact from changes to significant accounting policies 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. The Group has assessed the potential initial impact on the financial statements of these new and revised TFRS and expects that there will be no material impact on the financial statements in the period of initial application.

(b) Functional and presentation currency

The financial statements are presented 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.

(i) Judgements

Information about judgements made in applying accounting policies that have the most significant effects on the amounts recognised in the financial statements is included in the following note:

4(k) and 13	Leases: - whether an arrangement contains a lease; - whether the Group is reasonably certain to exercise extension options; - whether the Group exercise termination options; - whether the Group has transferred substantially all the risks and rewards incidental to the ownership of the assets to lessees
8	Equity-accounted investees: whether the Group has significant influence over an investee

(ii) Assumptions and estimation uncertainties

Information about assumption and estimation uncertainties at 31 December 2020 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(k)	Determining the incremental borrowing rate to measure lease liabilities;
14	Impairment test of goodwill: key assumptions underlying recoverable amounts;
17	Measurement of defined benefit obligations: key actuarial assumptions
22	Recognition of deferred tax assets: availability of future taxable profit against which deductible temporary differences and tax losses carried forward can be utilised.
26	Determining the fair value of financial instruments on the basis of significant unobservable inputs.

3 Changes in accounting policies

From 1 January 2020, the Group has initially applied TFRS - Financial instruments standards and TFRS 16.

Impact on changes in accounting policy	*Note*	**Consolidated financial statements** Retained earnings	**Separate financial statements** Retained earnings
		(in thousand Baht)	
At 31 December 2019 - as reported		50,802,260	37,887,722
Increase (decrease) due to:			
Adoption of TFRS - Financial instruments standards			
Impairment losses on financial assets	*(a.2)*	(15,498)	(15,683)
Related tax		3,099	3,136
Adoption of TFRS 16 - net of tax	*(b)*	(10,892)	-
At 1 January 2020 - restated		**50,778,969**	**37,875,175**

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(a) TFRS - Financial instruments standards

The Group has adopted TFRS - Financial instruments standards by adjusting the cumulative effects to retained earnings on 1 January 2020. Therefore, the Group did not adjust the information presented for 2019. The disclosure requirements of TFRS for financial instruments have not generally been applied to comparative information.

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. The details of accounting policies are disclosed in note 4(d) and 4(l). The impact from adoption of TFRS – Financial instruments standards are as follows:

(a.1) Classification and measurement of financial assets and financial liabilities

TFRS 9 contains three principal classification categories for financial assets: measured at amortised cost, fair value through other comprehensive income (FVOCI) and fair value through profit or loss (FVTPL). The classification is based on the cash flow characteristics of the financial asset and the business model in which they are managed. However, the Group may, at initial recognition, irrevocably designate a financial asset as measured at FVTPL. TFRS 9 eliminates the previous classification of held-to-maturity debt securities, available-for-sale securities, trading securities and general investment as specified by TAS 105.

Under TFRS 9, interest income and interest expenses recognised from all financial assets and financial liabilities measured at amortised cost shall be calculated using effective interest rate method. Previously, the Group recognised interest income and interest expenses at the rate specified in the contract.

The following table shows classification and measurement categories under TAS 105 and TFRS 9.

Consolidated financial statements					
Classification under TAS 105 at 31 December 2019		Classification under TFRS 9 at 1 January 2020			
	Carrying amounts	FVTPL	FVTOCI	Amortised cost - net	Total
			(in thousand Baht)		
Financial Assets					
Current investments					
Short-term deposits at financial institutions	3,888,740	-	-	3,888,740	3,888,740
Debt securities held for trading	503,109	503,109	-	-	503,109
Other debt securities held to maturity	60,000	-	-	60,000	60,000
	4,451,849	**503,109**	**-**	**3,948,740**	**4,451,849**
Other long-term investments					
Equity securities available for sale	1,942,552	-	1,942,552	-	1,942,552
Other debt instruments held to maturity	53,000	-	-	53,000	53,000
Investment in other companies **	2,442,300	-	2,442,300	-	2,442,300
	4,437,852	**-**	**4,384,852**	**53,000**	**4,437,852**
Derivative assets	266,637	266,637	-	-	266,637
Derivative liabilities	(888,606)	(128,368)	(760,238)	-	(888,606)

Separate financial statements					
Classification under TAS 105 at 31 December 2019		Classification under TFRS 9 at 1 January 2020			
	Carrying amounts	FVTPL	FVTOCI	Amortised cost - net	Total
			(in thousand Baht)		
Financial Assets					
Current investments					
Debt securities held for trading	482,065	482,065	-	-	482,065
Other debt securities held to maturity	60,000	-	-	60,000	60,000
	542,065	**482,065**	**-**	**60,000**	**542,065**
Other long-term investments					
Other debt instruments held to maturity	53,000	-	-	53,000	53,000
Investment in other companies **	2,442,300	-	2,442,300	-	2,442,300
Total	**2,495,300**	**-**	**2,442,300**	**53,000**	**2,495,300**

** *See note 10*

The Group intends to hold non-marketable equity securities amounted of Baht 2,442.30 million for the long-term strategic purposes. The Group has designated them as measured at FVOCI. The accumulated gain (loss) on measurement of these investments will not be reclassified to profit or loss.

Investment in debt securities of the Group that were previously classified as available-for-sale are now classified at FVOCI. The Group intends to hold the investments to maturity to collect contractual cash flows and these cash flows consist solely of payments of principal and interest on the principal amount outstanding.

(a.2) Impairment - Financial assets

TFRS 9 introduces forward-looking 'expected credit loss' (ECL) model whereas previously the Group estimates the allowance for doubtful account by analysing payment histories and future expectation of customer payment. TFRS 9 requires considerable judgement about how changes in economic factors affect ECLs, which are determined on a probability-weighted basis. The new impairment model applies to financial assets measured at amortised cost and debt investments measured at FVOCI, lease receivable, except for investments in equity instruments.

The Group has determined that the application of TFRS 9's impairment requirements at 1 January 2020 results in an additional allowance for impairment loss as follows:

	Consolidated financial statements	Separate financial statements
	(in thousand Baht)	
Allowance for impairment losses at 31 December 2019	-	-
Additional impairment loss recognised at 1 January 2020 on:		
- Other current financial assets	36	36
- Long-term loans to related parties	13,120	15,607
- Lease receivable from related party	2,302	-
- Other non-current financial assets	40	40
Allowance for impairment losses at 1 January 2020	**15,498**	**15,683**

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The Group has opted to recognise the increase of impairment loss as an adjustment to retained earnings as at 1 January 2020.

(b) TFRS 16 Leases

From 1 January 2020, the Group has initially adopted TFRS 16 on contracts previously identified as leases according to TAS 17 *Leases* and TFRIC 4 *Determining whether an arrangement contains a lease* using the modified retrospective approach.

Previously, the Group, as a lessee, recognised payments made under operating leases in profit or loss on a straight-line basis over the term of the lease. Under TFRS 16, the Group assesses whether a contract is, or contains, a lease. If a contract contains lease and non-lease components, the Group has elected not to separate non-lease components and account for the transaction as a single lease component. As at 1 January 2020, the Group and the Company recognised right-of-use assets and lease liabilities, as a result, the nature of expenses related to those leases was changed because the Group recognised depreciation of right-of-use assets and interest expense on lease liabilities.

On transition, the Group also elected to use the following practical expedients:

- do not recognise right-of-use assets and lease liabilities for leases with less than 12 months of lease term;
- do not recognise right-of-use assets and liabilities for leases of low value assets;
- use hindsight when determining the lease term;
- apply a single discount rate to a portfolio of leases with similar characteristics;
- rely on previous assessments whether leases are onerous as an alternative to performing an impairment review; and
- exclude initial direct costs from measuring the right-of-use asset.

Impact from the adoption of TFRS 16	**Consolidated financial statements**	**Separate financial statements**
	(in thousand Baht)	
At 1 January 2020		
Increase in right-of-use assets	1,003,756	50,096
Decrease in prepaid lease payments	(564,188)	-
Increase in deferred tax assets	4,005	-
Increase in lease liabilities	454,465	50,096
Decrease in retained earnings	(10,892)	-

Measurement of lease liabilities	Consolidated financial statements	Separate financial statements
	(in thousand Baht)	
Operating lease commitment as disclosed at 31 December 2019	1,079,094	55,915
Recognition exemption for short-term leases and leases of low-value assets	(11,439)	(3,847)
	1,067,655	**52,068**
Discounted using the incremental borrowing rate at 1 January 2020	454,465	50,096
Finance lease liabilities recognised as at 31 December 2019	1,156	-
Lease liabilities recognised at 1 January 2020	**455,621**	**50,096**
Weighted average incremental borrowing rate *(% per annum)*	**5.85**	**6.20**

Right-of-use assets and lease liabilities shown above were presented as part of segments of Domestic Electricity Generating, International Power Project and Others.

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 and joint ventures.

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.

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.

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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 recognised, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognised at that date.

Acquisitions from entities under common control

Business combinations under common control are accounted for using a method similar to the pooling of interest method. Under that method the acquirer recognises 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 net assets and the consideration transferred is recognised 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 losses 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 joint ventures.

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.

(b) Investments in subsidiaries, associates and joint ventures

Investments in subsidiaries, associates and joint ventures in the separate financial statements of the Company are measured at cost less allowance for impairment losses.

Disposal of investments in the separate financial statements

On disposal of an investment, the difference between net disposal proceeds and the carrying amount is recognised in profit or loss.

If the Company disposes of part of its holding of a particular investment, the deemed cost of the part sold is determined using the weighted average method applied to the carrying value of the total holding of the investment.

(c) 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 dates of the transactions.

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 recognised in profit or loss. However, foreign currency differences arising from the translation of the following items are recognised in other comprehensive income:

- an investment in equity securities designated as at FVOCI *(2019: available-for-sale equity investments)* (except on impairment, in which case foreign currency differences that have been recognised in other comprehensive income are reclassified to profit or loss); and
- qualifying cash flow hedges to the extent the hedge is effective.

Foreign operations

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

The revenues and expenses of foreign operation 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.

(d) Financial instruments

Accounting policies applicable from 1 January 2020

(d.1) Recognition and initial measurement

Trade receivables, debt securities issued and trade payables are initially recognised when they are originated. All other financial assets and financial liabilities are initially recognised when the Group becomes a party to the contractual provisions of the instrument.

A financial asset and financial liability (unless it is a trade receivable without a significant financing component or measured at FVTPL) is initially measured at fair value plus transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price. A financial asset and a financial liability measured at FVTPL are initially recognised at fair value.

(d.2) Classification and subsequent measurement

Financial assets - classification

On initial recognition, a financial asset is classified as measured at: amortised cost; fair value to other comprehensive income (FVOCI); or fair value to profit or loss (FVTPL).

Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified prospectively from the reclassification date.

A financial asset is measured at amortised cost if it meets both of the following conditions and is not designated as at FVTPL:
- it is held within a business model whose objective is to hold assets to collect contractual cashflows; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A debt investment is measured at FVOCI if it meets both of the following conditions and is not designated as at FVTPL:
- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

On initial recognition of an equity investment that is not held for trading, the Group may irrevocably elect to present subsequent changes in the investment's fair value in OCI. This election is made on an investment-by-investment basis.

All financial assets not classified as measured at amortised cost or FVOCI as described above are measured at FVTPL. This includes all derivative financial assets. On initial recognition, the Group may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortised cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

Financial assets – business model assessment

The Group makes an assessment of the objective of a business model in which a financial asset is held at a portfolio level because this best reflects the way the business is managed and information is provided to management. The information considered includes:

- the stated policies and objectives for the portfolio and the operation of those policies in practice. These include whether management's strategy focuses on earning contractual interest income, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of any related liabilities or expected cash outflows or realising cash flows through the sale of the assets;
- how the performance of the portfolio is evaluated and reported to the Group's management;
- the risks that affect the performance of the business model (and the financial assets held within that business model) and how those risks are managed;
- how managers of the business are compensated - e.g. whether compensation is based on the fair value of the assets managed or the contractual cash flows collected; and
- the frequency, volume and timing of sales of financial assets in prior periods, the reasons for such sales and expectations about future sales activity.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose, consistent with the Group's continuing recognition of the assets.

Financial assets that are held for trading or are managed and whose performance is evaluated on a fair value basis are measured at FVTPL.

Financial assets – assessment whether contractual cash flows are solely payments of principal and interest

For the purposes of this assessment
'Principal' is defined as the fair value of the financial asset on initial recognition.
'Interest' is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (e.g. liquidity risk and administrative costs), as well as a profit margin.

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In assessing whether the contractual cash flows are solely payments of principal and interest, the Group considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition. In making this assessment, the Group considers:

- contingent events that would change the amount or timing of cash flows;
- terms that may adjust the contractual coupon rate, including variable-rate features; and
- terms that limit the Group's claim to cash flows from specified assets (e.g. non-recourse features).

Financial assets – subsequent measurement and gains and losses

Financial assets at FVTPL	These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognised in profit or loss. However, see note 4(d.6) for derivatives designated as hedging instruments.
Financial assets at amortised cost	These assets are subsequently measured at amortised cost using the effective interest method. The amortised cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognised in profit or loss. Any gain or loss on derecognition is recognised in profit or loss.
Equity investments at FVOCI	These assets are subsequently measured at fair value. Dividends are recognised as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and are never reclassified to profit or loss.

Financial liabilities – classification, subsequent measurement and gains and losses

Financial liabilities are classified as measured at amortised cost or FVTPL. A financial liability is classified as at FVTPL if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition. Financial liabilities at FVTPL are measured at fair value and net gains and losses, including any interest expense, are recognised in profit or loss. Other financial liabilities are subsequently measured at amortised cost using the effective interest method. Interest expense and foreign exchange gains and losses are recognised in profit or loss. Any gain or loss on derecognition is also recognised in profit or loss. (See note 4(d.6) for financial liabilities designated as hedging instruments.)

(d.3) Derecognition

Financial assets

The Group derecognises a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group enters into transactions whereby it transfers assets recognised in its statement of financial position, but retains either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognised.

Financial liabilities

The Group derecognises a financial liability when its contractual obligations are discharged or cancelled, or expire. The Group also derecognises a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognised at fair value.

On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognised in profit or loss.

(d.4) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

(d.5) Derivatives

Derivative are recognised at fair value. At the end of each reporting period the fair value is measured. The gain or loss on remeasurement to fair value is recognised immediately in profit or loss, except where the derivatives qualify for cash flow hedge accounting or hedges of net investment in a foreign operation, in which case recognition of any resultant gain or loss depends on nature of the item being hedged (see note 4(d.6)).

(d.6) Hedging

The Group designates certain derivatives as hedging instruments to hedge the variability in cash flows associated with highly probable forecast transactions arising from changes in foreign exchange rates and interest rates and certain derivatives and non-derivative financial liabilities as hedges of foreign exchange risk on a net investment in a foreign operation.

At inception of designated hedging relationships, the Group documents the risk management objective and strategy for undertaking the hedge. The Group also documents the economic relationship between the hedged item and the hedging instrument, including whether the changes in cash flows of the hedged item and hedging instrument are expected to offset each other.

Cash flow hedges

When a derivative is designated as a cash flow hedging instrument, the effective portion of changes in the fair value of the derivative is recognised in OCI and accumulated in the hedging reserve. The effective portion of changes in the fair value of the derivative that is recognised in OCI is limited to the cumulative change in fair value of the hedged item, determined on a present value basis, from inception of the hedge. Any ineffective portion of changes in the fair value of the derivative is recognised immediately in profit or loss.

The Group designates only the change in fair value of the spot element of forward exchange contracts as the hedging instrument in cash flow hedging relationships. The change in fair value of the forward element of forward exchange contracts (forward points) is separately accounted for as a cost of hedging and recognised in a costs of hedging reserve within equity.

For all other hedged forecast transactions, the amount accumulated in the hedging reserve and the cost of hedging reserve is reclassified to profit or loss in the same period or periods during which the hedged expected future cash flows affect profit or loss.

If the hedge no longer meets the criteria for hedge accounting or the hedging instrument is sold, expires, is terminated or is exercised, then hedge accounting is discontinued prospectively. When hedge accounting for cash flow hedges is discontinued, the amount that has been accumulated in the hedging reserve remains in equity until, for a hedge of a transaction resulting in the recognition of a non-financial item, it is included in the non-financial item's cost on its initial recognition or, for other cash flow hedges, it is reclassified to profit or loss in the same period or periods as the hedged expected future cash flows affect profit or loss.

If the hedged future cash flows are no longer expected to occur, then the amounts that have been accumulated in the hedging reserve and the cost of hedging reserve are immediately reclassified to profit or loss.

Accounting policies applicable before 1 January 2020

Investments in other debt and equity securities

Debt securities and marketable equity securities held for trading are classified as current assets and are stated at fair value, with any resultant gain or loss recognised in profit or loss.

Debt securities that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are stated at amortised cost, less any impairment losses. The difference between the acquisition cost and redemption value of such debt securities is amortised using the effective interest rate method over the period to maturity.

Debt securities and marketable equity securities, other than those securities held for trading or intended to be held to maturity, are classified as available-for-sale investments. Available-for-sale investments are, subsequent to initial recognition, stated at fair value, and changes therein, other than impairment losses and foreign currency differences on available-for-sale monetary items, are recognised directly in equity. Impairment losses and foreign exchange differences are recognised in profit or loss. When these investments are derecognised, the cumulative gain or loss previously recognised directly in equity is recognised in profit or loss. Where these investments are interest-bearing, interest calculated using the effective interest method is recognised in profit or loss.

Equity securities which are not marketable are stated at cost less any impairment losses.

The fair value of financial instruments classified as held-for-trading and available-for-sale is determined as the quoted bid price at the reporting date.

Disposal of investments

On disposal of an investment, the difference between net disposal proceeds and the carrying amount together with the associated cumulative gain or loss that was reported in equity is recognised in profit or loss.

If the Group disposes of part of its holding of a particular investment, the deemed cost of the part sold is determined using the weighted average method applied to the carrying value of the total holding of the investment.

(e) 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.

(f) 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 measured at transaction price less allowance for expected credit loss *(2019: allowance for doubtful accounts)* which is determined based on an analysis of payment histories and future expectations of customer payments. Bad debts are written off when incurred.

(g) Spare parts and supplies

Spare parts and supplies are measured at the lower of cost and net realisable value.

Spare parts comprise fuel oil and supplies which are used for specific equipment in the power plant.

Cost is calculated using the moving average cost principle, and comprises all costs of purchase and other costs incurred in bringing the spare parts and supplies to their present location and condition.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs to complete and to make the sale.

The allowance for obsolescence of spare parts is calculated from the balances of spare parts at the end of year on a straight-line basis to write-down the spare parts over the remaining useful lives of power plants.

(h) Property, plant and equipment

Recognition and measurement

Owned assets

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

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Subsequent costs

The cost of replacing a part of an item of property, plant and equipment is recognised in the carrying amount of the item 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 plant and equipment. The estimated useful lives are as follows:

Buildings and other constructions	20 - 40 years
Building improvements	5 years
Power plants, substation and transmission systems	4 - 45 years
Operating and maintenance equipment	5 years
Furniture, fixtures and office equipment	3 - 15 years
Vehicles	5 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.

(i) 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.

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 period are as follows:

Software licences	3 - 10	years
Licenses on project development	25	years
Right to power purchase agreements	20 - 25	years

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

(j) Project development expenditure

Project development expenditure is recognised in profit or loss as incurred. Project development expenditure is capitalised only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to use or sell the asset. The expenditure capitalised includes borrowing costs. Other development expenditure is recognised in profit or loss as incurred.

Capitalised development expenditure is measured at cost less accumulated impairment losses. Capitalised development expenditure will be amortised when it is available for use in the manner intended.

(k) Leases

Accounting policies applicable from 1 January 2020

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. To assess whether a contract conveys the right to control the use of an identified asset, the Group uses the definition of a lease in TFRS 16.

As a lessee

At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date, except for leases of low-value assets and short-term leases which is recognised as an expense on a straight-line basis over the lease term.

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Right-of-use asset is measured at cost, less any accumulated depreciation and impairment loss, and adjusted for any remeasurements of lease liability. The cost of right-of-use asset includes the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of restoration costs, less any lease incentives received. Depreciation is charged to profit or loss on a straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. The lease payments included fixed payments less any lease incentive receivable, variable lease payments that depend on an index or a rate, and amounts expected to be payable under a residual value guarantee. The lease payments also include amount under purchase, extension or termination option if the Group is reasonably certain to exercise option. Variable lease payments that do not depend on index or a rate are recognised as expenses in the accounting period in which they are incurred.

The Group determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a change in lease term, change in lease payments, change in the estimate of the amount expected to be payable under a residual value guarantee, or a change in the assessment of purchase, extension or termination options. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount of the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

As a lessor

At inception or on modification of a contract that contains a lease component and one or more additional lease or non-lease components, the Group allocates the consideration in the contract to each component on the basis of their relative standalone prices.

When the Group acts as a lessor, it determines at lease inception whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease.

The Group recognises lease payments received under operating leases as rental income on a straight-line basis over the lease term as part of other income. Initial direct costs incurred in arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as rental income in the accounting period in which they are earned.

The Group recognises finance lease receivables at the amount of the Group's net investment in the lease, which comprises the present value of the lease payments and any unguaranteed residual value, discounted using the interest rate implicit in the lease. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

The Group applies the derecognition and impairment requirements in TFRS 9 to the net investment in the lease (See note 4(l)). The Group further regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

Accounting policies applicable before 1 January 2020

As a lessee, 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.

Assets held under other leases were classified as operating leases and lease payments are recognised in profit or loss on a straight-line basis 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.

As a lessor, rental income is recognised in profit or loss on a straight-line basis over the term of the lease. Lease incentives granted are recognised as an integral part of the total rental income. Contingent rentals are recognised as income in the accounting period in which they are earned.

(l) Impairment of financial assets

Accounting policies applicable from 1 January 2020

The Group recognises allowances for expected credit losses (ECLs) on financial assets measured at amortised cost (including cash and cash equivalents, trade receivables and other receivables, loans to others and related parties), lease receivables, and loan commitments issued which are not measured at FVTPL.

Measurement of ECLs

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Group expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

ECLs are measured on either of the following bases:
- 12-month ECLs: these are losses that are expected to result from possible default events within the 12 months after the reporting date; or
- lifetime ECLs: these are losses that are expected to result from all possible default events over the expected lives of a financial instrument.

Loss allowances for trade receivables are always measured at an amount equal to lifetime ECLs. ECLs on these financial assets are estimated using a provision matrix based on the group's historical credit loss experience, adjusted for factors that are specific to the debtors and an assessment of both current and forecast general economic conditions at the reporting date.

Loss allowances for lease receivables and all other financial instruments, the Group recognises ECLs equal to 12-month ECLs unless there has been a significant increase in credit risk of the financial instrument since initial recognition or credit-impaired financial assets, in which case the loss allowance is measured at an amount equal to lifetime ECLs.

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The maximum period considered when estimating ECLs is the maximum contractual period over which the Group is exposed to credit risk.

The Group considers a financial asset to have low credit risk when its credit rating is equivalent to the globally understood definition of 'investment grade'.

The Group assumes that the credit risk on a financial asset has increased significantly if it is over the payment period as specified in the contract, significant deterioration in financial instruments's credit rating, significant deterioration in the operating results of the debtor and existing or forecast changes in the technological, market, economic or legal environment that have a significant adverse effect on the debtor's ability to meet its obligation to the Group.

The Group considers a financial asset to be in default when:
- the debtor is unlikely to pay its credit obligations to the Group in full, without recourse by the Group to actions such as realising security (if any is held); or
- the financial asset is over the payment specified in the contract.

Depending on the nature of the financial instruments, the assessment of a significant increase in credit risk is performed on either an individual basis or a collective basis. When the assessment is performed on a collective basis, the financial instruments are grouped based on shared credit risk characteristics, such as past due status and credit risk ratings.

ECLs are remeasured at each reporting date to reflect changes in the financial instrument's credit risk since initial recognition. Increased in loss allowance is recognised as an impairment loss in profit or loss. Loss allowances for financial assets measured at amortised cost are deducted from the gross carrying amount of the assets. For debt securities at FVOCI, the Group recognises an impairment loss in profit or loss with the corresponding entry in other comprehensive income.

Credit-impaired financial assets

At each reporting date, the Group assesses whether financial assets carried at amortised cost and debt securities at FVOCI are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Write-off

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering. Subsequent recoveries of an asset that was previously written off, are recognised as a reversal of impairment in profit or loss in the period in which the recovery occurs.

Accounting policies applicable before 1 January 2020

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.

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.

When a decline in the fair value of an available for sale financial asset has been recognised directly in equity and there is objective evidence that the value of the asset is impaired, the cumulative loss that had been recognised directly in equity is recognised in profit or loss even though the financial asset has not been derecognised. The amount of the cumulative loss that is recognised in profit or loss is the difference between the acquisition cost and current fair value, less any impairment loss on that financial asset previously recognised in profit or loss.

Calculation of recoverable amount

The recoverable amount of held to maturity securities carried at amortised cost is calculated as the present value of the estimated future cash flows discounted at the original effective interest rate.

The recoverable amount of available for sale financial assets is calculated by reference to the fair value.

Reversals 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. For financial assets carried at amortised cost and available for sale financial assets that are debt securities, the reversal is recognised in profit or loss. For available for sale financial assets that are equity securities, the reversal is recognised in other comprehensive income.

(m) Impairment of non-financial assets

The carrying amounts of the Group's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the assets' recoverable amounts are estimated. For goodwill and intangible assets that have indefinite useful lives or are not yet available for use, 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 unless it reverses a previous revaluation credited to equity, in which case it is charged to equity.

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 goodwill is not reversed. 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.

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(n) Employee benefits

Defined contribution plan

Defined contribution plan is post-employment benefit plan which the Group contributes a fixed amount to another entity ("Provident Fund") and has no legal or constructive obligation to pay the additional contributions. Obligations for contributions to defined contribution plan are expensed in profit or loss as the related service is provided by the employee.

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 annually by a qualified actuary using the projected unit credit method.

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

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

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.

(o) Provisions

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance cost.

(p) Fair value measurement

'Fair value' is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or, in its absence, the most advantageous market to which the Group has access at that date. The fair value of a liability reflects its non-performance risk.

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities.

When one is available, the Group measures the fair value of an instrument using the quoted price in an active market for that instrument. A market is regarded as 'active' if transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis.

If there is no quoted price in an active market, then the Group uses valuation techniques that maximise the use of relevant observable inputs and minimise the use of unobservable inputs. The chosen valuation technique incorporates all of the factors that market participants would take into account in pricing a transaction.

If an asset or a liability measured at fair value has a bid price and an ask price, then the Group measures assets and long positions at a bid price and liabilities and short positions at an ask price.

The best evidence of the fair value of a financial instrument on initial recognition is normally the transaction price – i.e. the fair value of the consideration given or received. If the Group determines that the fair value on initial recognition differs from the transaction price and the fair value is evidenced neither by a quoted price in an active market for an identical asset or liability nor based on a valuation technique for which any unobservable inputs are judged to be insignificant in relation to the measurement, then the financial instrument is initially measured at fair value, adjusted to defer the difference between the fair value on initial recognition and the transaction price. Subsequently, that difference is recognised in profit or loss on an appropriate basis over the life of the instrument but no later than when the valuation is wholly supported by observable market data or the transaction is closed out.

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.

(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, value added tax and is after deduction of any trade discounts.

Revenue from sales of electricity

Revenue from sales of electricity comprises of revenue from energy payment and revenue from availability payment in terms of operating costs.

Revenue from availability payment in terms of operating costs is a revenue that reflects the fixed operation and maintenance expenses ("Fixed O&M"), maintenance parts expenses and administrative expenses. The availability payment rate is fixed at an amount per Kilowatt based on the availability hours of each year throughout the period of the Power Purchase Agreement. Each Power Purchase Agreement of the Group has different terms and conditions for receiving the revenue from availability payment in terms of operating costs.

The Group recognise revenue from availability payment in terms of operating costs by varying the Contracted Available Hours (CAH) in a year and the Base Availability Credit (BAC).

Revenue from rendering of services

Revenue from rendering of services is recognised over time as the services are provided. The related costs are recognised in profit or loss when they are incurred.

Revenue from finance lease contracts

Revenue from finance lease contracts is recognised in profit or loss by using the effective interest rate method over the period of the power purchase agreements.

(r) Other income

Other income comprises dividend, interest income and others. Dividend income is recognised in profit or loss on the date on which the Group's right to receive payment is established.

(s) Interest

Accounting policies applicable from 1 January 2020

Effective Interest Rate (EIR)

Interest income or expense is recognised using the effective interest method. The EIR is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to:

- the gross carrying amount of the financial asset; or
- the amortised cost of the financial liability.

In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortised cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortised cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

Accounting policies applicable before 1 January 2020

Interest income is recognised in profit or loss at the rate specified in the contract.

Interest expenses and similar costs are charged to profit or loss for the period in which they are incurred, except to the extent that they are capitalised as being directly attributable to the acquisition, construction or production of an asset which necessarily takes a substantial periods of time to be prepared for its intended use or sale.

(t) Financing fee

Financing fees are recognised initially at cost and presented as deferred financing fees and amortised on the effective interest rate method over the period of the long-term loan agreements and capitalised as cost of an asset during the construction period. After construction completed, amortisation are recognised in profit or loss. Deferred financing fees are part of borrowing costs and are presented deduction from long-term loans.

(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 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) Basic earnings per share

The Group presents basic earnings per share (EPS) data for its ordinary shares. Basic earnings per share 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 year.

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(w) Related party

A related party is a person or entity that has direct or indirect 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 as well as those that can be allocated on a reasonable basis.

5 Related parties

Relationships with subsidiaries, associates and joint ventures are described in notes 8 and 9. Other related parties of the Group during the year were as follows:

Name of entities	Country of incorporation/ nationality	Nature of relationships
Electricity Generating Authority of Thailand	Thailand	Major shareholder, some common directors
EGAT International Co., Ltd.	Thailand	99.99% shareholding by Electricity Generating Authority of Thailand, some common directors
RH International (Mauritius) Corporation Limited	Mauritius	Indirect subsidiary, 100% shareholding by a direct subsidiary
RH International (Singapore) Corporation Pte. Ltd.	Singapore	Indirect subsidiary, 100% shareholding by an indirect subsidiary
RATCH-Australia Corporation Pty. Ltd And its subsidiaries	Australia	Indirect subsidiary, 100% shareholding by an indirect subsidiary, some common directors
RATCH China Power Limited	Hong Kong	Indirect subsidiary, 100% shareholding by an indirect subsidiary
RE Solar 1 Company Limited	Thailand	Indirect subsidiary, 99.99% shareholding by a direct subsidiary
CN Biomass Company Limited	Thailand	Indirect subsidiary, 99.99% shareholding by a direct subsidiary
PB Biomass Company Limited	Thailand	Indirect subsidiary, 99.99% shareholding by a direct subsidiary
LP Biomass Company Limited	Thailand	Indirect subsidiary, 99.99% shareholding by a direct subsidiary

Name of entities	Country of incorporation/ nationality	Nature of relationships
Thang Long Power Plant Joint Stock Company	Vietnam	Joint venture of an indirect joint venture, 45% shareholding by an indirect joint venture
Hin Kong Power Company Limited	Thailand	Subsidiary of a direct joint venture, 99.99% shareholding by a direct joint venture, some common directors
Nexif Ratch Energy Rayong Company Limited	Thailand	Subsidiary of a direct joint venture, 99.99% shareholding by a direct joint venture
Nam Ngum 2 Power Company Limited	Lao PDR	Subsidiary of a direct joint venture, 75% shareholding by a direct joint venture
PT Bajradaya Sentranusa	Republic of Indonesia	Subsidiary of an indirect joint venture, 53.21% shareholding by an indirect joint venture
An Binh Investment Group Joint Stock Company	Vietnam	Subsidiary of an indirect joint venture, 99.99% shareholding by an indirect joint venture
Ecowin Energy Corporation	Vietnam	Subsidiary of an indirect joint venture, 80% shareholding by an indirect joint venture
EGAT Diamond Service Company Limited	Thai	Other related party, 10% shareholding
Key management personnel	Thai	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.

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The pricing policies for transactions are explained further below:

Transactions	Pricing policies
Revenue from sales of electricity	Contractually agreed price
Operation and maintenance service income	Contractually agreed price
Revenue from lease contracts	Contractually agreed price
Management service income	Contractually agreed price
Purchase of goods/ raw materials	Contractually agreed price
Operation and maintenance service fee	Contractually agreed price
Interest income	Contractually agreed rate
Other income	Contractually agreed price
Interest expense	Contractually agreed rate

Significant transactions for the years ended 31 December with related parties were as follows:

	Consolidated financial statements		Separate financial statements	
Year ended 31 December	2020	2019	2020	2019
	(in thousand Baht)			
Major shareholder				
Revenue from sales of electricity	28,672,488	32,350,467	-	-
Operation and maintenance service income	60,035	53,193	-	-
Revenue from finance lease contracts	2,553,209	2,923,233	-	-
Purchase of electricity	142,838	160,023	-	-
Operation and maintenance service fee	1,196,613	1,249,128	-	-
Management service of fuel	2,175	2,155	-	-
Other service fee	4,911	1,328	3,586	19
Subsidiaries				
Management service income	-	-	164,197	238,762
Interest income	-	-	50,196	44,128
Dividend income	-	-	3,283,271	3,068,049
Interest expense	-	-	9,872	-
Associates				
Management service income	2,276	2,232	2,276	2,232
Dividend income	-	-	16,200	44,993
Joint ventures				
Operation and maintenance service income	1,990	517	-	-
Management service income	230,242	241,862	229,186	241,613
Interest income	25,695	8,416	25,695	8,416
Dividend income	-	-	163,146	228,023
Other income	34,746	42,005	-	-
Subsidiaries of joint ventures				
Management service income	43,644	-	43,644	-
Interest income	363	-	363	-
Other related parties				
Dividend income	1,013	894	1,013	894
Other service fee	1,449	-	1,449	-

Year ended 31 December	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Key management personnel compensation				
Short-term employee benefits	144,124	152,843	71,145	77,214
Defined contribution plan	6,966	6,757	2,792	2,430
Defined benefit plan	2,681	5,428	2,053	5,187
Total key management personnel compensation	**153,771**	**165,028**	**75,990**	**84,831**

Balances as at 31 December with related parties were as follows:

Trade accounts receivable from related parties	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Major shareholder	4,982,071	5,277,450	-	-
Indirect joint venture	175	209	-	-
	4,982,246	5,277,659	-	-
Less allowance for expected credit loss *(2019: allowance for doubtful accounts)*	-	-	-	-
Net	**4,982,246**	**5,277,659**	-	-
Expected credit loss *(2019: Bad and doubtful debts expense)* for the year	-	-	-	-

Dividend receivables	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Direct associate	-	**600**	-	**600**

Advances to and other current receivables from related parties	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Major shareholder	2,215	1,434	-	-
Direct subsidiaries	-	-	16,827	12,858
Indirect subsidiaries	-	-	71,297	48,675
Direct associates	202	198	202	198
Direct joint ventures	3,232	14,174	3,232	14,174
Indirect joint ventures	15,969	74,587	5,209	12,326
Subsidiaries of direct joint ventures	40,894	-	40,894	-
Total	**62,512**	**90,393**	**137,661**	**88,231**

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	Interest rate	Consolidated financial statements				
Short-term loans to	At 31 December *(% per annum)*	At 1 January	Increase	Decrease *(in thousand Baht)*	Reclassification	At 31 December
2020						
Subsidiary of direct Joint venture	-	-	5,000	(25,000)	20,000	-
Less allowance for expected credit loss *(2019: Allowance for doubtful account)*		-	-	-	-	-
Net		-				-

	Interest rate	Consolidated financial statements				
Long-term loans to	At 31 December *(% per annum)*	At 1 January	Increase	Decrease *(in thousand Baht)*	Exchange differences	At 31 December
2020						
Direct joint venture	4.21 - 4.22	540,898	-	-	(2,002)	538,896
Less allowance for expected credit loss *(2019: allowance for Doubtful account)*		(13,120)	(3,114)	-	-	(16,234)
Net		**527,778**				**522,662**
2019						
Direct joint venture	5.94	42,494	507,525	-	(9,121)	540,898
Less allowance for doubtful account		-	-	-	-	-
Net		**42,494**				**540,898**

	Interest rate	Separate financial statements				
Short-term loans to	At 31 December *(% per annum)*	At 1 January	Increase	Decrease *(in thousand Baht)*	Reclassification	At 31 December
2020						
Direct subsidiaries	2.09	114,000	1,160,000	(1,214,000)	-	60,000
Indirect subsidiary	-	20,000	-	-	(20,000)	-
Subsidiary of a direct joint venture	-	-	5,000	(25,000)	(20,000)	-
Total		**134,000**				**60,000**
Less allowance for expected credit loss *(2019: Allowance for doubtful account)*		-	(332)	-	-	(332)
Net		**134,000**				**59,668**

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	Interest rate	Separate financial statements				
Short-term loans to	At 31 December *(% per annum)*	At 1 January	Increase	Decrease	Reclassification	At 31 December
				(in thousand Baht)		
2019						
Direct subsidiaries	1.75 - 4.50	-	200,000	(100,000)	14,000	114,000
Indirect subsidiary	4.50	-	20,000	-	-	20,000
Total		-				**134,000**
Less allowance for doubtful account		-	-	-	-	-
Net		-				**134,000**

	Interest rate	Separate financial statements					
Long-term loans to	At 31 December *(% per annum)*	At 1 January	Increase	Decrease	Reclassification	Exchange differences	At 31 December
				(in thousand Baht)			
2020							
Direct subsidiaries	3.65 - 4.50	1,266,812	136,134	(132,348)	-	(3,606)	1,266,992
Direct joint venture	4.21 - 4.22	540,898	-	-	-	(2,002)	538,896
Total		**1,807,710**					**1,805,888**
Less allowance for expected credit loss *(2019: Allowance for doubtful account)*		(15,607)	(36,485)	-	-	-	(52,092)
Net		**1,792,103**					**1,753,796**
2019							
Direct subsidiaries	3.65 - 4.50	1,224,472	292,545	(161,000)	(14,000)	(75,205)	1,266,812
Direct joint venture	5.94	42,494	507,525	-	-	(9,121)	540,898
Total		**1,266,966**					**1,807,710**
Less allowance for doubtful account		-					-
Net		**1,266,966**					**1,807,710**

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
		(in thousand Baht)		
Short-term loans to				
Expected credit losses *(2019: bad debts and allowance for doubtful accounts)* for the year	-	-	**332**	-
Long-term loans to				
Expected credit losses *(2019: bad debts and allowance for doubtful accounts)* for the year	**3,114**	-	**36,485**	-

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Receivable under lease contracts from related parties

	Consolidated financial statements					
	Portion due within one year		Portion due after one year		Total	
	2020	2019	2020	2019	2020	2019
	(in thousand Baht)					
Major shareholder						
Receivables under lease contracts	4,481,635	5,642,526	15,021,896	19,503,531	19,503,531	25,146,057
Less unearned interest income	(1,906,035)	(2,374,152)	(4,458,173)	(6,364,208)	(6,364,208)	(8,738,360)
	2,575,600	**3,268,374**	**10,563,723**	**13,139,323**	**13,139,323**	**16,407,697**
Less allowance for expected credit loss *(2019: allowance for doubtful accounts)*	-	-	(1,840)	-	(1,840)	-
Receivable under lease contracts-net	**2,575,600**	**3,268,374**	**10,561,883**	**13,139,323**	**13,137,483**	**16,407,697**

The gross receivable and interest under lease contracts as at 31 December were as follows:

	Consolidated financial statements			
	Receivable and interest under lease contracts	Receivable under lease contracts - net	Receivable and interest under lease contracts	Receivable under lease contracts - net
	2020		2019	
	(in thousand Baht)			
Portion due within one year	4,481,635	2,575,600	5,642,526	3,268,374
Portion due after one year but within five years	12,053,444	7,983,513	14,048,511	8,666,661
Portion due after five years	2,968,452	2,580,210	5,455,020	4,472,662
	19,503,531	**13,139,323**	**25,146,057**	**16,407,697**
Less unearned interest income	(6,364,208)	-	(8,738,360)	-
Less allowance for expected credit loss *(2019: allowance for doubtful accounts)*	(1,840)	(1,840)	-	-
Lease contracts-net	**13,137,483**	**13,137,483**	**16,407,697**	**16,407,697**

Receivable under lease contracts from related parties

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Reversal of impairment losses *(2019: bad debts and allowance for doubtful accounts)* for the year	**(461)**	-	-	-

Other non-current receivables from related parties	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Direct subsidiaries	-	-	3,793	1,501
Direct joint venture	44,011	18,317	44,011	18,317
Total	**44,011**	**18,317**	**47,804**	**19,818**

	Interest rate	Separate financial statements			
Short-term loans from	At 31 December *(% per annum)*	1 January	Increase	Decrease	31 December
		(in thousand Baht)			
2020					
Direct subsidiary	1.10	-	3,465,000	-	**3,465,000**

Other current payables to related parties	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Major shareholder	40,347	52,996	1,609	-
Direct subsidiaries	-	-	9,872	4,227
Indirect subsidiaries	-	-	3,343	3,338
Indirect joint ventures	14,151	14,102	12,506	12,529
Other related parties	1,449	-	1,449	-
Total	**55,947**	**67,098**	**28,779**	**20,094**

The expiration of Power Purchase Agreement and related agreements

On 30 June 2020, the 720-megawatt Tri Energy Power Plant in Ratchaburi Province, operated by Ratchaburi Electricity Generating Company Limited, a direct subsidiary, has reached the expiration of Power Purchase Agreement with EGAT and ceased to operate and distribute electricity to the system since 30 June 2020. As a result, the Gas Sales Agreement with PTT dated on 22 May 1997 and the Operation and Maintenance Agreement with the service provider have been ceased. Subsequently, on 29 July 2020, such direct subsidiary entered into contract to sell Tri Energy Power Plant and hired a demolition contractor with a local company. The contractor will be responsible for demolish the power plant and purchase of goods arising from the withdrawal of Tri Energy Power Plant as stipulates in the agreement.

Significant agreements with related parties

Short term loans to related parties

As at 31 December 2020, the Company had outstanding balance of loans to RATCH Cogeneration Company Limited, a direct subsidiary, amounting to Baht 60 million which bear interest at the fixed rate of 2.09 per annum and will be due within one year.

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Long-term loans to related parties

As at 31 December 2020, the Company had outstanding balance of loans to RATCH-Lao Services Company Limited, a direct subsidiary, under the existing loan agreement, amounting to US Dollars 32.60 million or equivalent to Baht 970.66 million which bear interest at the fixed rate of 3.65 per annum and under the new loan agreement, amounting to Baht 160.20 million which bear interest at the fixed rate of 4.50 per annum. Principal and interest will be due as stipulated in the agreement. The Company has no intention to recall the loans from the subsidiary within one year. Therefore, the Company classified the balance of the loans as long-term loans.

As at 31 December 2020, the Company had outstanding balance of loans to RATCH Cogeneration Company Limited, a direct subsidiary, amounting to Baht 136.13 million which bear interest at the fixed rate of 4.50 per annum. Principal and interest will be due as stipulated in the agreement. The Company has no intention to recall the loans from the subsidiary within one year. Therefore, the Company classified the balance of the loan as long-term loan.

As at 31 December 2020, the Company had outstanding balance of loans to Xe-Pian Xe-Namnoy Power Company Limited, a direct joint venture, amounting to US Dollars 1.32 million or equivalent to Baht 39.30 million which bear interest at the rate of 3-Month London Interbank Offered Rate (LIBOR), plus fixed margin per annum. The loan agreement determined the repayment term of principal and interest within 27 years commencing from the joint venture made the first drawdown of loans from financial institutions on 5 February 2014.

As at 31 December 2020, the Company had outstanding balance of loans to Xe-Pian Xe-Namnoy Power Company Limited, a direct joint venture, for the purpose of covering additional expenditure of the Xe-Pian Xe-Namnoy Hydroelectric Power Project amounting to US Dollars 16.78 million or equivalent to Baht 499.59 million which bear interest at the rate of 3-Month London Interbank Offered Rate (LIBOR), plus fixed margin per annum. Principal and interest will be due as stipulated in the agreement.

Short term loans from related parties

As at 31 December 2020, the Company had outstanding balance of loans from Ratchaburi Electricity Generating Company Limited, a direct subsidiary, amounting to Baht 3,465 million which bear interest at the fixed rate of 1.10 per annum and will be due within one year.

Power Purchase Agreements

On 9 October 2000, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Power Purchase Agreement with EGAT for a period of 25 years, whereby such subsidiary will deliver net electricity generation from Thermal power plants unit 1 and 2 and Combined Cycle power plants block 1, 2 and 3 to EGAT under the conditions of the Power Purchase Agreement. Such subsidiary will receive revenue from EGAT, which are comprised of energy payment (EP) and availability payment (AP). An energy payment (EP) covers production costs which are comprised of fuel costs and variable costs of operation and maintenance. Such costs will be adjusted in accordance with fuel price, Energy Efficiency Ratio and Consumer Price Index. An availability payment (AP) covers the repayment of principal and interest of loans, return on shareholders' equity, fixed operation and maintenance expenses, maintenance parts expenses and administrative expenses. Such costs will be adjusted to cover the changes of interest rates, Consumer Price Index and exchange rates.

On 3 December 2009, RATCH Cogeneration Company Limited, a direct subsidiary, entered into a Power Purchase Agreement for RATCH Cogeneration Power Project located in Pathum Thani province with EGAT. The agreement is effective from the execution date until the 25-year from the commercial operation date. The project is a combined-cycle power plant project with total contracted capacity of 110 Megawatts which started its commercial operation in 2013.

On 12 July 2019, Hin Kong Power Company Limited, a subsidiary of a direct joint venture, entered into a Power Purchase Agreement for Hin Kong Power Project located in Ratchaburi province with EGAT. The agreement is effective from the execution date until the 25-year from the commercial operation date. The project is a combined-cycle power plant project with total contracted capacity of 1,400 Megawatts which is scheduled for commercial operation in 2024 and 2025.

Operation and Maintenance Agreement

On 7 January 2009, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into an Operation and Maintenance Agreement with EGAT. The agreement is effective from 1 January 2009 until the termination dates of the Power Purchase Agreement for Thermal power plants and Combined Cycle power plants. EGAT will operate and provide routine maintenance services including major overhaul to such subsidiary. The initial value of the agreement is approximately Baht 16,608.16 million, which will be adjusted by the annual Consumer Price Index.

On 27 May 2020, RATCH-Lao Services Company Limited, a direct subsidiary, entered into a Personnel Providing Service for Operation and Maintenance Agreement with EGAT, whereby such subsidiary will recruit and provide qualified personnel according to the number and qualifications specified in the agreement for operation and maintenance of Nam Ngiep 1 Hydropower Plant located in Lao PDR, for a period of 58 months. The agreement is effective from May 2020 to February 2025. The total value of the agreement is Baht 36.67 million.

On 28 October 2020, RATCH-Lao Services Company Limited, a direct subsidiary, entered into an Operation and Maintenance Services Agreement for Hongsa Mine Mouth Power Project in Lao PDR with EGAT to operate and maintenance for Hongsa Power Project for a period of 36 months from November 2020 onwards. The total value of the agreement is Baht 168.11 million.

Fuel Management Service Agreement

On 1 July 2012, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Fuel Management Service Agreement with EGAT, whereby EGAT will coordinate the supply and delivery of fuel oil, according to the demand of such subsidiary and align with EGAT's power dispatching plan. The agreement is effective from 1 July 2012 until 30 June 2013. The service fee is stipulated in the agreement. The agreement is automatically extended for a period of 1 year unless written notice.

Land Lease Agreement and Common Facility Agreement

On 7 June 2004 and 21 October 2005, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Land Lease Agreement for an area of 145 rai with Ratchaburi Power Company Limited, an indirect joint venture. The land is located in the Ratchaburi Power Plant area. The rental period is 25 years and 3 months commencing from the commercial operation date of Ratchaburi Power Company Limited.

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On 25 November 2005, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Common Facility Agreement with Ratchaburi Power Company Limited, an indirect joint venture, whereby such subsidiary will provide certain facilities, services, right to use and access rights to utilities relating to construction and operation to Ratchaburi Power Company Limited as stipulated in the agreement. This agreement is effective from the signing date in the agreement until the termination date of the Land Lease Agreement dated on 7 June 2004.

On 23 August 2019, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into land lease agreement 175 rai with Hin Kong Power Company Limited, subsidiary with direct joint venture, for a period of 29 years since 1 January 2021 to 31 December 2050 with annual rental fee under the land lease agreement.

Management Service Agreement

On 27 February 2004, the Company entered into a Management Service Agreement with Ratchaburi Power Company Limited, an indirect joint venture, whereby the Company will receive management service fee amounting to US Dollars 2.50 million per annum for a period of 25 years and 3 months commencing from the commercial operation date of the Power Plant Unit 1 of Ratchaburi Power Company Limited. The total value of the agreement is US Dollars 63.12 million.

Construction Supervision Contractor Service Agreement

On 28 November 2013, the Company entered into a Construction Supervision Contractor Service Agreement with Xe-Pian Xe-Namnoy Power Company Limited, a direct joint venture, for a period of 64 months from the start date. Subsequently, the Company had extended the agreement to perform additional service from the ended of existing agreement to 4 September 2020 with additional service fee US Dollars 2.54 million.

Agreement in relation to investment in Chubu Ratchaburi Electric Services Company Limited

On 29 September 2005, the Company and Chubu Electric Power (Thailand) Company Limited entered into a Shareholders Agreement to set up Chubu Ratchaburi Electric Services Company Limited, a direct joint venture. Under the terms of the shareholders agreement, if Chubu Ratchaburi Electric Services Company Limited requires additional funding exceeding its authorised share capital, the Company agreed to provide financial support in the form of shareholders' loans or other shareholders' guarantees in proportion of investment of 50%. The agreement does not specify the amount of financial support. As at 31 December 2020, the Company has not provided any loans or guarantees under the agreement.

Sponsor Support Agreement with Northern Bangkok Monorail Company and Eastern Bangkok Monorail Company Limited

On 11 October 2017, the Company entered into a Sponsor Support Agreement with Northern Bangkok Monorail Company Limited and Eastern Bangkok Monorail Company Limited, investments in direct associates. The Company agreed to provide financial support in the form of shareholders' loans or other shareholders' guarantees in proportion of investment of 10% with credit limit and conditions as specified in the agreement. As at 31 December 2020, the Company has not yet provided any loans or guarantees under the agreement.

Equity Contribution Agreement with Nexif Ratch Energy Rayong Company Limited

The Company entered into an Equity Contribution Agreement with Nexif Ratch Energy Rayong Company Limited, a subsidiary of a direct joint venture. The Company agreed to provide financial support in the form of shareholders' loans or other shareholders' guarantees. As at 31 December 2020, the Company has provided the guarantee to such company with credit amount of Baht 96.99 million.

Obligations related to Share Purchase Agreement

The Company has obligations under a Share Purchase Agreement related to the purchase of ordinary shares in the two of associates. Under the terms of the agreement, the other shareholder has additional rights to the Company's dividend entitlements from those associates.

6 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Cash on hand	469	4,698	30	30
Cash at banks - current accounts	1,777,548	2,367,752	594	1,067
Cash at banks - savings accounts	1,173,155	934,713	511,810	289,007
Highly liquid short-term investments	1,905,417	1,610,000	1,719,001	1,490,000
Cash and cash equivalents	**4,856,589**	**4,917,163**	**2,231,435**	**1,780,104**

7 Spare parts and supplies

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Fuel oil	1,138,791	1,187,057	-	-
Spare parts and supplies	1,569,904	1,653,033	-	-
Spare parts and supplies in transit	40,548	16,505	-	-
Total	**2,749,243**	**2,856,595**	**-**	**-**
Less allowance for obsolescence of spare parts and supplies	(900,755)	(976,202)	-	-
allowance for decline in value of fuel oil	(65,884)	-	-	-
Net	**1,782,604**	**1,880,393**	**-**	**-**
Spare parts and supplies recognised in 'cost of sales':				
- Cost	112,723	118,153	-	-
- Write-down to obsolescence of spare parts and supplies	74,613	50,403	-	-
- (Reversal of) decline in value of fuel oil to net realisable value	65,884	(25,565)	-	-
Net	**253,220**	**142,991**	**-**	**-**

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8 Investments in associates and joint ventures

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
At 1 January	31,103,146	30,722,141	5,681,107	5,417,661
Impact of changes in accounting policies (net of tax) - TFRS 15	-	(183,790)	-	-
Share of profits of joint ventures and associates accounted for using equity method	4,600,343	3,968,380	-	-
Share of other comprehensive income (expense) of joint ventures and associates accounted for using equity method	(1,163,949)	(572,276)	-	-
Addition investments in associates and joint ventures	5,995,679	2,193,353	1,427,714	263,898
Write-off investment in joint venture	-	-	-	(452)
Transfer from subsidiary due to loss of control (see note 9)	2,040	-	2,040	-
Dividend income	(1,987,288)	(3,551,381)	-	-
Exchange rate adjustment	(142,171)	(1,473,281)	-	-
Reclassification (see note 10)	2,380,000	-	2,380,000	-
At 31 December	**40,787,800**	**31,103,146**	**9,490,861**	**5,681,107**

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Investments in associates and joint ventures as at 31 December, and dividend income for the years ended were as follows:

	Consolidated financial statements									
	Ownership interest		Paid-up capital		Cost		Equity		Dividend income for the year	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
	(%)		(in thousand Baht)							
Direct associates										
First Korat Wind Company Limited	20	20	1,996,020	1,996,020	399,204	399,204	427,889	419,067	10,600	25,395
K.R. TWO Company Limited	20	20	1,827,000	1,827,000	365,400	365,400	386,719	377,850	5,600	19,598
Northern Bangkok Monorail Company Limited **	10	-	11,800,000	-	1,180,000	-	994,223	-	-	-
Eastern Bangkok Monorail Company Limited **	10	-	12,000,000	-	1,200,000	-	1,033,558	-	-	-
					3,144,604	**764,604**	**2,842,389**	**796,917**	**16,200**	**44,993**
Indirect associates										
Solar Power (Korat 3) Company Limited	40	40	188,750	188,750	75,500	75,500	168,925	155,031	17,969	17,818
Solar Power (Korat 4) Company Limited	40	40	199,250	199,250	79,700	79,700	179,830	163,755	15,303	13,469
Solar Power (Korat 7) Company Limited	40	40	188,750	188,750	75,500	75,500	168,812	153,023	17,516	17,516
Perth Power Partnership (Kwinana)	30	30	2,311,167	2,311,167	618,531	618,531	210,463	383,709	30,089	37,183
Yandin WF Holdings Pty Ltd	70	70	3,796,464	1,676,400	2,657,525	1,173,480	2,657,635	1,143,343	-	-
					3,506,756	**2,022,711**	**3,385,665**	**1,998,861**	**80,877**	**85,986**
Total					**6,651,360**	**2,787,315**	**6,228,054**	**2,795,778**	**97,077**	**130,979**
Direct joint ventures										
Chubu Ratchaburi Electric Services Company Limited	50	50	20,000	20,000	10,000	10,000	80,731	80,319	20,000	10,000
SouthEast Asia Energy Limited	33.33	33.33	6,606,750	6,606,750	2,202,250	2,202,250	2,582,723	2,797,018	143,146	218,023
Smart Infranet Company Limited	51	51	550,000	1,000	280,500	510	264,261	413	-	-
Things on Net Company Limited	35	35	133,000	133,000	180,018	180,018	165,782	177,753	-	-
Hin Kong Power Holding Company Limited *	51	-	305,200	-	155,652	-	147,850	-	-	-
R E N Korat Energy Company Limited	40	-	25,750	-	10,300	-	7,672	-	-	-
Xe-Pian Xe-Namnoy Power Company Limited	25	25	10,094,900	10,094,900	2,523,725	2,523,725	1,812,831	1,922,041	-	-

	Consolidated financial statements									
	Ownership interest		Paid-up capital		Cost		Equity		Dividend income for the year	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
	(%)		(in thousand Baht)							
Direct joint ventures										
NEXIF RATCH ENERGY SINGAPORE PTE. LTD. *(Formerly; NER Singapore Pte. Ltd.)*	49	-	1,136,876	-	983,812	-	983,460	-	-	-
					6,346,257	**4,916,503**	**6,045,310**	**4,977,544**	**163,146**	**228,023**
Indirect joint ventures										
Ratchaburi Power Company Limited	25	25	7,325,000	7,325,000	1,831,250	1,831,250	2,961,087	3,458,792	650,000	295,000
Nava Nakorn Electricity Generating Company Limited	40	40	2,000,000	1,550,000	800,000	620,000	948,193	642,791	-	160,000
Ratchaburi World Cogeneration Company Limited	40	40	2,500,000	2,500,000	1,000,000	1,000,000	1,286,024	1,254,493	160,000	185,000
Berkprai Cogeneration Company Limited	35	35	1,331,000	1,331,000	465,850	465,850	586,484	495,899	23,292	-
Solarta Company Limited	49	49	1,100,000	1,100,000	545,960	545,960	1,526,560	1,475,656	153,076	36,652
Songkhla Biomass Company Limited	40	40	246,000	246,000	98,400	98,400	172,743	160,248	28,000	28,000
Songkhla Biofuel Company Limited	40	40	1,000	1,000	400	400	327	335	-	-
Hongsa Power Company Limited	40	40	32,324,715	32,324,715	12,929,886	12,929,886	14,480,293	12,175,183	361,530	2,209,968
Phu Fai Mining Company Limited	37.50	37.50	1,679	1,679	630	630	139,793	162,670	217,491	222,999
Asia Water Co., Ltd.	40	40	365,243	365,243	179,113	179,113	182,431	179,493	-	-
SIPHANDONE-RATCH LAO CO., LTD.	25	-	1,624	-	406	-	406	-	-	-
PT Medco Ratch Power Riau	49	49	1,777,759	1,204,996	871,102	590,448	1,028,526	798,656	-	-
Fareast Renewable Development Pte. Ltd.	50	50	2,849,190	2,849,190	2,688,569	2,688,569	2,551,074	2,525,608	133,676	54,760
RATCH & AIDC Wind Energy Pte. Ltd.	63.80	-	185,226	-	118,174	-	117,224	-	-	-
An Binh Energy and Infrastructure Fund	49	-	4,906,100	-	2,504,686	-	2,533,271	-	-	-
					24,034,426	**20,950,506**	**28,514,436**	**23,329,824**	**1,727,065**	**3,192,379**
Total					**30,380,683**	**25,867,009**	**34,559,746**	**28,307,368**	**1,890,211**	**3,420,402**

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	Separate financial statements											
	Ownership interest		Paid-up capital		Cost		Impairment		At cost-net		Dividend income for the year	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
	(%)				(in thousand Baht)							
Associates												
First Korat Wind Company Limited	20	20	1,996,020	1,996,020	399,204	399,204	-	-	399,204	399,204	10,600	25,395
K.R. TWO Company Limited	20	20	1,827,000	1,827,000	365,400	365,400	-	-	365,400	365,400	5,600	19,598
Northern Bangkok Monorail Company Limited **	10	-	11,800,000	-	1,180,000	-	-	-	1,180,000	-	-	-
Eastern Bangkok Monorail Company Limited **	10	-	12,000,000	-	1,200,000	-	-	-	1,200,000	-	-	-
Total					**3,144,604**	**764,604**	**-**	**-**	**3,144,604**	**764,604**	**16,200**	**44,993**
Joint ventures												
Chubu Ratchaburi Electric Services Company Limited	50	50	20,000	20,000	10,000	10,000	-	-	10,000	10,000	20,000	10,000
SouthEast Asia Energy Limited	33.33	33.33	6,606,750	6,606,750	2,202,250	2,202,250	-	-	2,202,250	2,202,250	143,146	218,023
Smart Infranet Company Limited	51	51	550,000	1,000	280,500	510	-	-	280,500	510	-	-
Things on Net Company Limited	35	35	133,000	133,000	180,018	180,018	-	-	180,018	180,018	-	-
Hin Kong Power Holding Company Limited *	51	-	305,200	-	155,652	-	-	-	155,652	-	-	-
R E N Korat Energy Company Limited	40	-	25,750	-	10,300	-	-	-	10,300	-	-	-
Xe-Pian Xe-Namnoy Power Company Limited	25	25	10,094,900	10,094,900	2,523,725	2,523,725	-	-	2,523,725	2,523,725	-	-
NEXIF RATCH ENERGY SINGAPORE PTE. LTD. *(Formerly; NER Singapore Pte. Ltd.)*	49	-	1,136,876	-	983,812	-	-	-	983,812	-	-	-
Total					**6,346,257**	**4,916,503**	**-**	**-**	**6,346,257**	**4,916,503**	**163,146**	**228,023**

* *See note 9*
** *See note 10*

All associates and joint ventures were incorporated in Thailand and overseas (see note 1).

None of the Group and the Company's associates and joint ventures are publicly listed and consequently do not have published price quotations.

Investment in Power Plant Project in Rayong

On 12 March 2020, the Company entered into a Share Purchase Agreement to purchase ordinary shares of NER Singapore Pte. Ltd., in proportion of investment of 49% from Nexif Energy Thailand B.V., the existing shareholder, to develop the Nexif Energy Rayong SPP Power Plant Project. Subsequently on 13 April 2020, the Company paid for ordinary share capital to the existing shareholder and paid for increase in share capital, in proportion of investment of 49%, amounting to US Dollars 29.95 million or equivalent to Baht 983.81 million. The Project is a firm-cogeneration SPP Power Plant with the capacity of 92 megawatts. It is operated by Nexif Energy Rayong Company Limited, a subsidiary of NER Singapore Pte. Ltd. It has a 25-year power purchase agreement with Electricity Generating Authority of Thailand. The Project scheduled to start its commercial operation in April 2022.

On 27 April 2020, NER Singapore Pte. Ltd. has changed the company's name to "NEXIF RATCH ENERGY SINGAPORE PTE. LTD." and on 5 May 2020, Nexif Energy Rayong Company Limited has changed the company's name to "Nexif Ratch Energy Rayong Company Limited".

Investment in Power Plant Project in Nakhon Ratchasima

On 27 March 2020, the Company entered into a Shareholder Agreement with two local companies to jointly develop a power plant project in Nakhon Ratchasima in proportion of investment of 40%. Subsequently on 21 April 2020, the Company together with two shareholders have registered the establishment of the joint venture company named "R E N Korat Energy Company Limited". Its registered share capital is Baht 1 million *(comprising 0.1 million ordinary shares at par value of Baht 10 per share)*. The joint venture called for paid-up share capital in proportion of 25% of the registered share capital and the Company paid for share capital totalling Baht 0.1 million, in proportion of investment of 40%. The Project is a cogeneration independent power supply with the capacity of 40 megawatts located in Nava Nakorn Industrial Promotion Zone, Nakhon Ratchasima province. The generated power and steam will be sold to industrial customers. The Project scheduled to start its commercial operation in July 2023.

On 30 June 2020, at the extraordinary meeting of the shareholders of R E N Korat Energy Company Limited, a direct joint venture, the shareholders approved to increase the authorised share capital from Baht 1 million (*comprising 0.1 million ordinary shares at par value of Baht 10 per share*) to Baht 100 million (*comprising 10 million ordinary shares at par value of Baht 10 per share*) by issuance of new ordinary shares totalling 9.9 million shares at par value of Baht 10 per share. The joint venture called for paid-up of 75% of the existing share capital and called for paid-up of 25% of the additional share capital. The Company paid for the existing share capital and the additional share capital totalling Baht 10.30 million, in proportion of investment of 40%.

Increase in share capital of Hin Kong Power Holding Company Limited

At the annual general meeting of the shareholders of Hin Kong Power Holding Company Limited, a direct joint venture, held on 28 April 2020, the shareholders approved to increase the authorised share capital from Baht 4 million *(comprising 0.4 million ordinary shares at par value of Baht 10 per share)* to Baht 1,204 million *(comprising 120.4 million ordinary shares at par value of Baht 10 per share)* by issuance of new ordinary shares totalling 120 million shares at par value of Baht 10 per share and call for paid-up of 25.1% of the additional share capital. Subsequently on 30 April 2020, the Company paid for increase in share capital totalling Baht 153.61 million, in proportion of investment of 51%.

Investment in Wind Power Plant Project in Vietnam

On 22 May 2020, RH International (Singapore) Corporation Pte. Ltd., ("RHIS"), an indirect subsidiary, entered into a Share Purchase Agreement of RATCH & AIDC Wind Energy Pte. Ltd. ("RATCH & AIDC") in proportion of investment of 63.80% with Asia Investment, Development and Construction Sole Co.,Ltd., ("AIDC"), the existing shareholder, to invest in Thanh Phong Wind Power Plant Project in Vietnam which operated by Ecowin Energy Corporation ("ERC"). The project is an onshore wind farm with capacity of 29.70 megawatts. The project scheduled to start its commercial operation in September 2021.

Subsequently in November 2020, RHIS paid for existing shares, amounting to US Dollars 638 and paid for increase in share capital, in investment proportion of 63.80% of 3.90 million shares at par value of US Dollar 1 per share to RATCH & AIDC totalling US Dollars 3.90 million or equivalent to Baht 118.17 million.

After the transactions are completed, the shareholder's structure of RATCH & AIDC are comprised of 63.80% hold by the Group and 36.20% hold by AIDC. The shareholder's structure of ERC comprises of 80% hold by RATCH & AIDC. (the Group hold indirect RHIS shares and RATCH & AIDC in proportion of 51.04%) the remaining of 20% shares is hold by the minor shareholders.

Increase in share capital of Smart Infranet Company Limited

At the extraordinary meeting of the shareholders of Smart Infranet Company Limited, a direct joint venture, held on 2 June 2020, the shareholders approved to increase the authorised share capital from Baht 1 million (*comprising 0.1 million ordinary shares at par value of Baht 10 per share*) to Baht 550 million (*comprising 55 million ordinary shares at par value of Baht 10 per share*) by issuance of new ordinary shares totalling 54.90 million shares at par value of Baht 10 per share. Subsequently on 29 July 2020, the Company paid for increase in share capital totalling Baht 279.99 million, in proportion of investment of 51%.

Investment in Power and Infrastructure projects in Vietnam

On 15 July 2020, RH International (Singapore) Corporation Pte. Ltd. ("RHIS"), an indirect subsidiary, entered into Definitive Agreements in relation to a partnership with Geleximco Group Joint Stock Company ("Geleximco"). Subject to the satisfaction of certain conditions precedent set out in the agreements, through this partnership RHIS and Geleximco would jointly invest in An Binh Energy and Infrastructure Fund ("ABEIF"), a Vietnam focused power sector fund which has potential investment consideration in the power and infrastructure projects in Vietnam. Subsequently on 18 August 2020, the subsidiary paid for share capital in proportion of 49% of the registered charter capital of ABEIF totalling US Dollars 78.50 million or equivalent to Baht 2,454.06 million and incurred the relating transaction cost totalling US Dollars 1.69 million or equivalent to Baht 50.63 million.

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As a result, the total investment cost represented at US Dollars 80.19 million or equivalent to Baht 2,504.69 million.

After the transactions are completed, the shareholder's structure of ABEIF comprises 49% hold by the Group and 51% hold by Galeximco. In this regard, ABEIF holds An Binh Investment Group Joint Stock Company ("AIG") shares in proportion of investment 99.99% and AIG holds proportion of 45% shares of coal-fires power plant project in Vietnam which operate under Thang Long Power Plant Joint Stock Company ("TLP") (the Group hold totalling indirect RHIS shares and ABEIF in proportion of 22.05%).

On 21 July 2020, the subsidiary had loan to Geleximco in accordance with the Loan Agreement dated 2 June 2020 amounting to US Dollars 80 million with interest at a floating rate of 6-Month London Interbank Offered Rate (LIBOR), plus a fixed margin per annum and will be repayable within 8 years commencing from the first drawdown of loan. The first payment will be due in June 2023. As at 31 December 2020, the subsidiary had outstanding loan to such company amounting to US Dollars 80 million or equivalent to Baht 2,402.97 million.

An independent appraiser has been appointed by management to determine the fair value of the business. The Group has completely determined the fair value of the purchased business as follows:

	Carrying value	Fair value adjustments	Fair value
		(in thousand Baht)	
Cash and cash equivalents	31,227	-	31,227
Investment in joint venture	2,294,733	3,181,185	5,475,918
Other current liabilities	(214)	-	(214)
Deferred tax liabilities	-	(636,232)	(636,232)
Total identifiable net assets	**2,325,746**	**2,544,953**	**4,870,699**
Interest acquired *(%)*			49
			2,386,643
Goodwill			67,415
Purchase consideration transferred			**2,454,058**

Investment in a Wood Pellet Production and Sale Project in Lao PDR

On 3 August 2020, RATCH-LAO Services Company Limited, a direct subsidiary, has entered into a Shareholder Agreement with two companies (local and oversea) to jointly develop in generating and selling the wood pellets in Lao PDR. Under the agreement, the sales of the wood pellets would be sold according to the contract starting in year 2022. On 18 September 2020, the subsidiary with the two shareholders had entered in establishment of a joint venture company "SIPHANDONE - RATCH LAO CO., LTD." in issuance of the authorized share capital Kip 500 million *(comprising Kip 50,000 million ordinary shares at par value of Kip 10,000 million per share).* Subsequently, on 16 November 2020, the Company already paid for share capital totalling Kip 125 million or equivalent to Baht 0.41 million, in investment proportion of 25%.

Increase in share capital of Nava Nakorn Electricity Generating Company Limited

At the annual general meeting of the shareholders of Nava Nakorn Electricity Generating Company Limited, an indirect joint venture, held on 27 August 2020, the shareholders approved to increase the authorised share capital from Baht 1,550 million (*comprising 155 million ordinary shares at par value of Baht 10 per share*) to Baht 2,000 million (*comprising 200 million ordinary shares at par value of Baht 10 per share*) by issuance of new ordinary shares totalling 45 million shares at par value of Baht 10 per share and call for paid-up of 100% of the additional share capital. Subsequently on 8 September 2020, the Group paid for increase in share capital totalling Baht 180 million, in proportion of investment of 40%.

Increase in share capital of Yandin WF Holdings Pty Ltd

During 2020, RATCH-Australia Corporation Pty. Ltd., an indirect subsidiary, paid for increase in share capital of Yandin WF Holdings Pty Ltd, an associate of the indirect subsidiary, totalling Australian Dollars 66.19 million or equivalent to Baht 1,484.05 million, in proportion of investment of 70%.

Paid-up share capital

During 2020, associate and joint ventures called for paid-up share capital. The Group had paid for the share capital in proportion of investments as follows:

Name of entities	Description	Amount *(in million Baht)*
Indirect associate		
Yandin WF Holdings Pty Ltd	Paid for increase in share capital	1,484.05
Direct joint ventures		
Smart Infranet Company Limited	Paid for increase in share capital	279.99
Hin Kong Power Holding Company Limited	Paid for increase in share capital	153.61
R E N Korat Energy Company Limited	Paid for increase in share capital	10.30
NEXIF RATCH ENERGY SINGAPORE PTE. LTD.	Paid for share capital	983.81
Indirect joint ventures		
Nava Nakorn Electricity Generating Company Limited	Paid for increase in share capital	180.00
SIPHANDONE-RATCH LAO CO., LTD.	Paid for share capital	0.41
PT Medco Ratch Power Riau	Additional paid-up share capital	280.65
RATCH & AIDC Wind Energy Pte. Ltd.	Paid for share capital	118.17
An Binh Energy and Infrastructure Fund	Paid for share capital	2,454.06

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Progress of Saddle Dam D collapsed

On 23 July 2018, the Saddle Dam D of Xe-Pian Xe-Namnoy Hydroelectric Power Project, located in Lao PDR, of Xe-Pian Xe-Namnoy Power Company Limited, a direct joint venture, collapsed. The Saddle Dam fractured which caused the water flow to the downstream area. The joint venture evacuated the people residing around the affected area for safety. The project also has a standard insurance package in accordance with the loan agreement, including all risk insurance for construction, third-party liability insurance, and delay start-up insurance. The costs incurred as a result of the collapse are primarily the responsibility by the contractor in charge of engineering, procurement and construction (EPC). From this situation, the Government of Lao PDR appointed the National Investigation Committee to investigate the situation. Subsequently on 28 May 2019, the National Investigation Committee announced the result of investigation is not force majeure as stipulated in the Concession Agreement. Presently, the joint venture is during the process of claiming the compensation and related damages from the EPC contractor. Later in 2020, the joint venture has received the document of claiming on compensation from the Government of Lao PDR and the case is currently under consideration in mutually agreed among the shareholders. However, the project started its commercial operation on 6 December 2019.

Joint ventures

The following table summarises the financial information of the joint ventures as included in their own financial statements, adjusted for fair value adjustments at acquisition and differences in accounting policies. The table also reconciles the summarised financial information to the carrying amount of the Group's interest in these companies.

	Ratchaburi Power Company Limited		Hongsa Power Company Limited	
	2020	2019	2020	2019
	(in thousand Baht)			
Revenue	8,578,643	14,856,350	19,833,711	20,359,200
Profit from continuing operations	609,180[a]	331,296[a]	7,589,966[a]	6,558,800[a]
Other comprehensive income (expense)	-	-	(526,335)	(1,210,645)
Total comprehensive income (expense) *(100%)*	609,180	331,296	7,063,631	5,348,155
Group's interest *(%)*	25	25	40	40
Group's share of total comprehensive income (expense)	**152,295**	**82,824**	**2,825,452**	**2,139,262**
Current assets	3,636,222[b]	6,178,263[b]	19,554,031[b]	16,478,699[b]
Non-current assets	8,226,753	8,105,809	88,707,982	90,491,847
Current liabilities	(1,213,191)[c]	(2,410,959)[c]	(9,581,350)[c]	(8,138,402)[c]
Non-current liabilities	(53,133)[a]	(50,140)[d]	(56,935,598)[d]	(63,289,633)[d]
Net assets *(100%)*	10,596,651	11,822,973	41,745,065	35,542,511
Group's share of net assets	2,649,163	2,955,743	16,698,026	14,217,004
Exchange differences on translating in the consolidated financial statements and others	311,924	503,049	(2,217,733)	(2,041,821)
Carrying amount of interest in joint ventures	**2,961,087**	**3,458,792**	**14,480,293**	**12,175,183**

	Ratchaburi Power Company Limited		Hongsa Power Company Limited	
	2020	2019	2020	2019
	(in thousand Baht)			
Remark:				
a. Includes:				
– depreciation and amortisation	887,525	879,324	320,467	248,373
– finance costs	77,641	155,874	4,184,290	5,047,161
– tax expense	133,814	121,176	-	-
b. Includes cash and cash equivalents	1,196,774	3,193,347	4,641,313	5,385,721
c. Includes current financial liabilities (excluding trade and other payables and provisions)	-	(969,894)	(7,260,406)	(6,502,880)
d. Includes non-current financial liabilities (excluding trade and other payables and provisions)	-	-	(56,300,284)	(62,753,715)

Immaterial associates and joint ventures

The following is summarised financial information for the Group's interest in immaterial associates and joint ventures based on the amounts reported in the Group's consolidated financial statements:

	Immaterial associates		Immaterial joint ventures	
	2020	2019	2020	2019
	(in thousand Baht)			
Carrying amount of interests in immaterial associates and joint ventures	**6,228,054**	**2,795,778**	**17,118,366**	**12,673,393**
Group's share of:				
- Profit from continuing operations	211,994	153,997	1,200,067	1,108,039
- Other comprehensive income (expense)	(722,849)	-	(230,566)	(88,018)
- Total comprehensive income (expense)	**(510,855)**	**153,997**	**969,501**	**1,020,021**

9 Investments in subsidiaries

	Separate financial statements	
For the year ended 31 December	2020	2019
	(in thousand Baht)	
At 1 January	42,560,610	40,690,558
Acquisitions / Additions	8,280,000	1,870,052
Disposal	(1,960)	-
Disposal from loss of control in subsidiary	(2,040)	-
At 31 December	**50,836,610**	**42,560,610**

Investments in subsidiaries as at 31 December 2020 and 2019, and dividend income for the years then ended were as follows:

	Separate financial statements											
	Ownership interest		Paid-up capital		Cost		Impairment		At cost - net		Dividend income for the year	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
	(%)				(in thousand Baht)							
Subsidiaries												
Ratchaburi Electricity Generating Company Limited	99.99	99.99	21,900,000	21,900,000	21,900,000	21,900,000	-	-	21,900,000	21,900,000	2,418,271	2,773,049
Ratchaburi Energy Company Limited	99.99	99.99	640,000	640,000	640,000	640,000	-	-	640,000	640,000	215,000	-
RH International Corporation Limited	99.99	99.99	25,930,000	17,650,000	25,930,000	17,650,000	-	-	25,930,000	17,650,000	-	-
RATCH O&M Company Limited	99.99	99.99	2,500	2,500	2,500	2,500	-	-	2,500	2,500	-	-
Ratchaburi Alliances Company Limited	99.99	99.99	420,200	420,200	420,200	420,200	-	-	420,200	420,200	650,000	295,000
Hin Kong Power Holding Company Limited	-	99.99	-	4,000	-	4,000	-	-	-	4,000	-	-
RATCH Cogeneration Company Limited	99.97	99.97	1,650,000	1,650,000	1,866,052	1,866,052	-	-	1,866,052	1,866,052	-	-
RATCH-Lao Services Company Limited	99.99	99.99	77,858	77,858	77,858	77,858	-	-	77,858	77,858	-	-
Total					**50,836,610**	**42,560,610**	**-**	**-**	**50,836,610**	**42,560,610**	**3,283,271**	**3,068,049**

All subsidiaries were incorporated in Thailand, except RATCH-Lao Services Company Limited which was incorporated in the Lao PDR.

Partial disposal of investment in Hin Kong Power Holding Company Limited

On 3 January 2020, the Group partially disposed investment in Hin Kong Power Holding Company Limited, a direct subsidiary, 49% of its interest for Baht 1.96 million in cash. Hin Kong Power Holding Company Limited thereby ceased to be a direct subsidiary and became a direct joint venture. The carrying amount of Hin Kong Power Holding Company Limited's net assets in the Group's financial statements on the date of the sale was Baht 20.98 million. The fair value of the Group's retained interest in the joint venture at the date when control was lost was Baht 2.04 million, which became the carrying value of the Group's interest in the joint venture at that date. The Group recognised a loss on disposal of Baht 16.98 million as administrative expenses in the consolidated statement of comprehensive income.

As a result of the disposal, the Group's interest in Hin Kong Power Company Limited, a subsidiary of Hin Kong Power Holding Company Limited, decreased to 51%. Hin Kong Power Company Limited thereby ceased to be an indirect subsidiary and became a subsidiary of the direct joint venture.

Increase in share capital of RH International Corporation Limited ("RHIC")

Date	Description	Registered share capital	Par value per share	Registered share capital	Paid-up share capital
		(in million shares)	*(Baht)*	*(in million Baht)*	*(in million Baht)*
1 January 2020	Balance	1,765	10	17,650	17,650
8 July 2020	Issuance of new ordinary shares	1,500	10	15,000	-
13 July 2020	Paid for increase in share capital				6,150
5 November 2020	Paid for increase in share capital				2,130
31 December 2020	**Balance**	**3,265**	**10**	**32,650**	**25,930**

10 Investments in other companies

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
At 1 January	2,442,300	2,442,300	2,442,300	2,442,300
Additions investment	185,000	-	185,000	-
Reclassification	(2,380,000)	-	(2,380,000)	-
At 31 December	**247,300**	**2,442,300**	**247,300**	**2,442,300**

Investments in other companies as at 31 December 2020 and 2019, and dividend income for the years then ended, were as follows:

	Consolidated/ Separate financial statements							
	Ownership interest		Paid-up capital		Cost		Dividend income for the year	
	2020	2019	2020	2019	2020	2019	2020	2019
	(%)				*(in thousand Baht)*			
Other companies								
EGAT Diamond Service Company Limited	10	10	623,000	623,000	62,300	62,300	1,012	894
Northern Bangkok Monorail Company Limited	-	10	-	11,800,000	-	1,180,000	-	-
Eastern Bangkok Monorail Company Limited	-	10	-	12,000,000	-	1,200,000	-	-
BGSR 6 Company Limited	10	-	1,000,000	-	100,000	-	-	-
BGSR 81 Company Limited	10	-	850,000	-	85,000	-	-	-
Total					**247,300**	**2,442,300**	**1,012**	**894**

Investments in Northern Bangkok Monorail Company Limited and Eastern Bangkok Monorail Company Limited

As at 31 December 2020, the Company has investment in Northern Bangkok Monorail Company Limited ("NBM") and Eastern Bangkok Monorail Company Limited ("EBM"), amounting to Baht 1,180 million and Baht 1,200 million, respectively which engaging in the mass transit business that operated in the MRT Pink Line Project (Khae Rai - Min Buri) and MRT Yellow Line Project (Lat Phrao - Samrong), respectively.

In 2020 the management determined that the Company had significant influence over both companies. through the Company's representative acts as the committees to participate in the meeting and to share the essential technical knowledge, experiences and the expertise of energy power and also participate in financial policy to support according to project finance agreement. Therefore, the management has reclassified the investment in NBM and EBM from investment in other companies to investment in associates.

Investments in Operation and Maintenance of Intercity Motorway Projects

On 4 August 2020, the Company and 3 local companies established BGSR 6 Company Limited and BGSR 81 Company Limited, in order to invest in operation and maintenance of 2 Intercity Motorway Projects. The registered capital of such companies were Baht 1,000 million *(comprising 100 million ordinary shares at par value of Baht 10 per share)* and Baht 850 million *(comprising 85 million ordinary shares at par value of Baht 10 per share)*, respectively. The Company invested in these companies in proportion of investment of 10%. Subsequently on 11 August 2020, the Company fully paid for paid-up share capital totalling Baht 100 million and Baht 85 million, respectively, in proportion of investment.

11 Land for future development projects

At 31 December 2020, the Group has land for future development projects comprise the 317 rai located in Pathum Thani province, the 19 rai located in Nakhorn Sri Thammarat province, the 52 rai located in Petchaburi province, the Group is considering the future development plan but not yet finalised. In addition, the 175 rai located in Ratchaburi province is to provide the rental for Hin Kong Power Plant project which the agreement will be effective in 2021. The total net book value of those lands are Baht 380.45 million. As at 31 December 2020, the Group has determined the market value resulting the net book value of those lands are not higher than the recoverable amount.

12 Property, plant and equipment

	Consolidated financial statements						
	Land	Buildings, other constructions and building improvements	Power plants, substation & transmission systems and operating & maintenance equipment	Furniture, fixtures and office equipment	Vehicles	Assets under construction and installation	Total
				(in thousand Baht)			
Cost							
At 1 January 2019	1,307,959	503,715	29,663,025	592,801	19,966	2,165,506	34,252,972
Additions	-	18,272	369,291	12,096	40	2,131,166	2,530,865
Acquisitions through business combination	491,748	2,014	4,111,458	72	-	-	4,605,292
Transfers	-	1,871	1,876,087	248	-	(1,878,206)	-
Transfer to land for future development project	(61,880)	-	-	-	-	-	(61,880)
Disposals	-	-	(19,230)	(14,116)	-	-	(33,346)
Effect of movements in exchange rates	(15,642)	(12,323)	(2,319,776)	(397)	-	(149,383)	(2,497,521)
At 31 December 2019 and 1 January 2020	**1,722,185**	**513,549**	**33,680,855**	**590,704**	**20,006**	**2,269,083**	**38,796,382**
Additions	-	5,121	230,445	2,156	42	4,527,808	4,765,572
Transfers	-	-	427,618	-	-	(256,743)	170,875
Disposals	-	(4,340)	(321,467)	(21,554)	(1,692)	-	(349,053)
Disposal from loss of control in subsidiary	-	-	-	(74)	-	(15,764)	(15,838)
Effect of movements in exchange rates	16,958	12,871	2,573,014	454	-	592,834	3,196,131
At 31 December 2020	**1,739,143**	**527,201**	**36,590,465**	**571,686**	**18,356**	**7,117,218**	**46,564,069**

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	Consolidated financial statements						
	Land	Buildings, other constructions and building improvements	Power plants, substation & transmission systems and operating & maintenance equipment	Furniture, fixtures and office equipment	Vehicles	Assets under construction and installation	Total
				(in thousand Baht)			
Depreciation and impairment losses							
At 1 January 2019	-	183,509	13,724,400	552,523	19,944	-	14,480,376
Depreciation charge for the year	-	23,447	1,230,811	19,026	26	-	1,273,310
Disposals	-	-	(19,229)	(13,417)	-	-	(32,646)
Effect of movements in exchange rates	-	(5,475)	(1,026,773)	(298)	-	-	(1,032,546)
At 31 December 2019 and 1 January 2020	**-**	**201,481**	**13,909,209**	**557,834**	**19,970**	**-**	**14,688,494**
Depreciation charge for the year	-	23,865	1,398,768	12,646	16	-	1,435,295
Disposals	-	(1,769)	(269,589)	(21,268)	(1,692)	-	(294,318)
Disposal from loss of control in subsidiary	-	-	-	(2)	-	-	(2)
Effect of movements in exchange rates	-	6,892	1,248,004	408	-	-	1,255,304
At 31 December 2020	**-**	**230,469**	**16,286,392**	**549,618**	**18,294**	**-**	**17,084,773**
Net book value							
At 31 December 2019	**1,722,185**	**312,068**	**19,771,646**	**32,870**	**36**	**2,269,083**	**24,107,888**
At 31 December 2020	**1,739,143**	**296,732**	**20,304,073**	**22,068**	**62**	**7,117,218**	**29,479,296**

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The gross amount of the Group's fully depreciated plant and equipment that was still in use as at 31 December 2020 amounted to Baht 751.16 million and Australian Dollars 111.30 million *(2019: Baht 804.71 million and Australian Dollars 75.28 million).*

Capitalised borrowing costs relating to the acquisition of the land and the construction of the new factory for the Group are amounted to Baht 119.02 million *(2019: Baht 149.94 million).*

Security

As at 31 December 2020, RATCH-Australia Corporation Pty. Ltd., an indirect subsidiary, had mortgaged land, buildings and power plants and pledged power plant equipment of 5 power plants with a net book value of Australian Dollars 1,011.36 million or equivalent to Baht 23,275.58 million as collateral for long-term loans from financial institutions (see note 16).

As at 31 December 2020, RATCH Cogeneration Company Limited, a direct subsidiary, had mortgaged land with all buildings on land and partial machine as collateral for long-term loans from financial institution (see note 16).

	Separate financial statements				
	Land	Buildings, other constructions and building improvements	Furniture, fixtures and office equipment	Vehicles	Total
			(in thousand Baht)		
Cost					
At 1 January 2019	295,993	309,636	458,672	960	1,065,261
Additions	-	-	8,850	-	8,850
Disposals	-	-	(11,888)	-	(11,888)
At 31 December 2019 and 1 January 2020	**295,993**	**309,636**	**455,634**	**960**	**1,062,223**
Additions	-	-	764	-	764
Disposals	-	-	(10,420)	-	(10,420)
At 31 December 2020	**295,993**	**309,636**	**445,978**	**960**	**1,052,567**
Depreciation					
At 1 January 2019	-	74,672	437,712	943	513,327
Depreciation charge for the year	-	12,385	9,855	17	22,257
Disposals	-	-	(11,872)	-	(11,872)
At 31 December 2019 and 1 January 2020	**-**	**87,057**	**435,695**	**960**	**523,712**
Depreciation charge for the year	-	12,386	6,670	-	19,056
Disposals	-	-	(10,420)	-	(10,420)
At 31 December 2020	**-**	**99,443**	**431,945**	**960**	**532,348**
Net book value					
At 31 December 2019	**295,993**	**222,579**	**19,939**	**-**	**538,511**
At 31 December 2020	**295,993**	**210,193**	**14,033**	**-**	**520,219**

The gross amount of the Company's fully depreciated plant and equipment that was still in use as at 31 December 2020 amounted to Baht 414.36 million *(2019: Baht 412.06 million).*

13 Leases

As a lessee

At 31 December 2020	Consolidated financial statements	Separate financial statements
	(in thousand Baht)	
Right-of-use assets		
Land	397,964	-
Vehicles	22,762	16,685
Office equipment	25,705	25,032
Transmission systems	1,583,156	-
Total	**2,029,587**	**41,717**

In 2020, additions to the right-of-use assets of the Group and the Company were Baht 1,013.09 million and Baht 8.32 million, respectively.

Generator Connection and Access agreement

On 26 October 2016, Mount Emerald Wind Farm Pty. Ltd., an indirect subsidiary, entered into a Generator Connection and Access agreement with a local company in Australia to join construct a switchyard and a transmission line. Thus, the subsidiary can connect and transmit electricity to a substation for a period of 26 years starting from the date specified in the agreement. The total value of the agreement is Australian Dollars 28.18 million.

On 27 October 2020, Collector Wind Farm Pty. Ltd., an indirect subsidiary, entered into a Dedicated Connection Agreement with a local company in Australia. The subsidiary can transmit electricity to substation for a period of 30 years starting from the date specified in the agreement. The total value of the agreement is Australian Dollars 43.49 million.

Land lease agreement

On 29 March 2019, Collector Wind Farm Pty. Ltd., an indirect subsidiary, entered into Land Lease Agreement for a period of 30 years. The agreement can be extended for a period of 10 years after the termination date. The monthly rental expense is stipulated in the agreement.

Extension options

Some property leases contain extension options exercisable by the Group up to one year before the end of the non-cancellable contract period. Where practicable, the Group seeks to include extension options in new leases to provide operational flexibility. The extension options held are exercisable only by the Group and not by the lessors. The Group assesses at lease commencement date whether it is reasonably certain to exercise the extension options. The Group reassesses whether it is reasonably certain to exercise the options if there is a significant event or significant changes in circumstances within its control.

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For the year ended 31 December	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Depreciation of right-of-use assets:				
- Land	42,572	-	-	-
- Vehicles	11,835	-	8,295	-
- Office equipment	8,655	-	8,403	-
- Transmission systems	5,949	-	-	-
Interest on lease liabilities	41,272	-	2,969	-
Expenses relating to short-term leases and leases of low-value assets	12,970	-	5,218	-
Lease expense	-	52,075	-	24,565
Contingent rent expense	-	1,079,094	-	55,915

In 2020, total cash outflow for leases of the Group and the Company were Baht 62.81 million and Baht 18.50 million, respectively.

14 Goodwill and intangible assets

	Consolidated financial statements				
	Software licences	Licenses on project development	Goodwill from business acquisition	Right to power purchase agreements	Total
			(in thousand Baht)		
Cost					
At 1 January 2019	143,589	648,996	644,911	4,933,840	6,371,336
Acquisitions through business combination	81	-	-	1,115,835	1,115,916
Additions	1,560	-	-	-	1,560
Effect of movements in exchange rates	(4,153)	(45,916)	(16,084)	(383,096)	(449,249)
At 31 December 2019 and 1 January 2020	**141,077**	**603,080**	**628,827**	**5,666,579**	**7,039,563**
Additions	3,858	-	-	-	3,858
Transfer	-	-	-	(170,875)	(170,875)
Effect of movements in exchange rates	4,588	(2,338)	(660)	402,084	403,674
At 31 December 2020	**149,523**	**600,742**	**628,167**	**5,897,788**	**7,276,220**
Amortisation and impairment losses					
At 1 January 2019	97,448	82,707	416,199	2,563,900	3,160,254
Amortisation charge for the year	11,129	24,837	-	218,640	254,606
Impairment losses	-	-	42,313	-	42,313
Effect of movements in exchange rates	(3,650)	(6,566)	-	(204,287)	(214,503)
At 31 December 2019 and at 1 January 2020	**104,927**	**100,978**	**458,512**	**2,578,253**	**3,242,670**

	Consolidated financial statements				
	Software licences	Licenses on project development	Goodwill from business acquisition	Right to power purchase agreements	Total
			(in thousand Baht)		
Amortisation charge for the year	10,301	25,034	-	292,890	328,225
Effect of movements in exchange rates	4,278	(1,396)	-	248,914	251,796
At 31 December 2020	**119,506**	**124,616**	**458,512**	**3,120,057**	**3,822,691**
Net book value					
At 31 December 2019	**36,150**	**502,102**	**170,315**	**3,088,326**	**3,796,893**
At 31 December 2020	**30,017**	**476,126**	**169,655**	**2,777,731**	**3,453,529**

	Separate financial statements
	Software licences *(in thousand Baht)*
Cost	
At 1 January 2019	32,439
Additions	90
At 31 December 2019 and 1 January 2020	**32,529**
Additions	-
At 31 December 2020	**32,529**
Amortisation	
At 1 January 2019	25,280
Amortisation charge for the year	2,915
At 31 December 2019 and at 1 January 2020	**28,195**
Amortisation charge for the year	2,577
At 31 December 2020	**30,772**
Net book value	
At 31 December 2019	**4,334**
At 31 December 2020	**1,757**

Impairment testing for CGUs containing goodwill

For the purposes of impairment testing, goodwill has been allocated to the Group's CGUs. The balance of goodwill as at 31 December 2020 and 2019 mainly came from Wind Farm in Australia.

The recoverable amounts of goodwill, right to power purchase agreements and property, plant and equipment in Australia (CGU) were based on its value in use, determined by discounting the future cash flows to be generated from the continuing use of the power plants in Australia.

The key assumptions used in the estimation of value in use included the discount rates which was a post-tax measure based on the rate of 10-year historic of average 10-year government bonds from Reserve Bank Australia (RBA) defined as a risk free rate, in line with the principle underlying the Capital Asset Pricing Model (CAPM) theory with debt leveraging of 60% for Thermal power plants and 50% for Renewable Energy power plants and the future cash flows were prepared using the external information, which included sales volumes, prices, operating costs, inflation rate and long-term growth rates based on estimate throughout the remaining period of the power purchase agreements.

The values assigned to the key assumptions represent management's assessment of future trends in the relevant industries and have been based on historical data from both external and internal sources.

	Consolidated financial statements	
	2020	2019
	(%)	
Discount rate - Thermal power plants	6.25	6.59
Discount rate - Renewable energy power plants	5.78	6.13

The discount rates were a post-tax measure based on the rate of 10-year government bonds issued by the government in the relevant market and in the same currency as the cash flows, adjusted for a risk premium to reflect both the increased risk of investing in general equity securities and the systematic risk of the specific CGU.

Revenue projection

The total revenue projections for the power plant assets have been determined in accordance with the power purchase agreements applying the revenue projections from external information for the post power purchase agreement periods. The assumptions included tariff from Thermal power plants and Renewable Energy power plants, carbon credit prices, nature gas prices, electricity demands, exchange rates, inflation rates and other related factors.

The impairment testing has been prepared by the management of RATCH-Australia Corporation Limited ("RAC") from the information as specified in the power purchase agreements with the counterparties while estimating revenue and expenses from the external source and other related factors and conservative approach are used when preparing the testing. The RAC's management have also conducted many sensitivity tests from the most conservative approach to more aggressive assumptions. There were no impairment loss recognised for any RAC's assets *(2019: Baht 42.31 million due to the fluctuation of foreign currency).*

15 Other non-current assets

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Deferred expenses under contractual service agreements	1,271,924	1,224,068	-	-
Revenue department receivable	472,912	-	-	-
Deferred expenses for generator connection and access services	46,849	611,448	-	-
Development costs of Renewable energy projects	73,605	42,256	-	-
Others	14,314	23,546	4,517	4,487
Total	**1,879,604**	**1,901,318**	**4,517**	**4,487**

Renewable energy projects

The Group is developing projects to generate and sell electricity from renewable energy in Australia.

The Group has capitalised project development costs related to renewable energy projects in Australia as other non-current assets. Such projects have received the development approval from local authorities and the management has determined that these projects are technically and commercially feasible, future economic benefits are probable and total present value of the estimated future cash flows will not be lower than the carrying amount.

16 Interest-bearing liabilities

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Current				
Short-term loans from financial institutions -unsecured	60,074	603,080	-	-
Short-term loans from related parties	-	-	3,465,000	
Current portion of long-term loans from financial institutions-secured	1,486,205	1,091,192	-	-
Current portion of lease liabilities *(2019: Finance lease liabilities)*	118,092	741	16,290	-
Total current interest-bearing liabilities	**1,664,371**	**1,695,013**	**3,481,290**	**-**
Non-current				
Long-term loans from financial institutions -secured	16,768,088	15,273,253	-	-
Lease liabilities *(2019: Finance lease liabilities)*	1,362,556	415	26,594	-
Debentures-unsecured	23,338,357	15,167,591	7,987,986	-
Total non-current interest-bearing liabilities	**41,469,001**	**30,441,259**	**8,014,580**	**-**

Balances of interest-bearing liabilities net of deferred financing fees, excluding lease liabilities as at 31 December 2020 were as follows:

	Consolidated financial statements			
	Total facilities	Amount *(in million Baht)*	Interest rate *(% per annum)*	Repayment term
Short-term				
Loans from financial institutions				
RH International (Singapore) Corporation Limited	As stipulated in the agreement	60	Fixed rate	Within 1 year during January 2021 to March 2021

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	Consolidated financial statements			
	Total facilities	Amount *(in million Baht)*	Interest rate *(% per annum)*	Repayment term
Long-term				
Loans from financial institutions				
RATCH Cogeneration Company Limited	Baht 4,632 million	3,537	3-Month floating rate plus a fixed margin	Within 12 years during November 2020 to November 2032
RATCH-Australia Corporation Pty. Ltd.	Australian Dollars 312 million	5,835	BBSY, plus a fixed margin	Within 5 years during October 2018 to May 2023
Mount Emerald Wind Farm Pty. Ltd. *(subsidiary of RATCH-Australia Corporation Pty. Ltd.)*	Australian Dollars 252 million	4,712	BBSY, plus a fixed margin	Within 5 years during December 2018 to November 2023
RATCH-Australia Collinsville Solar PV Pty. Ltd. *(subsidiary of RATCH-Australia Corporation Pty. Ltd.)*	Australian Dollars 60 million	995	BBSY, plus a fixed margin	Within 5 years during June 2018 to December 2023
Collector Wind Farm Pty. Ltd. *(subsidiary of RATCH-Australia Corporation Pty. Ltd.)*	Australian Dollars 180 million	3,273	BBSY, plus a fixed margin	Within 5 years during June 2021 to May 2024
Total		**18,352**		
Less deferred financing fees		(98)		
Net		**18,254**		
Less current portion		(1,486)		
Total non-current - net		**16,768**		
Debentures				
RATCH Group Public Company Limited	Baht 8,000 million	8,000	1.32 - 2.94	Repayment period of 3, 5,10, 15 years and will be due for redemption in 2023, 2025, 2030, 2035, respectively
Ratchaburi Electricity Generating Company Limited	Baht 2,000 million	2,000	3.50	Repayment period of 7 years and will be due for redemption in 2022
RH International (Singapore) Corporation Pte. Ltd.	US Dollars 300 million	9,011	4.50	Repayment period of 10 years and will be due for redemption in 2028

	Consolidated financial statements			
	Total facilities	Amount *(in million Baht)*	Interest rate *(% per annum)*	Repayment term
RH International (Singapore) Corporation Pte. Ltd.	Japanese Yen 15,000 million	4,361	2.72	Repayment period of 15 years and will be due for redemption in 2026
Total		**23,372**		
Less deferred financing fees		(34)		
Net		**23,338**		

	Separate financial statements			
	Total facilities	Amount *(in million Baht)*	Interest rate *(% per annum)*	Repayment term
Short-term				
Loans from related party				
RATCH Group Public Company Limited	Baht 10,000 million	3,465	1.10	Within 1 year during March 2021 to May 2021
Long-term				
Debenture				
RATCH Group Public Company Limited	Baht 8,000 million	8,000	1.32 - 2.94	Repayment period of 3, 5,10, 15 years and will be due for redemption in 2023, 2025, 2030, 2035, respectively

As at 31 December 2020, the Group had unutilised credit facilities totalling Baht 30,413.59 million, US Dollars 350 million and Australian Dollars 260.31 million. *(2019: Baht 29,395.37 million, US Dollars 250 million and Australian Dollars 193.47 million).*

The Group must comply with certain conditions in those agreements including maintaining certain key financial ratios for all long-term loans agreement from financial institutions and long-term debenture of RH International (Singapore) Corporation Pte. Ltd.

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Changes in liabilities arising from financing activities

	Consolidated financial statements			
	Loans	Debentures	Lease liabilities *(2019: Finance lease liabilities)*	Total
		(in thousand Baht)		
2020				
At 1 January	16,967,525	15,167,591	1,156	32,136,272
Changes from financing cash flows	148,772	8,000,000	(62,811)	8,085,961
The effect of changes in foreign exchange rates	1,166,067	(61,300)	56,026	1,160,793
Increase in lease liabilities	-	-	1,482,072	1,482,072
Other changes that not cash changes	32,003	232,066	4,205	268,274
At 31 December	**18,314,367**	**23,338,357**	**1,480,648**	**43,133,372**
2019				
At 1 January	13,572,802	19,578,635	1,943	33,153,380
Changes from financing cash flows	856,392	(3,407,832)	(858)	(2,552,298)
Changes arising from obtaining control of subsidiaries	3,610,565	-	-	3,610,565
The effect of changes in foreign exchange rates	(1,072,467)	(1,068,671)	-	(2,141,138)
Other changes that not cash changes	233	65,459	71	65,763
At 31 December	**16,967,525**	**15,167,591**	**1,156**	**32,136,272**

	Separate financial statements			
	Loans	Debentures	Lease liabilities *(2019: Finance lease liabilities)*	Total
		(in thousand Baht)		
2020				
At 1 January	-	-	-	-
Changes from financing cash flows	3,465,000	8,000,000	(18,500)	11,446,500
Increase in lease liabilities	-	-	65,288	65,288
Other changes that not cash changes	-	(12,014)	(3,904)	(15,918)
At 31 December	**3,465,000**	**7,987,986**	**42,884**	**11,495,870**

17 Non-current provisions for employee benefits

Defined benefit plan

The Group and the Company operate a defined benefit plan based on the requirement of Thai Labour Protection Act B.E 2541 (1998) to provide retirement benefits to employees based on pensionable remuneration and length of service. The defined benefit plans expose the Group to actuarial risks, such as longevity risk, currency risk, interest rate risk and market (investment) risk.

Present value of the defined benefit obligations	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
At 1 January	203,821	176,810	166,232	147,677
Include in profit or loss:				
Current service cost and interest on obligation	24,738	24,797	19,034	24,124
Past service cost	-	34,748	-	28,954
	24,738	**59,545**	**19,034**	**53,078**
Included in other comprehensive income:				
Actuarial loss				
- Demographic assumption	-	1,770	-	1,510
- Financial assumption	28,913	2,930	23,736	2,788
- Experience assumption	-	3,471	-	1,185
Effect of movements in exchange rates	73	(699)	-	-
	28,986	**7,472**	**23,736**	**5,483**
Benefit paid	(32,047)	(40,006)	(30,594)	(40,006)
At 31 December	**225,498**	**203,821**	**178,408**	**166,232**

Principal actuarial assumptions	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(%)			
Discount rate	1.69 to 4.5	2.98 to 4.5	1.69	2.98
Future salary growth	4 to 8	4 to 8	6.5 to 8	6.5 to 8
Employee turnover	0 to 15	0 to 15	0 to 10	0 to 10

Assumptions regarding future mortality have been based on published statistics and mortality tables.

As at 31 December 2020, the weighted-average durations of the defined benefit obligation were 15.90 and 30.20 years *(2019: 15.90 and 30.20 years)*.

Sensitivity analysis

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below.

Effect to the defined benefit obligation	Consolidated financial statements		Separate financial statements	
	Increase	Decrease	Increase	Decrease
	(in thousand Baht)			
At 31 December 2020				
Discount rate (1% movement)	(19,975)	23,565	(15,680)	18,333
Future salary growth (1% movement)	26,312	(22,555)	20,522	(17,756)
Employee turnover (20% movement)	(9,395)	10,351	(6,953)	7,503
Improving mortality rate (1% movement)	817	(924)	603	(674)

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Effect to the defined benefit obligation	Consolidated financial statements		Separate financial statements	
	Increase	Decrease	Increase	Decrease
At 31 December 2019	*(in thousand Baht)*			
Discount rate (1% movement)	(19,184)	22,680	(15,202)	17,820
Future salary growth (1% movement)	23,509	(20,264)	18,499	(16,093)
Employee turnover (20% movement)	(8,196)	9,010	(6,103)	6,579
Improving mortality rate (1% movement)	719	(810)	536	(597)

18 Share premium and reserves

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.

Reserves comprise:

Appropriations of profit and/or retained earnings

Legal reserve

Section 116 of the Public Companies Act B.E. 2535 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.

Other components of equity

Translation reserve
The translation reserves comprises all foreign currency differences arising from the translation of the financial statements of foreign operations.

Hedging reserve
The hedging reserve comprises the effective portion of the cumulative net change in the fair value of hedging instruments used in cash flow hedges pending subsequent recognition in profit or loss or directly included in the initial cost or other carrying amount of a non-financial asset or non-financial liability.

Fair value reserve of 2020
The fair value reserve comprise the cumulative net change in the fair value of equity securities designated at FVOCI.

Fair value reserve of 2019
The fair value changes in available-for-sale investments comprises the cumulative net change in the fair value of available-for-sale investments until the investments are derecognised or impaired.

19 Segment information

Management determined that the Group has 4 reportable segments which are the Group's strategic divisions for different products and services, and are managed separately. The following summary describes the operations in each of the Group's reportable segments.

Segment 1	Domestic Electricity Generating
Segment 2	Renewable Energy
Segment 3	International Power Projects
Segment 4	Others

Information about reportable segments

	Consolidated financial statements									
	Domestic Electricity Generating		Renewable Energy		International Power Projects		Others		Total	
For the year ended 31 December	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
	(in thousand Baht)									
Revenue from sales and rendering of services	28,905,683	32,397,138	-	-	2,746,853	3,043,976	-	-	31,652,536	35,441,114
Revenue from lease contracts	2,553,209	2,923,233	-	-	-	-	-	-	2,553,209	2,923,233
Cost of sales and rendering of services	(28,389,993)	(31,394,601)	-	-	(1,838,696)	(1,833,434)	-	-	(30,228,689)	(33,228,035)
Gross profit	**3,068,899**	**3,925,770**	-	-	**908,157**	**1,210,542**	-	-	**3,977,056**	**5,136,312**
Management service income	-	-	-	-	1,057	248	275,250	243,995	276,307	244,243
Interest income	52,318	60,819	545	198	60,765	55,115	45,784	89,390	159,412	205,522
Dividend income	-	-	-	-	60,172	99,987	1,012	894	61,184	100,881
Gain on bargain purchase arising from the acquisition	-	-	-	-	-	-	-	269,918	-	269,918
Other income	167,002	46,242	176	728	46,815	11,377	5,010	8,438	219,003	66,785
Administrative expenses	(233,011)	(234,399)	(78)	(2,817)	(455,027)	(425,536)	(912,981)	(933,240)	(1,601,097)	(1,595,992)
Net foreign exchange gain (loss)	4,218	28,238	-	-	290,475	(134,683)	9,760	(26,035)	304,453	(132,480)
Gain (loss) on fair value adjustment of derivatives	9,758	(356)	-	-	(139,997)	706	-	-	(130,239)	350
Finance costs	(184,854)	(99,235)	-	-	(1,304,417)	(1,331,334)	(62,081)	-	(1,551,352)	(1,430,569)
Share of profit of joint ventures and associates accounted for using equity method	570,751	421,477	374,847	390,211	3,429,291	3,139,739	225,454	16,953	4,600,343	3,968,380
Profit (loss) before income tax expense	**3,455,081**	**4,148,556**	**375,490**	**388,320**	**2,897,291**	**2,626,161**	**(412,792)**	**(329,687)**	**6,315,070**	**6,833,350**
Tax (expense) income	(42,337)	(837,959)	(83)	-	18,288	(33,381)	(4,226)	1,274	(28,358)	(870,066)
Profit (loss) for the year	**3,412,744**	**3,310,597**	**375,407**	**388,320**	**2,915,579**	**2,592,780**	**(417,018)**	**(328,413)**	**6,286,712**	**5,963,284**

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	Consolidated financial statements									
	Domestic Electricity Generating		Renewable Energy		International Power Projects		Others		Total	
For the year ended 31 December	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
	(in thousand Baht)									
Disaggregation of revenue										
Primary geographical markets										
Thailand	28,905,683	32,397,138	-	-	-	-	-	-	28,905,683	32,397,138
Australia	-	-	-	-	2,684,828	2,990,266	-	-	2,684,828	2,990,266
Other countries	-	-	-	-	62,025	53,710	-	-	62,025	53,710
Total	**28,905,683**	**32,397,138**	-	-	**2,746,853**	**3,043,976**	-	-	**31,652,536**	**35,441,114**
Major products and service lines										
Products	28,902,064	32,396,098	-	-	2,684,828	2,990,266	-	-	31,586,892	35,386,364
Services	3,619	1,040	-	-	62,025	53,710	-	-	65,644	54,750
Total	**28,905,683**	**32,397,138**	-	-	**2,746,853**	**3,043,976**	-	-	**31,652,536**	**35,441,114**
Timing of revenue recognition										
At a point in time	28,902,064	32,396,098	-	-	2,684,828	2,990,266	-	-	31,586,892	35,386,364
Over time	3,619	1,040	-	-	62,025	53,710	-	-	65,644	54,750
Total	**28,905,683**	**32,397,138**	-	-	**2,746,853**	**3,043,976**	-	-	**31,652,536**	**35,441,114**

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(a) Geographical segments

Segment assets are based on the geographical location of the assets.

Geographical information

	Assets	
	2020	2019
	(in thousand Baht)	
Thailand	52,772,952	54,814,149
Australia	31,848,820	23,850,702
Other countries	27,510,480	21,564,575
Total	**112,132,252**	**100,229,426**

(b) Major customer

Revenues from one customer of the Group's segment 1 represent approximately Baht 28,906 million *(2019: Baht 32,397 million)* of the Group's total revenue.

20 Employee benefit expenses

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Managements				
Directors' remuneration	10,379	10,105	8,157	7,699
Wages and salaries	100,256	99,772	36,149	31,292
Defined contribution plans	6,966	6,757	2,792	2,430
Defined benefit plans	2,682	5,428	2,053	5,187
Others	33,488	42,966	26,839	38,223
	153,771	**165,028**	**75,990**	**84,831**
Employees				
Wages and salaries	329,629	321,476	239,155	237,692
Defined contribution plans	24,480	23,857	21,149	20,734
Defined benefit plans	20,191	52,089	16,981	47,891
Others	176,939	153,429	142,123	117,126
	551,239	**550,851**	**419,408**	**423,443**
Total	**705,010**	**715,879**	**495,398**	**508,274**

Defined contribution plans

The Group in Thailand joined the contribution provident fund established by EGAT for the Group's employees. Membership to the fund is on a voluntary basis. Contributions are made monthly by the employee at rates ranging from 5% to 15% of their basic salaries and by the Group at rates ranging from 5% to 10% of the employees' basic salaries. The provident fund is registered with the Ministry of Finance as juristic entities and is managed by a licensed Fund Manager.

21 Expenses by nature

	Note	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		(in thousand Baht)			
Fuel costs		24,475,388	27,647,844	-	-
Operation and maintenance service fees		1,665,286	1,605,246	-	-
Depreciation and amortisation		1,972,586	1,557,878	38,330	25,172
Repair expenses and spare parts used		1,270,917	1,533,257	-	-
Employee benefit expenses	20	705,010	715,879	495,398	508,274
General administrative expenses		508,777	490,046	204,420	209,988
Insurance premium for power plants		377,823	377,566	-	-
Consultant fees		216,299	226,531	169,924	153,765
Public relation expenses		38,865	50,435	22,144	29,182
Impairment losses on goodwill		-	42,313	-	-
Others		598,835	577,032	-	7,836
Total cost of sales and rendering of services and administrative expenses		**31,829,786**	**34,824,027**	**930,216**	**934,217**

22 Income tax expense

Income tax recognised in profit or loss	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Current tax expense				
Current year	19,287	539,280	-	3,627
Under (over) provided in prior years	(1,911)	(21,629)	-	478
	17,376	**517,651**	**-**	**4,105**
Deferred tax expense				
Movements in temporary differences	10,982	352,415	(2,515)	(5,379)
Total income tax expense (income)	**28,358**	**870,066**	**(2,515)**	**(1,274)**

	Consolidated financial statements					
	2020			2019		
Income tax	Before tax	Tax (expense) benefit	Net of tax	Before tax	Tax (expense) benefit	Net of tax
	(in thousand Baht)					
Recognised in other comprehensive income						
Defined benefit plan actuarial losses	**(28,913)**	**5,783**	**(23,130)**	**(8,171)**	**1,634**	**(6,537)**

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	Separate financial statements					
	2020			2019		
Income tax	Before tax	Tax (expense) benefit	Net of tax	Before tax	Tax (expense) benefit	Net of tax
	(in thousand Baht)					
Recognised in other comprehensive income						
Defined benefit plan actuarial losses	**(23,736)**	**4,747**	**(18,989)**	**(5,483)**	**1,097**	**(4,386)**

Reconciliation of effective tax rate

	Consolidated financial statements			
	2020		2019	
	Rate (%)	*(in thousand Baht)*	*Rate (%)*	*(in thousand Baht)*
Profit before income tax expense		6,315,070		6,833,351
Income tax using the Thai corporation tax rate	20	1,263,014	20	1,366,670
Effect of different tax rates in foreign jurisdictions		(98,021)		(164,547)
Income not subject to tax - dividend income		(11,435)		(20,889)
Effect from expense not deductible for tax purposes and income and expenses recognised in the different periods between accounting and tax		(1,291,618)		(379,012)
Recognition of previously unrecognised tax losses		(88)		(332)
Current year losses for which no deferred tax asset was recognised		168,038		83,272
Over provided in prior years		(1,911)		(21,629)
Others		379		6,533
Total	**0.45**	**28,358**	**13**	**870,066**

	Separate financial statements			
	2020		2019	
	Rate (%)	*(in thousand Baht)*	*Rate (%)*	*(in thousand Baht)*
Profit before income tax expense		2,996,180		2,933,498
Income tax using the Thai corporation tax rate	20	599,236	20	586,700
Income not subject to tax-dividend income		(692,726)		(668,392)
Effect from expense not deductible for tax purposes and income and expenses recognised in the different periods between accounting and tax		9,198		(2,374)
Current year losses for which no deferred tax asset was recognised		81,777		78,687
Under provided in prior years		-		478
Others		-		3,627
Total	**(0.08)**	**(2,515)**	**(0.04)**	**(1,274)**

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	Consolidated financial statements			
Deferred tax	**Assets**		**Liabilities**	
At 31 December	2020	2019	2020	2019
	(in thousand Baht)			
Total	3,700,531	4,271,093	(5,489,880)	(5,942,432)
Set off of tax	(3,658,474)	(4,232,196)	3,658,474	4,232,196
Net deferred tax assets (liabilities)	**42,057**	**38,897**	**(1,831,406)**	**(1,710,236)**

	Separate financial statements			
Deferred tax	**Assets**		**Liabilities**	
At 31 December	2020	2019	2020	2019
	(in thousand Baht)			
Total	57,639	38,897	-	-
Set off of tax	(8,344)	-	-	-
Net deferred tax assets	**49,295**	**38,897**	-	-

	Consolidated financial statements					
		(Charged) / Credited to:				
Deferred tax	**At 1 January**	Retained earnings (Note 3)	Profit or loss	Other comprehensive income	Exchange differences	**At 31 December**
			(in thousand Baht)			
2020						
Deferred tax assets						
Allowance for obsolescence of spare parts and supplies and allowance for decline in value of fuel oil	288,294	-	(62,118)	-	3,750	229,926
Allowance for expected credit loss for financial assets	-	3,099	755	-	-	3,854
Property, plant and equipment	3,492,981	-	(623,323)	-	53,010	2,922,668
Leases liabilities	119	4,005	9,723	-	-	13,847
Derivative liabilities	8,343	-	-	-	-	8,343
Provisions for employee benefits	44,975	-	(4,779)	5,783	-	45,979
Loss carry forward	337,409	-	2,905	-	33,244	373,558
Others	98,972	-	(2,857)	-	6,241	102,356
Total	**4,271,093**	**7,104**	**(679,694)**	**5,783**	**96,245**	**3,700,531**
Deferred tax liabilities						
Property, plant and equipment	(2,115,736)	-	50,389	-	(157,199)	(2,222,546)
Right-of use assets	-	-	(9,484)	-	365	(9,119)
Intangible assets	(209,999)	-	13,778	-	-	(196,221)
Lease receivable from related party	(3,281,538)	-	653,674	-	-	(2,627,864)
Derivative assets	(2,136)	-	972	-	-	(1,164)
Others	(333,023)	-	(40,617)	-	(59,326)	(432,966)
Total	**(5,942,432)**	**-**	**668,712**	**-**	**(216,160)**	**(5,489,880)**
Net	**(1,671,339)**	**7,104**	**(10,982)**	**5,783**	**(119,915)**	**(1,789,349)**

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	Consolidated financial statements					
		(Charged) / Credited to:				
Deferred tax	**At 1 January**	Profit or loss	Other comprehensive income	Exchange differences	Acquired in business combination	**At 31 December**
			(in thousand Baht)			
2019						
Deferred tax assets						
Allowance for obsolescence of spare parts and supplies and allowance for decline in value of fuel oil	284,549	6,155	-	(2,410)	-	288,294
Property, plant and equipment	4,113,599	(612,670)	-	(53,559)	45,611	3,492,981
Finance leases liabilities	136	(17)	-	-	-	119
Derivative liabilities	-	-	-	-	8,343	8,343
Provisions for employee benefits	37,127	6,214	1,634	-	-	44,975
Loss carry forward	423,654	(44,167)	-	(42,078)	-	337,409
Others	102,122	3,692	-	(6,842)	-	98,972
Total	**4,961,187**	**(640,793)**	**1,634**	**(104,889)**	**53,954**	**4,271,093**
Deferred tax liabilities						
Property, plant and equipment	(2,385,544)	70,021	-	199,787	-	(2,115,736)
Intangible assets	-	-	-	-	(209,999)	(209,999)
Finance lease receivable from related party	(3,534,102)	252,564	-	-	-	(3,281,538)
Derivative assets	(2,693)	557	-	-	-	(2,136)
Others	(315,532)	(34,763)	-	17,272	-	(333,023)
Total	**(6,237,871)**	**288,379**	**-**	**217,059**	**(209,999)**	**(5,942,432)**
Net	**(1,276,684)**	**(352,414)**	**1,634**	**112,170**	**(156,045)**	**(1,671,339)**

	Separate financial statements				
		(Charged) / Credited to:			
Deferred tax	**At 1 January**	Retained earnings (Note 3)	Profit or loss	Other comprehensive income	**At 31 December**
			(in thousand Baht)		
2020					
Deferred tax assets					
Allowance for expected credit loss for financial assets	-	3,136	7,365	-	10,501
Lease liabilities	-	-	8,577	-	8,577
Provisions for employee benefits	38,897	-	(5,083)	4,747	38,561
Total	**38,897**	**3,136**	**10,859**	**4,747**	**57,639**
Deferred tax liabilities					
Right-of use assets	-	-	(8,344)	-	(8,344)
Total	**-**	**-**	**(8,344)**	**-**	**(8,344)**
Net	**38,897**	**3,136**	**2,515**	**4,747**	**49,295**

Deferred tax	Separate financial statements			
	At 1 January	(Charged) / Credited to: Profit or loss	Other comprehensive income	At 31 December
		(in thousand Baht)		
2019				
Deferred tax assets				
Provisions for employee benefits	**32,421**	**5,379**	**1,097**	**38,897**

Unrecognised deferred tax assets	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Losses carry forward	**776,430**	**520,607**	**399,492**	**317,758**

As at 31 December 2020, the Group has outstanding balance of deferred tax assets of Baht 373.56 million from cumulative tax losses of an indirect subsidiary in overseas. The Group's management has estimated future taxable profits and they considered it probable that future taxable profits would be available against which such losses can be used. The tax losses in such country has unlimited and no expiration date, therefore, the related deferred tax assets are recognised.

23 Promotional privileges

A subsidiary has been granted promotional certificates by the Office of the Board of Investment for electricity, steam, cooling water and industrial water. The subsidiary has been granted several privileges including exemption and/or reduction from payment of income tax on the net profit derived from promoted operations with certained terms and conditions prescribed in the promotional certificates.

24 Basic earnings per share

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht/ thousand shares)			
Profit for the year attributable to ordinary shareholders of the Company (basic)	**6,286,678**	**5,963,281**	**2,998,694**	**2,934,772**
Number of ordinary shares outstanding	**1,450,000**	**1,450,000**	**1,450,000**	**1,450,000**
Earnings per share (basic) ***(in Baht)***	**4.34**	**4.11**	**2.07**	**2.02**

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25 Dividends

The shareholders of the Company have approved dividends as follows:

	Approval date	Payment schedule	Dividend rate per share *(Baht)*	Amount *(in million Baht)*
2020				
Interim dividend for the year 2019			2.40	3,480
1st Interim dividend for the year 2019	23 August 2019	September 2019	(1.15)	(1,667)
2nd Interim dividend for the year 2019	20 March 2020	April 2020	1.25	1,813
Interim dividend for the year 2020	24 August 2020	September 2020	1.15	1,667
Total dividend				**3,480**
2019				
Annual dividend for the year 2018	5 April 2019	April 2019	2.40	3,480
Interim dividend for the year 2018	22 August 2018	September 2018	(1.15)	(1,667)
Additional dividend			1.25	1,813
Interim dividend for the year 2019	23 August 2019	September 2019	1.15	1,667
Total dividend				**3,480**

26 Financial instruments

(a) ***Carrying amounts and fair values***

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy. It does not include fair value information for financial assets and financial liabilities measured at amortised cost if the carrying amount is a reasonable approximation of fair value.

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	Consolidated financial statement								
	Carrying amount					Fair value			
At 31 December 2020	Hedging instruments	Financial instruments measured at FVTPL	Financial instruments measured at FVOCI	Financial instruments measured at amortised cost	Total	Level 1	Level 2	Level 3	Total
					(in thousand Baht)				
Financial assets									
Other current financial assets:									
Deposits at financial institutions	-	-	-	892,505	892,505				
Debt instruments	-	842,546	-	2,022,385	2,864,931	-	2,865,289	-	2,865,289
Other non-current financial assets									
Equity instruments	-	-	1,286,190	-	1,286,190	1,286,190	-	-	1,286,190
Debt instruments	-	-	-	542,595	542,595	-	558,282	-	558,282
Long-term loans to related parties	-	-	-	522,662	522,662	-	-	522,622	522,622
Long-term loans to other parties	-	-	-	2,384,775	2,384,775	-	-	2,384,775	2,384,775
Equity securities - investments in other companies	-	-	247,300	-	247,300	-	-	247,300	247,300
Derivatives assets	-	5,821	-	-	5,821	-	5,821	-	5,821
Financial liabilities									
Long-term loans from financial institutions	-	-	-	(18,254,294)	(18,254,294)	-	(18,254,294)	-	(18,254,294)
Debentures	-	-	-	(23,338,357)	(23,338,357)	-	(27,738,853)	-	(27,738,853)
Derivatives liabilities	(1,008,679)	(268,852)	-	-	(1,277,531)	-	(1,277,531)	-	(1,277,531)

	Separate financial statement								
	Carrying amount					Fair value			
At 31 December 2020	Hedging instruments	Financial instruments measured at FVTPL	Financial instruments measured at FVOCI	Financial instruments measured at amortised cost	Total	Level 1	Level 2	Level 3	Total
				(in thousand Baht)					
Financial assets									
Other current financial assets:									
Deposits at financial institutions	-	-	-	870,000	870,000				
Debt instruments	-	305,056	-	22,987	328,043	-	328,402	-	328,402
Other non-current financial assets									
Debt instruments	-	-	-	89,932	89,932	-	93,331	-	93,331
Long term loans to related party	-	-	-	1,753,796	1,753,796	-	-	1,753,796	1,753,796
Equity securities - investments in other companies	-	-	247,300	-	247,300	-	-	247,300	247,300
Financial liabilities									
Debentures	-	-	-	(7,987,986)	(7,987,986)	-	(8,162,577)	-	(8,162,577)

	Consolidated financial statements				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
		(in thousand Baht)			
31 December 2019					
Financial assets and liabilities measured at fair value					
Debt securities held for trading	503,109	-	503,109	-	503,109
Available for sale investments	1,942,552	1,942,552	-	-	1,942,552
Derivative assets	266,637	-	266,637	-	266,637
Derivative liabilities	(888,606)	-	(888,606)	-	(888,606)
Financial liabilities not measured at fair value					
Long-term loans from financial institutions	(16,364,445)	-	(16,364,445)	-	(16,364,445)
Debentures	(15,167,590)	-	(16,698,572)	-	(16,698,572)

	Separate financial statements				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
		(in thousand Baht)			
31 December 2019					
Financial assets measured at fair value					
Debt securities held for trading	482,065	-	482,065	-	482,065

Financial instruments measured at fair value

Type	**Valuation technique**
Corporate debt securities	*Market price comparison technique/discounted cash flow:* The fair value is estimated considering (i) current or recent quoted prices for identical securities in markets that are not active and (ii) a net present value calculated using discount rates derived from quoted prices of securities with similar maturity and credit rating that are traded in active markets, adjusted by an illiquidity factor.
Investments in marketable unit trusts classified as financial assets measured at FVTPL or FVOCI *(2019: trading investments and available-for-sale investments)*	The net asset value as of the reporting date.
Forward exchange contracts	*Forward pricing:* The fair value is determined using quoted forward exchange rates at the reporting date and present value calculations based on high credit quality yield curves in the respective currencies.

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Type	Valuation technique
Interest rate swap contracts	*Swap models:* The fair value is calculated as the present value of estimated future cash flows. Estimated of future floating-rate cash flows are based on quoted swap rates, futures prices and interbank borrowing rates. Estimated cash flows are discounted using a yield curve constructed from similar sources and which reflects the relevant benchmark interbank rate used by market participants for this purpose when pricing interest rate swaps. The fair value estimate is subject to a credit risk adjustment that reflects the credit risk of the Group and of the counterparty; this is calculated based on credit spreads derived from current credit default swap or bond prices.
Cross currency swap contracts	*Black-Scholes model/ discounted cash flows*

Financial instruments not measured at fair value

Type	Valuation technique
Debt securities and other financial liabilities	Discounted cash flows

(b) Movement of marketable equity and debt securities

	Consolidated financial statements					
Marketable equity and debt securities	At 1 January	Purchase	Disposal	Fair value adjustment	Effect of movements in exchange rates	At 31 December
			(in thousand Baht)			
2020						
Current financial assets						
Debt securities measured						
- at FVTPL	**503,109**	**1,467,761**	**(1,138,468)**	**10,144**	**-**	**842,546**
Non-current financial assets						
Equity securities measured at						
- FVOCI	**1,942,552**	**-**	**-**	**(665,537)**	**9,175**	**1,286,190**
2019						
Current investments						
Trading securities	**500,202**	**617,092**	**(618,321)**	**4,136**	**-**	**503,109**
Other long-term investments						
Available-for-sale securities	**2,538,934**	**-**	**-**	**(520,436)**	**(75,946)**	**1,942,552**

	Separate financial statements				
Marketable equity and debt securities	At 1 January	Purchase	Disposal	Fair value adjustment	At 31 December
	(in thousand Baht)				
2020					
Current financial assets					
Debt securities measured at - FVTPL	**482,065**	**164,164**	**(340,911)**	**(262)**	**305,056**
2019					
Current investments					
Trading securities	**467,761**	**617,091**	**(606,906)**	**4,119**	**482,065**

(c) Financial risk management policies

Risk management framework

The Group's board of directors has overall responsibility for the establishment and oversight of the Group's risk management framework. The board of directors has established the risk management committee, which is responsible for developing and monitoring the Group's risk management policies. The committee reports regularly to the board of directors on its activities.

The Group's risk management policies are established to identify and analyse the risks faced by the Group, to set appropriate risk limits and controls and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management standards and procedures, aims to maintain a disciplined and constructive control environment in which all employees understand their roles and obligations.

The Group audit committee oversees how management monitors compliance with the Group's risk management policies and procedures, and reviews the adequacy of the risk management framework in relation to the risks faced by the Group. The Group audit committee is assisted in its oversight role by internal audit. Internal audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the audit committee.

(c.1) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's receivables from customers and investments in debt securities.

(c.1.1) Trade accounts receivables

The management has established a credit policy to control the credit risk on a regular basis by analysing the financial status of every customers who requested a certain amount of credit. As of the reporting date, there were no significant credit risk exposure. The maximum credit risk is stated in the book value of each financial asset in the statement of financial position. However, as the major customers of the Group are government agencies, state of enterprises and large corporations with low credit risk. Management does not expect any material losses incurred from debt collection.

The Group limits its exposure to credit risk from trade accounts receivables by establishing a maximum payment period of one month.

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The following table provides information about the exposure to credit risk and ECLs for trade accounts receivables.

	Consolidated financial statements	
At 31 December 2020	Trade accounts receivables	Allowance for expected credit loss
	(in thousand Baht)	
Related parties (Note 5)		
Within credit terms	4,954,142	-
Overdue:		
Less than 3 months	28,104	-
	4,982,246	-
Other parties		
Within credit terms	206,806	-
Overdue:		
3 - 6 months	253	-
6 - 12 months	638	-
	207,697	-
Total	**5,189,943**	-
Less allowance for expected credit loss	-	
Net	**5,189,943**	

Trade accounts receivables	**Consolidated financial statements**	**Separate financial statements**
	(in thousand Baht)	
At 31 December 2019		
Related parties (Note 5)		
Within credit terms	5,277,659	-
Other parties		
Within credit terms	235,491	-
Overdue:		
Less than 3 months	424	-
3 - 6 months	279	-
	236,194	-
Total	**5,513,853**	-
Less allowance for doubtful accounts	-	-
Net	**5,513,853**	-

The normal credit term granted by the Group is not exceeding 1 month.

(c.1.2) Investment in debt securities

The Group limits its exposure to credit risk by investing only in liquid debt securities and only with counterparties that have a credit rating of at least A- from TRIS RATING.

The Group monitors changes in credit risk by tracking published external credit ratings. To determine whether published ratings remain up to date and to assess whether there has been a significant increase in credit risk at the reporting date that has not been reflected in published ratings.

The following table presents the exposure to credit risk for investment in debt securities at amortised cost and FVOCI. It indicates whether assets measured at amortised cost or FVOCI were subject to a 12-month ECL or lifetime ECL allowance and, in the latter case, whether they were credit-impaired.

	Consolidated financial statements			
At 31 December 2020	12-months ECL	Lifetime ECL- not credit-impaired	Lifetime ECL - credit-impaired	Total
	(in thousand Baht)			
Debt instruments measured at amortised cost	2,566,004	-	-	2,566,004
Loans to	2,941,864	-	-	2,941,864
Lease receivable from related party	13,139,323	-	-	13,139,323
	18,647,191	-	-	18,647,191
Less allowance for expected credit loss	(37,291)	-	-	(37,291)
Net	**18,609,900**	**-**	**-**	**18,609,900**

	Separate financial statements			
At 31 December 2020	12-months ECL	Lifetime ECL- not credit-impaired	Lifetime ECL - credit-impaired	Total
	(in thousand Baht)			
Debt instruments measured at amortised cost	113,000	-	-	113,000
Loans to	1,865,888	-	-	1,865,888
	1,978,888	-	-	1,978,888
Less allowance for expected credit loss	(52,504)	-	-	(52,504)
Net	**1,926,384**	**-**	**-**	**1,926,384**

	Consolidated financial statements			
Movement of allowance for expected credit loss	12-months ECL	Lifetime ECL- not credit-impaired	Lifetime ECL- credit-impaired	Total
	(in thousand Baht)			
At 1 January 2020 - restated *(see note 3(a.2))*	15,498	-	-	15,498
Net remeasurement of loss allowance	2,648	-	-	2,648
Financial assets repaid	(37)	-	-	(37)
New financial assets acquired	19,182	-	-	19,182
At 31 December 2020	**37,291**	**-**	**-**	**37,291**

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	Separate financial statements			
Movement of allowance for expected credit loss	12-months ECL	Lifetime ECL- not credit-impaired	Lifetime ECL- credit-impaired	Total
	(in thousand Baht)			
At 1 January 2020 – restated *(see note 3(a.2))*	15,683	-	-	15,683
Net remeasurement of loss allowance	36,442	-	-	36,442
Financial assets repaid	(1,781)	-	-	(1,781)
New financial assets acquired	2,160	-	-	2,160
At 31 December 2020	**52,504**	**-**	**-**	**52,504**

(c.1.3) Cash and cash equivalent and derivatives

The Group's exposure to credit risk arising from cash and cash equivalents and derivative assets is limited because the counterparties are banks and financial institutions which the Group considers to have low credit risk.

(c.1.4) Guarantees

The Group's policy is to provide the guarantees only for the financial facilities of subsidiaries. At 31 December 2020, the Group has provided a guarantee to certain banks in respect of credit facilities granted to a subsidiary (see note 16).

(c.2) Liquidity risk

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Group's operations and to mitigate the effects of fluctuations in cash flows.

The following table are the remaining contractual maturities of financial liabilities at the reporting date. The amounts are gross and undiscounted and include contractual interest payments and exclude the impact of netting agreements.

	Consolidated financial statements				
		Contractual cash flows			
At 31 December 2020	Carrying amount	1 year or less	More than 1 years but less than 5 years	More than 5 years	Total
			(in thousand Baht)		
Non-derivative financial liabilities					
Trade payables	3,643,030	3,643,030	-	-	3,643,030
Loans from financial institutions	18,314,367	1,621,940	15,924,409	2,503,322	20,049,671
Lease liabilities	1,480,648	122,610	430,674	2,557,589	3,110,873
Debentures	23,338,357	261,350	5,268,957	23,831,515	29,361,822
	46,776,402	**5,648,930**	**21,624,040**	**28,892,426**	**56,165,396**

	Consolidated financial statements				
		Contractual cash flows			
At 31 December 2020	Carrying amount	1 year or less	More than 1 years but less than 5 years	More than 5 years	Total
			(in thousand Baht)		
Derivative financial liabilities					
Interest rate swaps	1,032,284	222,240	299,071	510,973	1,032,284
Cross currency swap contract	241,564	-	-	241,564	241,564
Forward exchange contracts					
- Cash outflow	50,544	50,544	-	-	50,544
- Cash inflow	(46,861)	(46,861)	-	-	(46,861)
	1,277,531	**225,923**	**299,071**	**752,537**	**1,277,531**

	Separate financial statements				
		Contractual cash flows			
At 31 December 2020	Carrying amount	1 year or less	More than 1 years but less than 5 years	More than 5 years	Total
			(in thousand Baht)		
Non-derivative financial liabilities					
Short-term loans from related party	3,465,000	3,483,813	-	-	3,483,813
Lease liabilities	42,884	18,476	28,312	-	46,788
Debentures	7,987,986	196,350	3,252,707	6,846,842	10,295,899
	11,495,870	**3,698,639**	**3,281,019**	**6,846,842**	**13,826,500**

		Consolidated financial statements			
		Maturity period			
	Effective interest rate	Within 1 year	After 1 year but within 5 years	After 5 years	Total
	(% per annum)		*(in thousand Baht)*		
2019					
Financial assets					
Current					
Debt securities held for trading	1.12 to 2.27	248,960	224,340	29,809	503,109
Other debt securities held to maturity	3.04	60,000	-	-	60,000
Non-current					
Other debt securities held to maturity	3.04 to 3.10	-	53,000	-	53,000
Long-term loans to related parties	6.27	-	-	540,898	540,898
Total		**308,960**	**277,340**	**570,707**	**1,157,007**

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	Consolidated financial statements				
		Maturity period			
	Effective interest rate (% per annum)	Within 1 year	After 1 year but within 5 years	After 5 years	Total
		(in thousand Baht)			
2019					
Financial liabilities					
Current					
Current portion of long-term loans from financial institutions	3.10 to 5.17	1,091,192	-	-	1,091,192
Non-current					
Long-term loans from from financial institutions	3.10 to 5.17	-	12,809,127	2,464,126	15,273,253
Debentures	2.71 to 4.47	-	1,999,319	13,168,272	15,167,591
Total		**1,091,192**	**14,808,446**	**15,632,398**	**31,532,036**

	Separate financial statements				
		Maturity period			
	Effective interest rate (% per annum)	Within 1 year	After 1 year but within 5 years	After 5 years	Total
		(in thousand Baht)			
2019					
Financial assets					
Current					
Debt securities held for trading	1.12 to 2.27	227,917	224,340	29,808	482,065
Other debt securities held to maturity	3.04	60,000	-	-	60,000
Non-current					
Other debt securities held to maturity	3.04 to 3.10	-	53,000	-	53,000
Long-term loans to related parties	3.93 to 6.27	-	-	1,807,710	1,807,710
Total		**287,917**	**277,340**	**1,837,518**	**2,402,775**

The cash inflows and cash outflows disclosed in the above table represent the contractual undiscounted cash flows relating to derivative financial liabilities held for risk management purposes and which are not usually closed out before contractual maturity. The disclosure shows net cash flow amounts for derivatives that are net cash-settled and gross cash inflow and outflow amounts for derivatives that have simultaneous gross cash settlement.

(c.3) Market risk

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.

(c.3.1) Foreign currency risk

The Group is exposed to foreign currency risk relating to purchases which are denominated in foreign currencies. The Group primarily utilises forward exchange contracts with maturities of less than one year to hedge such financial assets and liabilities denominated in foreign currencies. The forward exchange contracts entered into at the reporting date also relate to anticipated purchases, denominated in foreign currencies, for the subsequent period.

At 31 December, the Group and the Company were exposed to foreign currency risk in respect of significant financial assets and liabilities denominated in the foreign currencies as follows:

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
United States Dollars				
Long-term loans to related parties	538,896	540,898	1,509,558	1,515,165
Other current payables	(236,681)	(798,117)	(13,354)	(21,840)
Lao Kip				
Other non-current assets *(2019: available for sale investments)*	1,286,190	1,942,552	-	-
Other current payables	(5,296)	(7,299)	-	(1,910)
Australian Dollars				
Other current payables	(37,132)	(67,611)	(3,343)	(3,389)
Japanese Yen				
Other current payables	(41,426)	(40,209)	-	-
Debentures	(4,356,755)	(4,142,133)	-	-
Others				
Other current payables	(3,000)	(1,650)	(190)	(27)
Gross balance sheet exposure	**(2,855,204)**	**(2,573,569)**	**1,492,671**	**1,487,999**
Estimated forecast purchases	(1,813)	(1,476)	-	-
Gross exposure	**(2,857,017)**	**(2,575,045)**	**1,492,671**	**1,487,999**
Foreign currency forward contracts	50,544	94,080	-	-
Cross currency swap contracts	4,361,387	4,147,683	-	-
Net exposure	**1,554,914**	**1,666,718**	**1,492,671**	**1,487,999**

Sensitivity analysis

A reasonably possible strengthening (weakening) of the against all other currencies at 31 December 2020 would have affected the measurement of financial instruments denominated in a foreign currency and affected equity and profit or loss by the amounts shown below. This analysis assumes that all other variables, in particular interest rates, remain constant and ignores any impact of forecast sales and purchases.

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At 31 December 2020	Consolidated financial statements		
		Profit or loss	
	Movement	Strengthening	Weakening
	(%)	*(in thousand Baht)*	
United States Dollars	5	15,906	(15,906)
Lao Kip	5	67,415	(67,415)
Australian Dollars	5	(1,954)	1,954
Japanese Yen	5	(231,484)	231,484

At 31 December 2020	Separate financial statements		
		Profit or loss	
	Movement	Strengthening	Weakening
	(%)	*(in thousand Baht)*	
United States Dollars	5	78,748	(78,748)
Australian Dollars	5	(176)	176

(c.3.2) Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows because debt securities and loan interest rates are mainly fixed. 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 debt securities and borrowings are at fixed interest rates and uses derivatives, principally interest rate swaps, to manage exposure to fluctuations in interest rates on specific debt securities and borrowings.

Exposure to interest rate risk at 31 December	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Financial instruments with fixed interest rates				
Financial assets	3,457,485	4,001,740	2,214,053	1,513,812
Financial liabilities	(23,398,431)	(15,770,671)	(11,452,986)	-
	(19,940,946)	**(11,768,931)**	**(9,238,933)**	**1,513,812**
Interest rate swaps	5,821	10,681	-	-
	(19,935,125)	**(11,758,250)**	**(9,238,933)**	**1,513,812**
Financial instruments with variable interest rates				
Financial assets	3,749,983	1,044,006	827,718	1,022,963
Financial liabilities	(18,254,293)	(16,364,445)	-	-
	(14,504,310)	**(15,320,439)**	**827,718**	**1,022,963**
Interest rate swaps	(1,032,284)	(794,539)	-	-
	(15,536,594)	**(16,114,978)**	**827,718**	**1,022,963**

Foreign currency forward contracts

As at 31 December 2020, the Group entered into various foreign currency forward contracts with financial institutions to manage exposure of fluctuations in foreign currency risk relate to purchases. The Group had outstanding foreign currency forward contracts to buy US Dollars 1.56 million with Baht 50.54 million. The contracts will mature during March 2021 to December 2021 *(2019: buy US Dollars 3.12 million with Baht 101.09 million).*

Interest rate swap and cross currency swap contracts

The Group entered into various interest rate swap and cross currency swap contracts with financial institutions to manage exposure of fluctuations in interest rates and foreign currency risk on borrowings. The notional amounts of the outstanding interest rate swap and cross currency swap contracts as at 31 December 2020 comprises Baht currency totalling Baht 2,823.45 million, Japanese Yen currency totalling Japanese Yen 15,000 million and Australian Dollars currency totalling Australian Dollars 490.24 million. All counterparties agreed to pay the interest and the principal amount in accordance with the terms and conditions specified in the contracts *(2019: Baht currency totalling Baht 2,957.85 million, Japanese Yen currency totalling Japanese Yen 15,000 million and Australian Dollars currency totalling Australian Dollars 539.49 million).*

Fair value sensitivity analysis for fixed-rate instruments

The Group does not account for any fixed-rate financial assets or financial liabilities, at FVTPL, and the Group does not designate derivatives (interest rate swaps) as hedging instruments under a fair value hedge accounting model. Therefore, a change in interest rates at the reporting date would not affect profit or loss.

Cash flow sensitivity analysis for variable-rate instruments

A reasonable possible change of 1% in interest rates at the reporting date would have increased (decreased) equity and profit or loss by the amounts shown below. This analysis assumes that all other variables, in particular foreign currency exchange rates, remain constant.

	Consolidated financial statements			
	Profit or loss		Equity, net of tax	
At 31 December 2020	1% increase in interest rate	1% decrease in interest rate	1% increase in interest rate	1% decrease in interest rate
	(in thousand Baht)			
Financial instruments with variable interest rate	(145,043)	145,043	-	-
Interest rate swaps	236	(236)	10,087	(10,087)
Cash flow sensitivity (net)	**(144,807)**	**144,807**	**10,087**	**(10,087)**

	Separate financial statements			
	Profit or loss		Equity, net of tax	
At 31 December 2020	1% increase in interest rate	1% decrease in interest rate	1% increase in interest rate	1% decrease in interest rate
	(in thousand Baht)			
Financial instruments with variable interest rate	8,277	(8,277)	-	-
Cash flow sensitivity (net)	**8,277**	**(8,277)**	-	-

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(c.4) Cash flow hedges

At 31 December 2020, the Group held the following financial instruments to hedge exposures to changes in interest rates.

	Consolidated financial statements		
	Maturity		
	Within	After 1 year but within	After
At 31 December 2020	1 year	5 years	5 years
Interest rate risk			
Interest rate swaps			
Net exposure *(in thousand Baht)*	198,636	299,071	510,973
Average fixed interest rate *(%)*	2.70	2.72	2.94

The amounts at the reporting date relating to items designated as hedged items were as follows.

	Consolidated financial statements
At 31 December 2020	Cash flow hedge reserve *(in thousand Baht)*
Interest rate risk	
Variable-rate instruments	**937,497**

The following table provides a reconciliation by risk category of components of equity and analysis of OCI items, net of tax, resulting from cash flow hedge accounting.

	Consolidated financial statements
	Hedging reserve *(in thousand Baht)*
Balance at 1 January 2020	796,264
Cash flow hedges	
Changes in fair value - interest rate risk	141,233
Balance at 31 December 2020	**937,497**

27 Capital management

The Board of Director' s Policy is to support the Group's growth and sustain liquidity at an optimal level so such capitals generate maximum value to the shareholders and maintain creditability for lenders and the capital markets. The Board of Directors has regulated the return on investment which includes returns from operating activities on total equity, excluding non-controlling interests and supervising the payment of dividends to the shareholders.

28 Commitments with non-related parties

Operation and Maintenance Agreement

On 9 December 2019, RATCH Cogeneration Company Limited, a direct subsidiary, entered into an Operation and Maintenance Agreement with a service provider for a period of 19 years from the date specified in the agreement. Under the terms of the agreement, such service provider will operate and provide maintenance services to the subsidiary. The operation and maintenance service fee is stipulated in the agreement.

Fuel Purchase Agreements

On 27 October 2000, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Gas Sales Agreement with PTT Public Company Limited ("PTT") for a period of 25 years. PTT will distribute natural gas to such subsidiary at the agreed quantity and price.

On 1 June 2004, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Diesel Purchase Agreement with PTT for a period of 3 years. PTT will distribute diesel to such subsidiary at the agreed quantity and price. The agreement is automatically extended for a period of 1 year unless written notice at least 6 months before the agreement automatically extended.

On 31 March 2011, RATCH Cogeneration Company Limited, a direct subsidiary, entered into a Gas Sales Agreement with PTT for a period of 25 years from the date of commercial gas usage. PTT will distribute natural gas to such subsidiary at the agreed quantity and price.

Contractual Service Agreement

On 29 December 2005, Ratchaburi Electricity Generating Company Limited, a direct subsidiary, entered into a Contractual Service Agreement for the Combined Cycle power plants with the Consortium of General Electric International Operations Company Inc. and GE Energy Parts, Inc. The agreement is effective from the agreement date until the end of the operation of gas turbine according to the Power Purchase Agreement in 2027 with a total value of the existing agreement in US Dollars 428.60 million. Subsequently on 19 November 2019, all parties agreed to amend the conditions of the agreement effective from November 2019. The total value of the agreement is US Dollars 433.25 million. As at 31 December 2020, the subsidiary had outstanding commitments amounting to US Dollars 97.17 million. *(2019: US Dollars 119.01 million)*

In addition, in accordance with the agreement, the subsidiary is required to open a letter of credit amounting to US Dollars 6 million. As at 31 December 2020, the subsidiary had an outstanding unused letter of credit amounting to US Dollars 6 million. *(2019: US Dollars 6 million)*

On 29 December 2019, RATCH Cogeneration Company Limited, a direct subsidiary, entered into a Contractual Service Agreement with a service provider for a period of 15 years from the date specified in the agreement. The total value of the agreement is US Dollars 29.27 million. As at 31 December 2020, the subsidiary had outstanding commitments amounting to US Dollars 18.79 million. *(2019: US Dollars 21.52 million)*

Letters of guarantee

As at 31 December 2020, the Group and its subsidiaries had commitments from letters of guarantee issued by financial institutions for the Group and its subsidiaries to comply with certain conditions in agreements in the amount of Baht 1,053.17 million, US Dollars 11.76 million and Australian Dollars 22.25 million. *(2019: Baht 1,046.08 million, US Dollars 12.38 million and Australian Dollars 22.25 million)*

Standby Letters of Credit

As at 31 December 2020, the Group and its subsidiaries had commitments from Standby Letters of Credit issued by financial institutions for Debt Service Reserve Guarantees and equity contributions in joint ventures in the amount of Baht 1,600 million, US Dollars 24.50 million and Australian Dollars 30.08 million. *(2019: Baht 1,600 million, US Dollars 24.50 million and Australian Dollars 208.27 million)*

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Unused of credit facilities

As at 31 December 2020, the Group and its subsidiaries had unused of credit facilities totalling Baht 7,231.90 million, US Dollars 1,066.18 million, Australian Dollars 210.12 million and Euro 182 million. *(2019: Baht 9,908.23 million, US Dollars 896.45 million, Australian Dollars 31.94 million and Euro 300 million)*

Capital commitment

As at 31 December 2020, RATCH-Australia Corporation Pty. Ltd. and its subsidiaries, an indirect subsidiary, had outstanding capital commitments under Engineering Procurement & Construction Contracts for Wind Farm and other service agreements amounting to Australian Dollars 26.84 million. *(2019: Australian Dollars 217.23 million)*

Pledge of share certificate agreements

The Company has pledged all share certificates of RATCH Cogeneration Company Limited, a direct subsidiary, as collateral for loans of the subsidiary.

The Company has pledged all share certificates of First Korat Wind Company Limited and K.R. TWO Company Limited, direct associates, as collateral for loans of those associates.

The Group has pledged all share certificates of Xe-Pian Xe-Namnoy Power Company Limited, Nava Nakorn Electricity Generating Company Limited, Ratchaburi World Cogeneration Company Limited, Solarta Company Limited and Hongsa Power Company Limited, joint ventures, as collateral for loans of those joint ventures.

The Company has pledged all share certificates of SouthEast Asia Energy Limited, a direct joint venture, and the joint venture has pledged partial share certificates of Nam Ngum 2 Power Company Limited, a subsidiary of the joint venture, as collateral for loans of Nam Ngum 2 Power Company Limited.

Fareast Renewable Development Pte. Ltd., an indirect joint venture, has pledged partial share certificates of PT Bajradaya Sentranusa, a subsidiary of the joint venture, as collateral for loans of PT Bajradaya Sentranusa.

The Company has pledged all share certificates of Northern Bangkok Monorail Company Limited and Eastern Bangkok Monorail Company Limited, direct associates, as collateral for loans of those companies.

NEXIF RATCH ENERGY SINGAPORE PTE. LTD, a direct joint venture, has pledged all share certificates of Nexif Ratch Energy Rayong Company Limited, a subsidiary of the joint venture, as collateral for loans of Nexif Ratch Energy Rayong Company Limited.

Significant litigation

In 2014, a plaintiff filed a lawsuit against the Company based on the allegations that the Company had breached the joint development agreement for bidding of the Power Plant Project. The plaintiff demanded the Company to pay damage. The management of the Company is confident that all of the Company's action have not been in accordance with the allegations of the plaintiff and has much more confidence in strong defences. Therefore, the Company did not recognise a contingent liability in respect of this case. On 25 October 2018, the Court of First Instance issued a judgement to dismiss the claim made by the plaintiff. Subsequently on 10 June 2020, the Court of Appeals issued a judgement to dismiss the claim made by the Plaintiff upheld the Court of First Instance.

In 2019, the Company was the defendant in a civil case where the plaintiff requested the Company to pay Baht 5,271.10 million for compensation. The plaintiff claimed that the Company infringement of their trade secrets by used and made the profitability from their trade secrets information without their consent. The action reportedly caused damage to the plaintiff and preventing them from receiving lost the right, income or benefits from their trade secrets information. Subsequently on 30 September 2020, the Central Intellectual Property and International Trade Court issued a judgement to dismiss the claim since the trade secrets information claimed by the plaintiff has ceased. Therefore, the Company did not recognise a contingent liability in respect of this case.

29 Events after the reporting period

Additional investment

On 19 December 2020, the Company attended the auction and offered the highest purchase price of Bangkok Aviation Fuel Services Public Company Limited ("BAFS") 98.98 million shares (or equivalent to 15.53% of total issued and paid-up shares) from Thai Airways International Public Company Limited ("THAI") at Baht 27.40 per share totalling Baht 2,712.14 million. Subsequently on 19 January 2021, THAI completely transferred the shares to the Company and the Company paid a total share purchase price to THAI.

Call for 3rd paid up share capital of RH International Corporation Limited ("RHIC")

On 19 January 2021, RHIC, a direct subsidiary, called for 3rd paid-up share capital at 4.7%. The Company paid for increase in share capital totalling Baht 705 million, in proportion of investment of 99.99%.

Increase in share capital of RH International (Mauritius) Corporation Limited ("RHIM")

On 15 January 2021, the Board of Directors meeting of RHIM, an indirect subsidiary, approved to increase in authorised share capital from US Dollars 794.33 million to US Dollars 817.33 million by issuance of new ordinary shares totalling 23 million shares at par value of US Dollar 1 per share. Subsequently on 19 January 2021, RHIC paid for increase in share capital totalling US Dollars 23 million or equivalent to Baht 689.77 million, in proportion of investment of 100%.

Increase in share capital of RH International (Singapore) Corporation Pte. Ltd. ("RHIS")

On 15 January 2021, the Board of Directors meeting of RHIS, an indirect subsidiary, approved to increase in authorised share capital from US Dollars 793.83 million to US Dollars 816.83 million by issuance of new ordinary shares totalling 23 million shares at par value of US Dollar 1 per share. Subsequently on 19 January 2021, RHIM paid for increase in share capital totalling US Dollars 23 million or equivalent to Baht 691.41 million, in proportion of investment of 100%.

Management Service Agreement

In February 2021, the Company entered into a Management Service Agreement with Hin Kong Power Company Limited, a subsidiaries of direct joint ventures, whereby the Company will receive management service fee amounting to Baht 36 million per year and will increase annually as stipulated in the agreement. The agreement is automatically extended for a period of 1 year unless written notice.

Dividend approval for the year 2020

At the Board of Directors meeting of the Company held on 15 February 2021, the Board approved to submit for approval at the annual general meeting of the shareholders of the Company, the appropriation of 2021 annual dividend at the rate of Baht 2.4 per share, totalling Baht 3,480 million, from the profit from operations of 2020 after deducting the interim dividend of Baht 1.15 per share, totalling Baht 1,667 million. The balance of dividend amounting to Baht 1,813 million is subject to the approval of the shareholders at the annual general meeting on 5 April 2021.

Management Discussion and Analysis

For the Year Ended 31 December, 2020

Abbreviation	
The Company	RATCH Group Public Company Limited
EGAT	Electricity Generating Authority of Thailand
COD	Commercial Operation Date
EBITDA	Earnings before Interest, Tax, Depreciation and Amortization
FX	Foreign Exchange Rate
IPP	Independent Power Producer
PPA	Power Purchase Agreement
SPP	Small Power Producer

Projects/Companies	
ABEIF	An Binh Energy and Infrastructure Fund
BPC	Berkprai Cogeneration Company Limited, an indirect joint venture in proportion of 35 percent
EBM	Eastern Bangkok Monorail Company Limited, an associate in proportion of 10 percent
HKH	Hin Kong Power Holding Company Limited, a joint venture in proportion of 51 percent
HKP	Hin Kong Power Company Limited, an indirect joint venture wholly-owned by HKH
HPC	Hongsa Power Company Limited, an indirect joint venture in proportion of 40 percent
NBM	Northern Bangkok Monorail Company Limited, an associate in proportion of 10 percent
NNEG	Nava Nakorn Electricity Generating Company Limited, an indirect joint venture in proportion of 40 percent
NRER	Nexif Ratch Energy Rayong Company Limited, an indirect joint venture wholly-owned by NERS
NRES	NEXIF RATCH ENERGY SINGAPORE PTE LTD, an indirect joint venture in proportion of 49 percent
RAC	RATCH-Australia Corporation Pty Ltd, a wholly-owned indirect subsidiary
RCO	RATCH Cogeneration Company Limited, a subsidiary in proportion of 99.97 percent
RG	Ratchaburi Electricity Generating Company Limited, a wholly-owned subsidiary
RHIS	RH International (Singapore) Corporation Pte Ltd, a wholly-owned indirect subsidiary
RIAU	PT Medco Ratch Power RIAU, an indirect joint venture in proportion of 49 percent
RL	RATCH-Lao Services Company Limited, a wholly-owned subsidiary

Executive Summary

Unit : Million baht

	2020	2019	Increase (Decrease)	%
Total revenues *	16,155.92	15,668.94	486.98	3.1
Total cost and expenses *	10,173.66	9,573.18	600.48	6.3
EBITDA	9,664.80	9,996.24	(331.44)	(3.3)
Gain (Loss) on FX	304.45	(132.48)	436.93	329.8
Profit to owner of the Company	6,286.68	5,963.28	323.40	5.4
Profit before FX	5,982.23	6,095.76	(113.53)	(1.9)

** excluding fuel cost*

The operating result for the year 2020 showed the profit (attributable to owners of the Company) of THB 6,286.68 million, increasing from the previous year by THB 323.40 million. The increase is owing to the increase in the share of profit of associates and joint ventures. In addition, the Company recognized gain of FX. Without the effect of FX of the Company and subsidiaries, the operating result for the year 2020 showed the profit of THB 5,982.23 million.



1. Significant Events of the Year 2020

1.1 Hin Kong Combined-Cycle Power Plant Project, Ratchaburi Province

On January 3, 2020, the Company sold 196,000 ordinary shares of HKH or 49 percent of the total shares at THB 10 per share, which is at par price, totaling THB 1.96 million to Gulf Energy Development Public Company Limited.

HKH fully owns HKP, a company that is established in preparation for development of Hin Kong Power Plant. The project is a combined-cycle power plant using natural gas as the main fuel, with total contracted capacity of 1,400 megawatts (700 megawatts per unit). It is located in Hin Kong Subdistrict, Muang District, Ratchaburi Province. HKP has signed a 25-year Power Purchase Agreement with EGAT, with the scheduled COD in 2024 and 2025, respectively.

On September 29, 2020, HKP has signed the Engineering, Procurement and Construction Contract ("EPC Contract") and Long-term Service Agreement ("LTSA"). The project has already received approval for the Environment Impact Assessment from Office of Natural Resources and Environmental Policy and Planning.

1.2 Signing of Memorandum of Understanding – "District 9 Project: Digital Industrial Zones and Intelligent Communities"

On January 8, 2020, the Company, Thammasat University, Nava Nakorn Public Company Limited, and ALT Telecom Public Company Limited have entered into a Memorandum of Understanding ("MOU") – "District 9 Project: Digital Industrial Zones and Intelligent Communities", which is a project to study the guidelines for smart city development to satisfy the demand of production, commerce, energy, and telecommunications in the digital age. Based on the potential of physical, location, and readiness of basic infrastructure of Thammasat University, Rangsit Center, and Nava Nakorn Industrial Zone in Pathumthani Province, all of which are suitable for studying and developing the smart city in the future. The Company will contribute information and knowledge regarding energy technology.

The results of the feasibility of the project will be used as a guideline for smart city development to create the new standards of production, commerce, and residence in all aspects in accordance with the demand and growth of population in Bangkok and northern metropolitan zone.

1.3 Signing of Power Purchase Agreements for Collector Wind Farm in the Commonwealth of Australia

On March 9, 2020, RAC has signed a long-term PPA with Infigen Energy, a company listed on the Australian Securities Exchange, with its leading role on Australia's transition to a clean energy future, for 60 percent of energy output from the 226.80 MW capacity Collector Wind Farm. The sales of power under the PPA starts from the project's first energy generation within 2020 and the PPA will expire on December 31, 2030.

On March 24, 2020, RAC achieved a long-term PPA with a retailer named ALDI Foods Pty Ltd in the Commonwealth of Australia for 19.40 percent of energy output for the period of 10 years.

Collector Wind Farm is located in New South Wales in the Commonwealth of Australia. The project is under construction and expected to achieve full COD in early 2021. The remaining 20.60 percent of uncontracted output from the project will be sold in the Australian energy market.

1.4 Signing of Share Purchase Agreement to Invest in SPP Power Plant Project, Rayong Province

On March 12, 2020, the Company has entered into Share Purchase Agreement to purchase 49 percent of ordinary shares of NER Singapore Pte Ltd, totaling approximately USD 21 million from Nexif Energy Thailand B.V., the existing shareholder. The purpose of such investment is to develop Nexif Energy Rayong SPP Power Project. The project is a firm-cogeneration SPP power plant project with the capacity of 92 megawatts, using natural gas as fuel. It is operated by Nexif Energy Rayong Company Limited (a wholly-owned subsidiary of NER Singapore Pte Ltd), located in SPP Industrial Park, Bankhai District, Rayong Province. It has a 25-year PPA with EGAT. The COD is expected to be approximately in April 2022.

On April 21, 2020, Nexif Energy Rayong Company Limited was successful in making the first drawdown with financial institutions under its project financial agreement.

On April 27, 2020, NER Singapore Pte Ltd registered the name changed to NEXIF RATCH ENERGY SINGAPORE PTE LTD (NRES). On May 5, 2020, Nexif Energy Rayong Company Limited registered the name changed to Nexif Ratch Energy Rayong Company Limited (NRER).

1.5 Power Plant Project in Nakhon Ratchasima Province by R E N Korat Energy Company Limited (R E N)

On March 27, 2020, the Company has entered into a Shareholder Agreement with Nava Nakorn Public Company Limited and PEA ENCOM International Company Limited in which the shareholding proportion is 40, 35, and 25 percent, respectively to jointly develop a power project in Nakhon Ratchasima Province.

The project is a cogeneration independent power supply project with the generation capacity of 40 megawatts. It is located in Nava Nakorn Industrial Promotion Zone, Nakhon Ratchasima province. The project cost is approximately THB 2,176 million. The generated power and steam will be sold to industrial customers and the COD is scheduled in July 2023.

On April 21, 2020, the three shareholders have already registered the establishment of the joint venture company named R E N Korat Energy Company Limited which has registered capital of THB 1 million, divided into 100,000 shares valuing at THB 10 each. The capital is paid at 25 percent of the registered capital.

1.6 Thanh Phong Wind Power Plant Project

On May 22, 2020, RHIS invested in Thanh Phong Wind Power Project in the Socialist Republic of Vietnam in the proportion of 51 percent. The project is an onshore wind farm project with generation capacity of 29.70 megawatts. It is located in Ben Tre Province in the south of the Socialist Republic of Vietnam. The project has 20-year PPA with Vietnam Electricity. The project cost is approximately USD 45 million. Currently, it is in preparation for construction. The COD is scheduled in September 2021.

1.7 Tri Energy Power Plant

On June 30, 2020, the 720-megawatt Tri Energy Power Plant in Ratchaburi Province, operated by RG has reached the expiration of PPA with EGAT and ceased to operate and distribute electricity to the system since 30 June 2020.

1.8 An Binh Energy and Infrastructure Fund's ("ABEIF") investment in Socialist Public of Vietnam

On July 15, 2020, RHIS has signed of transaction documents with respect to its partnership with Geleximco Group Joint Stock Company ("Geleximco"). RHIS and Geleximco will hold ownership interest of 49 percent and 51 percent of the charter capital of ABEIF, respectively. The ABEIF is a Vietnam focused power sector fund which has potential investment consideration in various power and infrastructure projects in the Socialist Republic of Vietnam.

On August 18, 2020, ABEIF has made its first investment in the power generation sector. ABEIF has acquired 45 percent indirect ownership of Thang Long Power Plant, one of the largest COD achieved coal-fired power plants under the Build-Own-Operate ("BOO") framework, located in the North of Vietnam with a gross capacity of 620 megawatts. The plant has a 25-year PPA with the state-owned Vietnam Electricity.

1.9 The Expansion of Power and Steam Generating Capacity of RATCH Cogeneration Company Limited ("RCO")

On August 4, 2020, RCO had received EGAT's consent for its expansion of power generating capacity by approximately 30 megawatts and steam generating capacity by approximately 5.46 tons per hour in order to sell the additional power and steam to users in Navanakorn Industrial Promotion Zone in Pathum Thani Province and neighboring areas. The construction is scheduled to begin in February 2021 and the project is expected to commence the COD in July 2022.

1.10 Quang Tri 1 Thermal Power Plant Project

On September 16, 2020, the Company entered into a Joint Development Agreement of Quang Tri 1 Thermal Power Plant Project in the Socialist Public of Vietnam with EGAT International Company Limited ("EGATi") and Electricity Generating Public Company Limited ("EGCO") with the shareholding proportion of 30, 40 and 30 percent respectively.

Quang Tri 1 Thermal Power Plant Project is a coal-fired power plant project with the installed capacity of 1,320 megawatts (2 units with the capacity of 660 megawatts each), located in Quang Tri Economic Zones, Central Vietnam. The project's generated electricity will be sold to Vietnam Electricity ("EVN") under the long-term PPA. Currently, the Project is under green-field development and under negotiation process with the expected COD in 2025.

1.11 Wood Pellet Production and Sale Project in Lao PDR

On September 21, 2020, RL together with BURIRAM GREEN ENERGY CO., LTD. ("BGE") in Thailand and SIPHANDONE BOLAVEN DEVELOPMENT COMPANY LIMITED ("SPD") in Lao PDR had registered the establishment of SIPHANDONE-RATCH LAO CO., LTD. at the proportion of 25, 65 and 10 percent respectively, to develop a wood pellet production and sale project with the production capacity of approximately 60,000 tons per year in Lao PDR. The project is negotiating relating contracts and requesting relating licenses. It is expected that the construction of wood pellet production plant will begin approximately in March 2021 and that the wood pellets can be sold according to the contract approximately in Quarter 1 of 2022.

1.12 Signing of a Memorandum of Understanding to Conduct a Feasibility Study of a Wood Pellet Project in Lao PDR

On October 26, 2020, RL has signed a Memorandum of Understanding ("MOU") with Sacksith Consulting &Trading Sole Co., LTD. and the Government of Lao PDR in order to conduct a land survey and a feasibility study of industrial timber planting of wattle trees and fast-growing trees for the construction of a wood pellet factory in Ta Oy District, Sa Mouay District, Salavan Province, Lao PDR. The result of the land survey and feasibility study of the Project will be used for the benefit of applying for a concession for the aforementioned industrial timber planting project in the future.

1.13 Commercial Operation of Nava Nakorn SPP Power Plant (Expansion)

On October 31, 2020, Nava Nakorn SPP Power Plant (Expansion) of Nava Nakorn Electricity Generating Company Limited, which is the a joint-venture company of RG, Nava Nakorn Public Company Limited and Global Synergy Public Company Limited in the proportion of 40, 30 and 30 percent, respectively, located in Nava Nakorn Industrial zone with the electricity generating capacity of 60 megawatts and steam generating capacity of 10 tons per hour, has commenced the COD and recognized its income under the PPA. As a result, the total electricity generating capacity of Nava Nakorn Electricity Generating Company Limited is approximately 185 megawatts and total stream generating capacity is approximately 40 tons per hour.

1.14 Issuance and Offering of Debentures

On November 4, 2020, the Company issued and offered the first Green Debentures No.1/2563 in the total amount of Baht 8,000 million. The debentures are under Baht 15,000 million in accordance with the Company's Debenture Project of 2020. The green debentures are the Registered, Senior and Unsecured Debentures with Debenture Holders' Representative type with Private Placement to II and/or HNW target group. The purpose of the debentures is for investment and/or repayment of existing loans and/or internal fund repayment (in whole or in part) of the new or existing green eligible projects of the Company and the group companies, in alignment with RATCH's Green Financial Framework, including renewable energy projects, wind power projects, and clean transportation projects, including Pink and Yellow Line Monorails. The interest rate is 1.32-2.94 percent per annum and the maturity dates are in between 2023-2035. The principal repayment is bullet repayment. Rating of AAA/Stable has been assigned to the Green Debentures by TRIS Rating Company Limited.

1.15 Signing of Joint Development Agreement of Nexif Ben Tre Wind Power Project in the Socialist Republic of Vietnam

On December 4, 2020, RHIS has entered into a Joint Development Agreement of Nexif Ben Tre Wind Power Project in the Socialist Republic of Vietnam with Nexif Energy Pte. Ltd. with the project participation proportion of 50:50 percent respectively, after further development and any required approvals.

The Project is a near-shore wind power generation plant with the installed capacity of 80 MW, located in Thanh Hai Commune, Thanh Phu District, Ben Tre Province, Vietnam. Currently, the Project is under development and under negotiation process with expected in COD in 2022. The Project's generated electricity will be sold to Vietnam Electricity ("EVN") under long-term PPA.

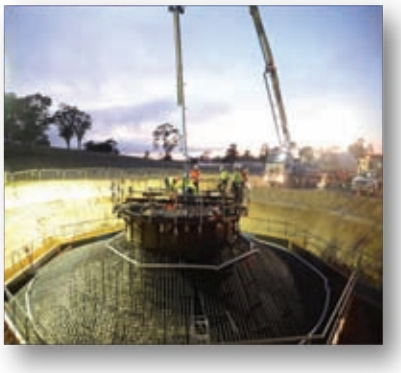
1.16 Shareholding in Bangkok Aviation Fuel Services Public Company Limited

On December 19, 2020, the Company attended the auction and offered the highest price of shares of Bangkok Aviation Fuel Services Public Company Limited ("BAFS") for 98,983,125 shares (or equivalent to 15.53 percent of total issued and paid-up shares in BAFS) from Thai Airways International Public Company Limited ("THAI"). The purchase price is THB 27.40 per share at the total amount of THB 2,712.14 million. On December 29, 2020, the Company had entered into a share purchase agreement with THAI and on January 19, 2021, THAI completely transferred the shares to the Company and the Company paid a total share purchase price to THAI.

Progress of Projects under Construction (as of December 31, 2020)



Yandin Wind-Turbine Power Plant	
Install Capacity (MW)	214.2
Location	Western Australia, Australia
Ownership	70%
PPA	15 years with Alinta
COD	1st Quarter, 2021
Progress	96%



Collector Wind-Turbine Power Plant	
Install Capacity (MW)	226.8
Location	New South Wales, Australia
Ownership	100%
PPA	PPA/ Merchant
COD	1st Quarter, 2021
Progress	94.5%



Riau Power Plant	
Type of Fuel	Natural Gas
Install Capacity (MW)	296.23
Location	Republic of Indonesia
Ownership	49%
PPA	20 years with PT PLN
COD	May 2021
Progress	94.03%




MRT Pink Line Project	
Technology	Monorail
Route	Khae Rai-Min Buri
Ownership	10%
Contract Term	30 years
COD	2022
Progress	Civil Works = 70.32% Railway System = 64.34%




MRT Yellow Line Project	
Technology	Monorail
Route	Lad Prao-Sam Rong
Ownership	10%
Contract Term	30 years
COD	2022
Progress	Civil Works = 73.26% Railway System = 67.00%



Nexif Ratch Energy Rayong Power Plant (NRER)	
Type of Power Plant	Firm-Cogeneration SPP Power Plant
Type of Fuel	Natural Gas
Install Capacity (MW)	92
Location	Rayong Province
Ownership	49%
PPA	25 Years with EGAT
COD	April 2022
Progress	25.1%

2. Operation performance according to consolidated financial statement

Unit : Million baht

	2020	2019	Increase (Decrease)	%
Total revenues (excluding fuel costs)	16,155.92	15,668.94	486.98	3.1
Total cost and expenses (excluding fuel costs)	10,173.66	9,573.18	600.48	6.3
	5,982.26	6,095.76	(113.50)	(1.9)
Non-controlling Interests	(0.03)	-	(0.03)	-
Profit before FX - the Company and subsidiaries	**5,982.23**	**6,095.76**	**(113.53)**	**(1.9)**
Gain (loss) on FX - the Company and subsidiaries	304.45	(132.48)	436.93	329.8
Profit to owner of the Company	**6,286.68**	**5,963.28**	**323.40**	**5.4**
Fuel Cost	*23,366.07*	*27,551.13*		

The operating result according to the consolidated financial statement showed the profit (attributable to owners of the Company) of THB 6,286.68 million or THB 4.34 per share, increasing by THB 323.40 million. The main reasons were due to the increase in the share of profit of associates and joint ventures such as HPC, NNEG, BPC, EBM, and NBM. In addition, the Company recognized gain of FX due to the appreciation of AUD. However, the operating result without the effect of FX gain (loss) of the Company and subsidiaries showed the profit of THB 5,982.23 million.

2.1 Analysis of Revenues

Unit : Million baht

	2020	2019	Increase (Decrease)	%
Revenue from sales and rendering of services (excluding fuel costs)	8,286.47	7,889.98	396.49	5.0
RG	*3,473.73*	*4,350.63*	*(876.90)*	*(20.2)*
RAC	*2,684.83*	*2,990.26*	*(305.43)*	*(10.2)*
RCO	*2,065.88*	*495.38*	*1,570.50*	*317.0*
RL	*62.03*	*53.71*	*8.32*	*15.5*
Revenue from finance leases contracts	2,553.21	2,923.23	(370.02)	(12.7)
Share of profit of associates and joint ventures	4,600.34	3,968.38	631.96	15.9
IPPs	*3,288.76*	*2,904.25*	*384.51*	*13.2*
SPPs	*426.26*	*338.65*	*87.61*	*25.9*
Hydro Power Plants	*69.02*	*66.75*	*2.27*	*3.4*
Renewable Power Plants	*403.13*	*356.00*	*47.13*	*13.2*
Others	*413.17*	*302.73*	*110.44*	*36.5*
Management service income	276.31	244.24	32.07	13.1
interest income	159.41	205.52	(46.11)	(22.4)
Dividend income	61.18	100.88	(39.70)	(39.4)
Gain on bargain purchase - RCO	-	269.92	(269.92)	(100.0)
Other income	219.00	66.79	152.21	227.9
Total revenues	**16,155.92**	**15,668.94**	**486.98**	**3.1**
Fuel Cost	***23,366.07***	***27,551.13***		

2.1.1 Revenue from sales and rendering of services (excluding fuel costs)

(1) Revenue from sales of RG decreased due to the decrease in Base Availability Credit in 2020 compared to that of 2019, as specified in the Power Purchase Agreement.

(2) Revenue from sales of RAC decreased as Mount Emerald Wind Farm Project generated less electricity than the previous year.

(3) Revenue from sales of RCO increased due to the acquisition on October 1, 2019. In addition, the power plant generated and sold electricity to industrial users more than that of last year.

2.1.2 Share of profit of associates and joint ventures

IPPs

The share profit of HPC increased. The main reasons are as follows;

(1) The power plants have availability more than that of last year.

(2) The recognition of insurance claims for earthquake incident in 2019.

(3) Finance cost decreased due to loan restructure and repayment during the year.

SPPs

The share profit of NNEG increased mainly due to the power plants generated electricity more than that of last year.

The share profit of BPC increased mainly due to commencing COD on June 1, 2019. In addition, the power plant generated electricity more than that of last year.

Others

The Company recognized the share profit of EBM and NBM.

2.2 Analysis of Cost and Expenses

Unit : Million baht

	2020	2019	Increase (Decrease)	%
Cost and expenses (excluding fuel costs)	6,862.62	5,676.90	1,185.72	20.9
RG	*3,210.40*	*3,408.15*	*(197.75)*	*(5.8)*
RAC	*1,795.69*	*1,795.58*	*0.11*	*0.0*
RCO	*1,813.52*	*435.32*	*1,378.20*	*316.6*
RL	*43.01*	*37.85*	*5.16*	*13.6*
Administrative expenses	1,601.09	1,595.99	5.10	0.3
(Gain) Loss on fair value adjustment of derivatives	130.24	(0.35)	130.59	n.a.
Finance costs	1,551.35	1,430.57	120.78	8.4
Tax expense	28.36	870.07	(841.71)	(96.7)
Total Cost and expenses	10,173.66	9,573.18	600.48	6.3
Fuel Cost	***23,366.07***	***27,551.13***		

2.2.1 Cost of sales and rendering of services (excluding fuel costs)

(1) Cost of sales of RG decreased as the planned maintenance during the year 2020 was less than that of the previous year.

(2) Cost of sales of RCO increased as the Company's acquisition on October 1, 2019.

2.2.2 The effect of fair value adjustment of derivatives

The Company recorded the effect on fair value adjustment of derivatives according to the adopted accounting policies for derivatives and hedge accounting. The main reason was the change in fair value adjustment of cross currency swap contract between JPY and AUD currencies to manage exposure of fluctuations in foreign exchange risk on borrowings.

2.2.3 Income Tax

Income tax decreased since RG received tax benefit from the sale of Tri Energy Power Plant which its PPA was expired in June 2020.

2.3 The effect of exchange rate of the Company and its subsidiaries

In 2020, the Company recorded gain on FX. The main reason was from loan to related parties in AUD currency. As AUD currency appreciated in relative to USD currency, the asset value in AUD currency increased. In contrast, the Company recorded loss on FX of in 2019 due to the depreciation of AUD currency in relative to USD currency, resulting in the decrease of asset value in AUD currency.

3. Analysis of statement of financial position

3.1 Analysis of assets

As at December 31, 2020, the total assets were THB 112,132.25 million, increasing by THB 11,902.82 million or 11.9 percent from THB 100,229.43 million as at December 31, 2019. The details were as follows:

(Million Baht)

	Dec 31, 2020	Dec 31, 2019	Increase (Decrease)	%
Current assets	18,484.69	20,479.77	(1,995.08)	(9.7)
Non-current assets	93,647.56	79,749.66	13,897.90	17.4
Total Assets	**112,132.25**	**100,229.43**	**11,902.82**	**11.9**

3.1.1 Investments in joint ventures and associates increased in the amount of THB 9,684.65 million. The main reasons were from additional investments in the amount of THB 5,995.68 million, and the share of profit contributed during the period in the total amount of THB 4,600.34 million. On the other hand, the Company recorded dividend income in the amount of THB 1,987.29 million.

3.1.2 Property, plant and equipment increased in the amount of THB 5,371.41 million. The main reason was assets under construction of RAC increased in the amount of AUD 205.72 million mainly due to the construction of Collector Wind Farm Project.

3.1.3 Long-term loan to other company in the amount of USD 80 million.

3.1.4 Financial lease receivables from related party decreased in the amount of THB 3,270.21 million.

3.2 Analysis of liabilities and equity

As at December 31, 2020, the total liabilities and equity were THB 112,132.25 million, increasing by THB 11,902.82 million or 11.9 percent from THB 100,229.43 million as at December 31, 2019. The details were as follows:

(Million Baht)

	Dec 31, 2020	Dec 31, 2019	Increase (Decrease)	%
Liabilities	51,610.68	40,815.50	10,795.18	26.4
Equity	60,521.57	59,413.93	1,107.64	1.9
Total Liabilities and Equity	**112,132.25**	**100,229.43**	**11,902.82**	**11.9**

3.2.1 Liabilities increased in the amount of THB 10,795.18 million, the main reasons were as follows:

(1) On November 4, 2020, the Company issued and offered the first Green Debentures No.1/2563 in the total amount of Baht 8,000 million. (The details are described in no. 1.14)

(2) Long-term loan from financial institutions increased in the amount of THB 1,889.86 million. The main reason was RAC received long-term loans from financial institutions during the period in the amount of AUD 33.15 million. In addition, AUD currency appreciated in relative to USD currency.

3.2.2 Equity increased in the amount of THB 1,107.64 million. The main reasons were as follows:

(1) The profit of the year 2020 in the amount of THB 6,286.68 million

(2) The dividend payment during the year 2020 decreased retained earnings in the amount of THB 3,480 million.

(3) Other components of equity decreased in the amount of THB 1,675.77 million. The main reasons were, change in fair value of the investment in EDL-Generation Public Company decreased equity in the amount of THB 665.54 million and share of other comprehensive income expense of associates and joint ventures decreased equity in the amount of THB 1,163.95 million.

4. Analysis of cash flows

Cash and cash equivalents of the Company and its subsidiaries as at December 31, 2020 were THB 4,856.59 million, decreasing by THB 60.57 million from THB 4,917.16 million on December 31, 2019. The details were summarized below:

(Million Baht)

	2020
Net cash from operating activities	7,291.35
Net cash used in investing activities	(10,913.20)
Net cash from in financing activities	3,425.12
Effect of exchange rate changes on cash and cash equivalents	136.16
Net cash decrease during the year	**(60.57)**

4.1 Net cash from operating activities increased cash flow in the amount of THB 7,291.35 million. The reason was the operating result of the year 2020 improved cash position by THB 4,856.08 million, adjusted by the change in operating assets and liabilities in the amount of THB 2,435.27 million.

4.2 Net cash used in investing activities decreased cash flow in the amount of THB 10,913.20 million. The main reasons were as follows:

4.2.1 RAC paid for the construction of Collector Wind Farm Project in Australia in the amount of AUD 205.72 million.

4.2.2 The Company paid for additional investment in joint ventures and associates in the amount of THB 5,995.68 million.

4.2.3 Long-term loan to other company in the amount of USD 80 million.

4.2.4 The Company received dividends from joint ventures and associates in the total amount of THB 2,047.01 million.

4.3 Net cash from financing activities increased cash flow in the amount of THB 3,425.12 million. The main reasons were as follows:

4.3.1 On November 4, 2020, the Company issued and offered the Green Debentures No.1/2563 in the total amount of Baht 8,000 million. (The details are described in no. 1.14)

4.3.2 RAC received long-term loans from financial institutions during the period in the amount of AUD 33.15 million.

4.3.3 The Company paid dividend to owners in the amount of THB 3,480.05 million.

4.3.4 The Company paid for interest expenses in the amount of THB 1,408.57 million.

4.3.5 RHIS paid for short-term loans from financial institutions during the period in the amount of USD 18 million.

5. Significant financial ratios (excluded the effect of foreign exchange rate of the Company and its subsidiaries)

Ratios		2020	2019
Current Ratio	(Times)	2.69	2.70
Profit to Total Revenue (excluded fuel costs)	(%)	37.03	38.90
Return on Equity	(%)	9.98	10.21
Return on Assets	(%)	7.24	8.33
EBITDA *	(Million THB)	9,665	9,996
EBITDA to Total Assets	(%)	9.10	9.92
Debt to Equity Ratio	(Times)	0.85	0.69
Debt Service Coverage Ratio	(Times)	4.53	1.90
Book Value per Share	(THB)	41.74	40.97
Average Collection Period	(Days)	56.33	52.29
* *Not included the change in lease receivable*	*(Million THB)*	*3,346.05*	*1,359.51*

Profile of the Board of Directors



Mr. Boonyanit Wongrukmit

Age 57 years

Chairman (EGAT's Representative Director)
Chairman of the Investment Committee

Starting Date of Directorship 1 May 2018
Date Elected as the Chairman 19 October 2020
Time in Current Position 2 years 8 months

Education

- Master of Business Administration (Energy Management), University of Montreal (HEC Montréal), Canada
- Master of Business Administration, Chiang Mai University
- Bachelor of Engineering (Mechanical Engineering), Chiang Mai University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Risk Management Program for Corporate Leaders (RCL 20/2020)
- Ethical Leadership Program (ELP 20/2020)
- Director Certification Program (DCP 187/2014)

Other Important Trainings/Seminars

- The Executive Program in Energy Literacy for a Sustainable Future (Class 15/2020), Thailand Energy Academy
- The National Defence Course, Class 61 (2018), National Defence College
- Corporate Governance for Directors and Senior Executives of Regulators, State Enterprises and Public Organizations (2018), King Prajadhipok's Institute
- Advanced Master of Management Program (AMM), National Institute of Development Administration
- Advanced Management Program, Harvard Business School, United States of America
- Leadership Succession Program, Institute of Research and Development for Public Enterprises
- Principle of Life Coaching, Thailand Coaching Academy

Work Experiences in the Previous 5 Years (2016 - 2020)

- 1 Oct - 3 Dec 2020 Senior Deputy Governor, EGAT
- 2018 - 2020 Deputy Governor - Power Business, EGAT
- 2017 - 2018 Deputy Governor - Business Development, EGAT
- 2016 - 2017 Deputy Governor - Corporate Social Affairs, EGAT
- 2015 - 2016 Assistant Governor - Business Development, EGAT

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- 4 Dec 2020 - Present Governor, EGAT[1]
- 2020 - Present Chairman of Board of Directors, EGAT International Company Limited[4]

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None
Family Relationship with Directors and Executives : None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Mr. Samack Chouvaparnante

Age 71 years

Independent Director
Chairman of the Risk Management Committee

Starting Date of Directorship	11 April 2015
Time in Current Position	5 years 8 months

Education

- Master of Political Science (Politics and Governments), Sukhothai Thammathirat Open University
- Barrister-at-Law, Class 28, Institute of Legal Education of the Thai Bar
- Bachelor of Law, Thammasat University

Trainings in Courses Arranged by Thai Institute of Directors Association

- IT Governance and Cyber Resilience Program (ITG 11/2019)
- Financial Statements for Directors (FSD 38/2019)
- How to Develop a Risk Management Plan (HRP 8/2015)
- Risk Management Program for Corporate Leaders (RCL 1/2015)
- Audit Committee Program (ACP 21/2008)
- Director Certification Program (DCP 99/2008)
- Director Accreditation Program (DAP 67/2007)

Other Important Trainings/Seminars

- The Joint State-Private Sector Course, Class 4212, Thailand National Defence College
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 6, King Prajadhipok's Institute
- Advanced Certificate Course in Public Administration and Law for Executives, Class 7, King Prajadhipok's Institute
- Senior Executives of Justice Administration, Class 1, Judicial Training Institute
- The Rule of Law for Democracy, Class 4, College of the Constitutional Court
- The Executive Program in Energy Literacy for a Sustainable Future (TEA), Class 6, Thailand Energy Academy
- Capital Market Academy Leadership Program, Class 10, The Stock Exchange of Thailand
- Top Executive Program in Commerce and Trade (TEPCoT), Class 4, University of the Thai Chamber of Commerce
- The Training Course on Administrative Justice for Executives, Class 2, The Administrative Courts of Thailand
- Mahanakorn Program, Class 2, Bangkok Metropolitan Admimistration

Work Experiences in the Previous 5 Years (2016 - 2020)

- Executive Committee Member, The Thai Bar Under The Royal Patronage
- Lecturer, Lawyer Council of Thailand and Thammasat University
- Advisor to the Executive Committee, Institute of Legal Advocacy Training, Lawyer Council of Thailand

- Committee, Institute of Legal Education of the Thai Bar
- Company Legal Advisor to Vongsayam Korsang Company Limited
- President, Thammasat Law Association, Thammasat University (2 terms)
- Lecturer, Institute of Legal Education of Thai Bar
- Advisor to the Commissioners, Office of the National Broadcasting and Telecommunications Commission
- Legal Advisor, ANANDA Development Public Company Limited
- Company Legal Advisor to Villa Valley Company Limited, Toscana Valley Country Club Company Limited and Toscana Valley Company Limited and its subsidiaries
- Advisor to Chief Advisor, AIA Company Limited (Thailand)

Current Positions in Other Listed Companies (1 Company)

- Legal Advisor, Burapha Golf Public Company Limited

Current Positions in Non-listed Organizations

- Chairman of the Samack & Associates Counselor Company Limited
- Board of Directors Member, Ayutthaya Land 2016 Company Limited
- Lecturer, Nakhon Phanom University
- Company Legal Advisor to Red Bull Beverage Company Limited, T.C. Pharmaceutical Industry Company Limited, Siam Winery Trading Plus Company Limited, Siam Winery Company Limited and Tuscany-Ville Company Limited

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business



Mr. Chartchai Rojanaratanangkule

Age 64 years

Independent Director
Chairman of the Audit Committee
Member of the Corporate Governance and Social Responsibility Committee

Starting Date of Directorship 6 April 2017
Time in Current Position 3 years 8 months

Education

- Bachelor of Accountancy, Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Advanced Audit Committee Program (AACP 31/2018)
- Director Certification Program (DCP 223/2016)

Other Important Trainings/Seminars

- Thailand Insurance Leadership Program (2015), Office of Insurance Commission
- Fiscal Management Program, Fiscal Policy Research Institute Foundation
- Infrastructure Financial Analysis & Tariff Setting: Essential Skills for Financial Analysis, The Institute for Public-Private Partnerships
- Financial Statement Analysis Workshop, Investment Analysts Association
- Advanced Mini MBA, Chulalongkorn University
- Project Feasibility Analysis, Mahidol Management Education Center of College of Management
- Privatizing Power in Emerging Economies: Structuring & Financing Public/Private Partnerships Through BOT Schemes and Divestiture, INTRADOS/International Management Group
- Advanced Financial Management, Cooperation between Chulalongkorn University and Thailand Management Association
- Investment Analysis in Capital and Money Market Course, Chulalongkorn University
- EGAT Senior Executive Program (ESEP)

Work Experiences in the Previous 5 Years (2016 - 2020)

2015 - 2016	Board of Directors Member, EGAT International Company Limited
2014 - 2016	Deputy Governor - Account and Finance serving as Chief Financial Officer, EGAT

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- 2018 - Present Board of Directors Member, National Science Museum, Thailand

The Company's Securities Holding Proportion (%)

- Direct : 0.0003
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [(1)]Major Shareholder [(2)]Subsidiary [(3)]Associated/Joint Venture Company [(4)]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Mr. Apichart Chinwanno

Age 64 years

Independent Director
Chairman of the Human Resources and Remuneration Committee
Chairman of the Corporate Governance and Social Responsibility Committee

Starting Date of Directorship 13 April 2019
Time in Current Position 1 year 8 months

Education

- Doctor of Philosophy, International Relations, St. Antony's College, University of Oxford, United Kingdom
- Master of Science, International Relations, London School of Economics and Political Science, University of London, United Kingdom
- Bachelor of Science, Economics and Politics (Upper Second Class Honors), University of Southampton, United Kingdom

Trainings in Courses Arranged by Thai Institute of Directors Association

- Board Matters and Trends (BMT 9/2020)
- Board Nomination and Compensation Program (BNCP 9/2020)
- Strategic Board Master Class (SBM 3/2018)
- Advanced Audit Committee Program (AACP 26/2017)
- Role of the Chairman Program (RCP 41/2017)
- National Director Conference (NDC 1/2017)
- Director Certification Program (DCP 227/2016)
- Financial Statement for Directors (FSD 31/2016)

Other Important Trainings/Seminars

- The National Defence Course, Class 52 (2009), National Defence College
- Columbia Senior Executive Program (CSEP), Class 123/2007, Columbia Business School, United States of America

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2016 - 2019 Independent Director, EGAT
- 2015 - 2016 Permanent Secretary, Office of the Permanent Secretary, Ministry of Foreign Affairs

Current Positions in Other Listed Companies (1 Company)

- 2018 - Present Chairman and Independent Director, Amata VN Public Company Limited

Current Positions in Non-listed Organizations

- Jun 2020 - Present Expert Committee Member, Public-Private Partnership Policy Commission
- 2017 - Present Chairman and Independent Director, CHAMNI's EYE Company Limited

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Mr. Suthon Boonprasong

Age 63 years

Director (EGAT's Representative Director)
Member of the Investment Committee
Member of the Risk Management Committee

Starting Date of Directorship 19 October 2020
Time in Current Position 2 months

Education

- Master of Business Administration, Chiang Mai University
- Bachelor of Economics, Sukhothai Thammathirat Open University
- Bachelor of Laws, Ramkhamhaeng University
- Bachelor of Engineering (Electrical Engineering), Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Financial Statement for Directors (FSD 40/2019)
- Director Certification Program (DCP 164/2012)

Other Important Trainings/Seminars

- Certificate, Political Government in Democracy Regime Program for Senior Executive, King Prajadhipok's Institute
- Advanced Management Program, Harvard Business School, United States of America
- Advanced Certificated, Public Economics Management for Executives, King Prajadhipok's Institute
- Certificated, Senior Command Course, Institute of Police Administration Development
- Senior Executive Development Program, Foundation for International Human Resource Development
- Financial for Executive Decision Program, Continuing Education Center, Chulalongkorn University

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2013 - 2017 Deputy Governor - Transmission System, EGAT

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- 2019 - Present Director, EGAT[(1)]
  Chairman of the Human Resources Committee, EGAT[(1)]
  Chairman of the EGAT's Governor Remuneration Subcommittee, EGAT[(1)]
  Director of the Executive Committee, EGAT[(1)]
  Director of the Deputy Governor and Assistant Governor Nomination Committee, EGAT[(1)]

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [(1)]Major Shareholder [(2)]Subsidiary [(3)]Associated/Joint Venture Company [(4)]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Mr. Boonsong Kerdklang

Age 69 years

Independent Director
Member of the Audit Committee

Starting Date of Directorship 13 April 2019

Time in Current Position 1 year 8 months

Education

- Master of Public Administration (Public Administration), Chulalongkorn University
- Bachelor of Arts (Economics), Kasetsart University

Other Important Trainings/Seminars

- The Executive Program in Energy Literacy for a Sustainable Future (TEA), Class 5, Thailand Energy Academy, Ministry of Energy
- Inspector General Program, Office of the Civil Service Commission
- The Civil Service Executive Development, Program 1, Class 39, Office of the Civil Service Commission
- Inspector - General Program (2009), Office of the Permanent Secretary, Office of the Prime Minister in collaboration with office of the Civil Service Commission

Work Experiences in the Previous 10 Years (2011 - 2020)

- 2011 - 2014 Commissioner, Energy Regulator Commission, Office of the Energy Regulatory Commission
- 2011 Acting Director General - Energy Policy and Planning Office, Ministry of Energy
- 2005 - 2011 Inspector General, Ministry of Energy

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- None

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business



Mr. Somboon Nhookeaw

Age 58 years

Independent Director
Member of the Audit Committee

Starting Date of Directorship 23 February 2018
Time in Current Position 2 years 10 months

Education

- Master of Engineering (Infrastructure Engineer and Management), Kasetsart University
- Bachelor of Engineering (Civil Engineering), Chiang Mai University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Financial Statement for Directors (FSD 42/2020)
- Director Certification Program (DCP 281/2019)
- Advanced Audit Committee Program (AACP 34/2019)
- Director Accreditation Program (DAP 154/2018)

Other Important Trainings/Seminars

- The National Defence Course, Class 60 (2017), National Defence College
- The Executive Program in Energy Literacy for a Sustainable Future (TEA), Class 14, Thailand Energy Academy
- The Civil Service Executive Program for Senior Civil Servants, Program 1, Class 83, Office of the Civil Service Commission
- Advanced Certificate Course in Public Administration and Law for Executives, Class 14, King Prajadhipok's Institute
- Top Executive Program in Commerce and Trade (TEPCoT), Class 7, University of the Thai Chamber of Commerce
- Senior Executive Program, Class 4, Budget Bureau

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2017 - 2019 Deputy Director - General, Department of Energy Business, Ministry of Energy
- 2015 - 2017 Director, Bureau of Oil Business Safety, Department of Energy Business, Ministry of Energy

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- 2019 - Present Deputy Permanent Secretary, Ministry of Energy [4]

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business



Mr. Kriengkrai Rukkulchon

Age 63 years

Independent Director
Member of the Human Resources and Remuneration Committee

Starting Date of Directorship 11 July 2020
Time in Current Position 5 months

Education

- Barrister-at-Law, Class 33, Institute of Legal Education of the Thai Bar
- Bachelor of Law, Ramkamheang University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Director Accreditation Program (DAP 66/2007)

Other Important Trainings/Seminars

- Corporate Governance for Directors and Senior Executives of Regulators, State Enterprises and Public Organizations, Class 21, King Prajadhipok's Institute

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2018 - 2019 Independent Director and Audit Committee, Premier Enterprise Public Company Limited
- 2017 - 2019 Subcommittee on Legal Affairs, Industrial Estate Authority of Thailand
- 2016 - 2019 Advisory, Board of Directors, Small and Medium Enterprise Development Bank of Thailand

Current Positions in Other Listed Companies (1 Company)

- 2007 - Present Independent Director and Chairman of Remuneration Nomination and Corporate Committee, Pacific Pipe Public Company Limited

Current Positions in Non-listed Organizations

- 2019 - Present Director, Executive Director, and Chairman of the Nomination and Remuneration Committee, Small and Medium Enterprise Development Bank of Thailand
- 2019 - Present Subcommittee on Legal Affairs, Thai Industrial Standards Institute
- 2018 - Present Professional in Industrial Product Standard Council, Thai Industrial Standards Institute
- 1997 - Present Managing Director, Pikanate Lawyer Company Limited

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business



Miss Nantika Thangsuphanich

Age 55 years

Director (EGAT's Representative Director)
Member of the Human Resources and Remuneration Committee
Member of the Risk Management Committee

Starting Date of Directorship 18 February 2019
Time in Current Position 1 year 10 months

Education
- Master of Arts, Urban Studies, Long Island University, United States of America
- Bachelor of Arts (Political Science), Kasetsart University

Trainings in Courses Arranged by Thai Institute of Directors Association
- Director Certification Program (DCP 248/2017)
- Director Accreditation Program (DAP 142/2017)

Other Important Trainings/Seminars
- The National Defence Course, Class 61 (2018), National Defence College
- The Executive Program in Energy Literacy for a Sustainable Future (TEA), Class 7 (2015), Thailand Energy Academy
- Corporate Governance for Directors and Senior Executives of Regulators, State Enterprises and Public Organizations, Class 10 (2012), King Prajadhipok's Institute
- E-Government Executive Program (e-GEP), Class 2 (2012), Digital Government Development Agency (Public Organization)
- Strengthen Ministry Inspector General Skills (2010), Office of the Civil Service Commission and Office of the Permanent Secretary, Prime Minister's Office
- Civil Service Executive Program: Visionary and Moral Leadership, Class 66 (2009), Office of the Civil Service Commission

Work Experiences in the Previous 5 Years (2016 - 2020)
- 2017 - 2018 Deputy Permanent Secretary, Ministry of Energy
- 2009 - 2017 Inspector General, Ministry of Energy

Current Positions in Other Listed Companies
- None

Current Positions in Non-listed Organizations
- 2019 - Present Director, EGAT[1]
  Chairman of the Corporate Governance and Social Responsibility Committee, EGAT[1]
  Chairman of the Governor Nomination Committee, EGAT[1]
  Chairman of the Deputy Governor and Assistant Governor Nomination Committee, EGAT[1]
  Chairman of the Executive Committee, EGAT[1]
- 2018 - Present Director - General, Department of Energy Business, Ministry of Energy[4]

The Company's Securities Holding Proportion (%)
- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Mr. Nutthavutthi Chamchang

Age 57 years

Director (EGAT's Representative Director)
Member of the Investment Committee

Starting Date of Directorship 1 October 2020
Time in Current Position 3 months

Education

- Master of Environmental Business Administration (Energy Management), University of Twente, The Netherlands
- Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Director Certification Program (DCP 270/2019)

Other Important Trainings/Seminars

- Executive Branding, John Robert Powers
- Bhumipalung Phandin for Executive Program (Power of The Kingdom), Chulalongkorn University
- Corporate Governance for Directors and Senior Executives of Regulators, State Enterprises and Public Organizations, King Prajadhipok's Institute
- Executive Training Program for Public Sector Leaders for the Future, King Prajadhipok's Institute and Technology of Nanyang, Singapore
- Advanced Management Program, Harvard Business School, United States of America
- Advanced Certificate Course in Promotion of Peaceful Society, King Prajadhipok's Institute
- Leadership Succession Program, Institute of Research and Development for Public Enterprises
- Water Leadership Program, Water and Environment Institute for Sustainability, The Federation of Thai Industries
- EGAT Senior Executive Program (ESEP)
- EGAT Director Development Program (EDDP)
- EGAT New Leader Development Program (ENLP)
- EGAT Newly-Promoted Executive Orientation Program (ENOP)
- EGAT Enhancing Program (EEP)
- EGAT Assistant Director Development Program (EADP)
- EGAT Leadership Calibration Exercise (ELCE)

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2018 - 30 Sep 2020 Deputy Governor - Generation, EGAT
- 2017 - 2018 Assistant Governor - Hydropower Plant, EGAT
- 2014 - 2017 Director - Bhumibol Dam, EGAT

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- 1 Oct 2020 - Present Deputy Governor - Power Business, EGAT[1]

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Miss Niramarn Laisathit

Age 53 years

Director (EGAT's Representative Director)
Member of the Investment Committee

Starting Date of Directorship 18 December 2020
Time in Current Position 14 days

Education

- Master of Business Administration, Saint Louis University, United States of America
- Bachelor of Engineering (Industrial Engineering), Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- None

Other Important Trainings/Seminars

- The National Defence Course, Class 62 (2019), The National Defence College of Thailand
- Executive Management with Business Development and Investment (2017), Institute of Business and Industrial Development
- The Executive Program in Energy Literacy for a Sustainable Future (2015), Thailand Energy Academy
- Advanced Management Program, Harvard Business School, United States of America

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2007 - 2019 Executive Vice President, Bangkok Bank Public Company Limited

Current Positions in Other Listed Companies (2 Companies)

- 2020 - Present Member of the Board of Commissioners, PT Bank Permata Tbk, Republic of Indonesia
- 2019 - Present Senior Executive Vice President, Bangkok Bank Public Company Limited
- 2009 - Present Member of the Board of Directors and Chairman of the Risk Management Committee, Bangkok Bank (China) Company Limited

Current Positions in Non-listed Organizations

- Apr 2019 - Present Member of the Audit Committee, EGAT[(1)]
- Mar 2019 - Present Director, EGAT[(1)]
- 2018 - Present Member of the Board of Commissioners, Perennial HC Holding Pte. Ltd.
- 1989 - Present Member of the Board of Directors, Gateaux House Company Limited

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [(1)]Major Shareholder [(2)]Subsidiary [(3)]Associated/Joint Venture Company [(4)]Energy Business
EGAT stands for Electricity Generating Authority of Thailand



Mr. Kijja Sripatthangkura

Age 60 years

Director (EGAT's Representative Director and Executive Director)
Chief Executive Officer
Secretary to the Board of Directors

Starting Date of Directorship 1 January 2017
Date Appointed as Chief Executive Officer 6 April 2017
Time in Current Position 4 years

Education

- Bachelor of Engineering (Electrical Engineering), Prince of Songkla University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Director Certification Program (DCP 245/2017)

Other Important Trainings/Seminars

- Advanced Certificate Course in Public Economics Management for Executives, King Prajadhipok's Institute
- Advanced Management Program, Harvard Business School, United States of America
- Senior Executive Program, SASIN Graduate Institute of Business Administration, Chulalongkorn University
- Thailand and the ASEAN Community in Global Political Economy, King Prajadhipok's Institute
- The Executive Program in Energy Literacy for a Sustainable Future, Thailand Energy Academy

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2018 - 2020 Board of Directors Member, Fareast Renewable Development Pte. Ltd.
- 2019 Chairman of the Board of Directors, Ratchaburi Energy Company Limited
  Board of Directors Member, Hin Kong Power Holding Company Limited
  Board of Directors Member, Hin Kong Power Company Limited
- 2018 - 2019 Board of Directors Member, Ratchaburi Power Company Limited
- 2015 - 2017 Deputy Governor Policy and Planning, EGAT

Current Positions in Other Listed Companies

- None

Current Positions in Non-listed Organizations

- 2019 - Present Chairman of the Board of Directors, Hin Kong Power Holding Company Limited[2]
  Chairman of the Board of Directors, Hin Kong Power Company Limited[2]
  Chairman of the Board of Directors, Ratchaburi Electricity Generating Company Limited[2]
- 2017 - Present Deputy Governor - Governor's Office, EGAT[1],
  appointed as Chief Executive Officer, RATCH Group Public Company Limited
  Chairman of the Board of Directors, PT MEDCO RATCH POWER RIAU[3]
  Chairman of the Board of Directors, Hongsa Power Company Limited[3]
  Chairman of the Board of Directors, Phu Fai Mining Company Limited[3]
  Chairman of the Board of Directors, RATCH-Australia Corporation Pty Ltd.[2], Mount Emerald Wind Farm Pty Ltd.[2] and other subsidiaries of RATCH-Australia Corporation Pty Ltd.[2]

The Company's Securities Holding Proportion (%)

- Direct : 0.0004
- Indirect : None

Prohibited Qualifications/Committed an Offence: None

Family Relationship with Directors and Executives: None

Notes [1]Major Shareholder [2]Subsidiary [3]Associated/Joint Venture Company [4]Energy Business
EGAT stands for Electricity Generating Authority of Thailand

Profile of Executives and Company Secretary



Mr. Kijja Sripatthangkura

Age 60 years

Chief Executive Officer

(His full profile is shown on page 311)



Mr. Peerawat Pumthong

Age 62 years

Deputy Chief Executive Officer

Starting Date 1 January 2020

Education

- Master of Business Administration, Monash University, Australia, Certificate of Merit (Highest score) in International Business
- Master of Engineering, Asian Institute of Technology (AIT), (Germany Government Scholarship)
- Bachelor of Engineering (2nd Class Honor), Khonkaen University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Director Certification Program (DCP 138/2010)

Other Important Trainings/Seminars

- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 17, King Prajadhipok's Institute
- Advanced Course in Public Economics, Class 8, King Prajadhipok's Institute
- ASEAN Executive Development Program (AEDP), Thammasat Business School, Thammasat University
- Mini MBA, Chulalongkorn University
- Electric Power Development from Swedish Board of Investment and Technical Support (BITS), Sweden
- ASEAN Executive Program from General Electric International Operation Company, Inc., United States of America
- Hydro Electric Power from Japan International Cooperation Agency (JICA), Columbo Plan, Japan
- Thermal and Hydro Power Project Planning from Snowy Mountain Engineering Cooperation, Columbo Plan, Australia

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2017 - 2019 Chief Business Development Officer, RATCH Group Public Company Limited
- 2014 - 2019 Board of Directors Member, Berkprai Cogeneration Company Limited
- 2014 - 2016 Chief Business Development Officer 1, RATCH Group Public Company Limited
- 2019 Board of Directors Member and Managing Director, Ratchaburi Energy Company Limited
- 2019 Board of Directors Member, RH International (Singapore) Corporation Pte. Ltd.
- 2018 - 2019 Board of Directors Member, Fareast Renewable Development Pte. Ltd.
- 2018 - 2019 Board of Directors Member, Ecotect Tra Vinh Renewables JSC.
- 2017 - 2018 Board of Directors Member, Nava Nakorn Electricity Generating Company Limited
- 2010 - 2017 Board of Directors Member, Hongsa Power Company Limited, Phu Fai Mining Company Limited, SouthEast Asia Energy Limited and Nam Ngum 2 Power Company Limited
- Committee of the National Legislative Assembly, Sub-Committee on the Study and Follow-up on Renewable Energy Under Committee on Energy

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Mr. Sakarin Tangkavachiranon

Age 54 years

Chief Business Development Officer

Starting Date 1 January 2020

Education
- Master of Public and Private Management Program (Honor), National Institute of Development Administration
- Bachelor of Engineering (Mechanical Engineering), Kasetsart University

Trainings in Courses Arranged by Thai Institute of Directors Association
- Director Certification Program (DCP 221/2016)

Other Important Trainings/Seminars
- Executive Energy Management Program (Class 11), Ministry of Energy
- Mini Master of Management, National Institute of Development Administration
- Plant Maintenance Engineering Program, Japan International Corporation Agency (JICA)
- Energy Sustainability and Conservation Program, Department of Alternative Energy Development and Efficiency, Ministry of Energy
- General Information of Railway System Program, Kasetsart University

Work Experiences in the Previous 5 Years (2016 - 2020)
- 2019 Chairman, RATCH Cogeneration Company Limited
- 2019 Executive Vice President - Power Business, RATCH Group Public Company Limited
- 2018 - 2020 Board of Directors Member, Berkprai Cogeneration Company Limited
- 2018 - 2019 Executive Vice President - Project Development, RATCH Group Public Company Limited
- 2018 - 2019 Board of Directors Member and Deputy President Director, PT Medco Ratch Power Riau
- 2017 Senior Vice President - Chief Business Development Officer, RATCH Group Public Company Limited acting Managing Director, Nava Nakorn Electricity Generating Company Limited
- 2015 - 2017 Managing Director, Nava Nakorn Electricity Generating Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :
- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)
- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Mr. Boonchai Jarunwaraphan

Age 58 years

Chief Project Development Officer

Starting Date 1 January 2020

Education
- Bachelor of Engineering (Mechanical Engineering), Institute of Technology and Vocational Education

Trainings in Courses Arranged by Thai Institute of Directors Association
- None

Other Important Trainings/Seminars
- Energy Observation Project, The Federation of Thai Industries
- Executive Development Program (EDP), Class 12, Fiscal Policy Research Institute Foundation
- 4th MOGP 2016 - 4th MOG Myanmar Oil for Gas Summit, Riverstone Corporate Training
- General Information of Railway System Course, Kasetsart University
- Electrical Systems and Infrastructure for Electric Vehicles, Electricity Generating Authority of Thailand
- Financial Thinking for Non-Financial Managers, SASIN Graduate Institute of Business Administration of Chulalongkorn University

Work Experiences in the Previous 5 Years (2016 - 2020)
- 2018 - 2019 Executive Vice President, RATCH Group Public Company Limited and acting Managing Director, Ratchaburi Electricity Generating Company Limited
- 2017 Executive Vice President - Project Development, RATCH Group Public Company Limited
- 2016 Executive Vice President - Business Development 1, RATCH Group Public Company Limited and acting Executive Vice President - Construction, Hongsa Power Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :
- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)
- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Mr. Nimit Lekcharoensuk

Age 59 years

Chief Asset Management Officer

Starting Date 1 January 2019

Education

- Bachelor of Engineering (Electrical Engineering), King Mongkut's Institute of Technology Ladkrabang

Trainings in Courses Arranged by Thai Institute of Directors Association

- Director Accreditation Program (DAP 168/2020)
- Risk Management Program for Corporate Leaders (RCL 15/2019)

Other Important Trainings/Seminars

- Certificate, Senior Executive Program (SEP 21), SASIN Graduate Institute of Business Administration, Chulalongkorn University
- Advance Certificate Course, Management of Public Economics for Executives, Class 13, King Prajadhipok's Institute
- The Executive Program in Energy Literacy for a Sustainable Future, Class 13, Thailand Energy Academy
- Executive Development Program, Class 15 (2018), Fiscal Policy Research Institute Foundation

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2018 Executive Vice President - Asset Management, RATCH Group Public Company Limited
- 2017 - 2019 Board of Directors Member, Solar Power (Korat 3) Company Limited, Solar Power (Korat 4) Company Limited, Solar Power (Korat 7) Company Limited, Songkhla Biomass Company Limited and Songkhla Biofuel Company Limited
- 2016 - 2017 Executive Vice President, RATCH Group Public Company Limited acting as Managing Director of Ratchaburi Electricity Generating Company Limited
- 2015 - 2017 Board of Directors Member, Ratchaburi World Cogeneration Company Limited
- 2014 - 2016 Executive Vice President, RATCH Group Public Company Limited acting as Deputy Managing Director of Ratchaburi Electricity Generating Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : 0.0007
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Mrs. Wadeerat Charoencoop

Age 46 years

Chief Financial Officer
(Top Responsible Person in Accounting and Finance)

Starting Date 1 January 2019

Education

- Master of Business Administration, The University of Washington, United States of America
- Bachelor of Business Administration (Finance) (2nd Class Honor), Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Directors Diploma Examination (Exam 71/2019)
- Director Certification Program (DCP 276/2019)
- Corporate Governance for Executives (CGE SCCC/2015)

Other Important Trainings/Seminars

- Senior Development Program, Duke C.E.
- STARS Switzerland Symposium
- Chief Financial Officer Certification Program, Federation of Accounting Professions
- TLCA Executive Development Program, Thai Listed Companies Association
- Project Management Program, Davao

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2019 Board of Director Member, Ratchaburi Power Company Limited
- 2019 Board of Director Member, SouthEast Asia Energy Limited
- 2019 Board of Director Member, RH International (Singapore) Corporation Pte. Ltd.
- 2018 Executive Vice President - Financial, RATCH Group Public Company Limited
- 2014 - 2017 Head of Group Finance, Treasury, Tax and IR, Siam City Cement Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Mrs. Boontiva Dansamasatid

Age 60 years

Executive Vice President - Corporate Administration

Starting Date 1 January 2019

Education

- Master of Business Administration, Kasetsart University
- Bachelor of Arts (English) (2nd Class Honor), Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Refresher Course DCP (DCP Re 2/2009)
- Corporate Governance for Executives (CGE 14/2019)
- Anti-Corruption: The Practical Guide (ACPG 10/2014)
- Company Secretary Program (CSP 22/2007)
- Effective Minute Taking (EMT 2/2006)
- Company Secretary Program (CSP 3/2003)

Other Important Trainings/Seminars

- Advanced Certificate Course in Management of Public Economics for Executives, Class 11, King Prajadhipok's Institute
- Advanced Certificate Course in Promotion of a Peaceful Society, Class 6, King Prajadhipok's Institute
- Environmental Governance for Executives, Class 5, Department of Environmental Quality Promotion, Ministry of Natural Resources and Environment
- Mini MBA, Kasetsart University
- Business Laws Program (2010), Thammasat University
- The Leadership Grid and The Supervisory Grid
- Doing Business in AEC: Challenges, Thammasat University
- CSR Strategy and Management for Business Sustainability, The Best Training
- Social Enterprise for Sustainable Society, The Chaipattana Foundation

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2019 Board of Directors Member, Solar Power (Korat 3) Company Limited, Solar Power (Korat 4) Company Limited and Solar Power (Korat 7) Company Limited
- 2014 - 2018 Executive Vice President, RATCH Group Public Company Limited responsible for Corporate Social Responsibility (CSR) of the Company's Group

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Mrs. Supatra Thongkarn

Age 60 years

Executive Vice President - Financial

Starting Date 1 January 2019

Education

- Bachelor of Accountancy, Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- None

Other Important Trainings/Seminars

- Mini MBA, Thammasat University
- Tax Controller Major in International Tax, School of Tax
- Chief Financial Officer Certification Program, Federation of Accounting Professions

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2017 Senior Vice President - General Accounting Division, RATCH Group Public Company Limited
- 2017 Vice President - General Accounting Division, RATCH Group Public Company Limited
- 2015 - 2017 Board of Directors Member, RICI International Investment Pte. Ltd.
- 2015 - 2016 Vice President - Head of Accounting Control and Analysis Division, RATCH Group Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : 0.0003
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Miss Suwannee Sirisajjawat

Age 50 years

Vice President - Head of General Accounting Division
(Directly Responsible Person for Accounting Supervision)

Starting Date 1 January 2019

Education

- Master of Business Administration, Kasetsart University
- Bachelor of Business Administration (Accounting), Prince of Songkla University

Trainings in Courses Arranged by Thai Institute of Directors Association

- None

Other Important Trainings/Seminars

- Chief Financial Certification Program, Federation of Accounting Professions
- Mini MBA, Kasetsart University

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2018 Vice President - Head of Accounting Control and Analysis Division, RATCH Group Public Company Limited
- 2017 Acting Vice President - Head of Accounting Control and Analysis Division, RATCH Group Public Company Limited
- 2015 - 2016 Senior Manager - Head of Management Accounting Department, RATCH Group Public Company Limited
- 2017 Board of Directors Member, RATCH-Lao Services Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : 0.00001

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Miss Phavika Smanratana

Age 44 years

Vice President - Head of Financial Planning and Management Division

Starting Date 1 January 2020

Education

- Master of Business Administration, The University of Liverpool
- Bachelor of Engineering Program (Electrical Engineering), Kasetsart University

Trainings in Courses Arranged by Thai Institute of Directors Association

- None

Other Important Trainings/Seminars

- Financial Model, Phatra Capital Public Company Limited

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2019 Manager - Head of Project Finance Department, Financial Planning and Management Division, RATCH Group Public Company Limited
- 2018 Manager - Financial Planning and Management Division, RATCH Group Public Company Limited
- Aug 2015 - 31 Mar 2018 Business Analysis Division Manager, Siam City Cement Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Miss Puthachard Smitamegha

Age 46 years

Vice President - Head of
Tax Management and
General Ledger Division

Starting Date 1 October 2020

Education

- Master of Business Administration (Accounting), The University of the Thai Chamber of Commerce
- Bachelor of Accountancy (Financial Accounting), The University of the Thai Chamber of Commerce

Trainings in Courses Arranged by Thai Institute of Directors Association

- None

Other Important Trainings/Seminars

- Graduate Diploma in Taxation, The University of the Thai Chamber of Commerce
- Mini MBA, Thammasat University
- Thai Accounting Standards for Public Company, Federation of Accounting Professions
- Economic value added, Faculty of Commerce and Accountancy, Chulalongkorn University
- International Trade Tax, Federation of Accounting Professions
- Awareness on Energy Conservation, The Federation of Thai Industries

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2020 Senior Manager - Head of Tax Management Department, Acting - Vice President - Head of Tax Management and General Ledger Division, RATCH Group Public Company Limited
- 2016 - 2020 Senior Manager - Head of Tax Management Department, RATCH Group Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : 0.0001
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Miss Titiporn Komsartra

Age 44 years

Vice President - Head of Accounting
Control and Analysis Division

Starting Date 1 January 2019

Education

- Master of Science in Financial Management, University of Exeter, United Kingdom
- Bachelor of Business Administration (Finance and Banking), Assumption University

Trainings in Courses Arranged by Thai Institute of Directors Association

- None

Other Important Trainings/Seminars

- Strategic Financial Leadership Program (SFLP), Thai Listed Companies Association
- Management Preparation Program: M-PREP, Fiscal Policy Research Institute Foundation

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2019 Acting Vice President - Head of Accounting Control and Analysis Division, RATCH Group Public Company Limited
- 2017 - 2018 Manager - Head of Financial Planning Department, RATCH Group Public Company Limited
- 2012 - 2017 Manager - Head of Project Finance Department, RATCH Group Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- Director and executive positions in the Group as shown on page 92 - 93

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Miss Wanphen Chamkham

Age 52 years

Vice President - Head of Company Secretary Office and Company Secretary

Starting Date 1 January 2019

Education

- Master of Business Administration, Kasetsart University
- Graduate Diploma Program in English for Careers, Thammasat University
- Bachelor of Business Administration (Management), Sukhothai Thammathirat Open University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Effective Minute Taking (EMT 43/2019)
- Company Secretary Program (CSP 67/2015)
- Company Reporting Program (CRP 13/2015)

Other Important Trainings/Seminars

- COSO ERM 2017 (2020), Thai Listed Companies Association
- Risk Management on COVID-19 Situation Program (2020), Thai Listed Companies Association
- Advances for Corporate Secretaries (Class 1/2017), Thai Listed Companies Association

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2020 Vice President - Head of Company Secretary Office, Acting Senior Manager - Head of Compliance Department and Company Secretary, RATCH Group Public Company Limited
- 2019 Acting Vice President - Head of Company Secretary Office, and Company Secretary, RATCH Group Public Company Limited
- 2018 Senior Manager - Head of Compliance Department, Company Secretary Office, RATCH Group Public Company Limited
- 2013 - 2018 Manager - Head of Compliance Department, Company Secretary Office, RATCH Group Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- None

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None



Miss Kamolkarn Hinviman

Age 49 years

Vice President - Head of Internal Audit Division

Starting Date 1 January 2020

Education

- Master of Accountancy, Chulalongkorn University
- Bachelor of Accountancy, Chulalongkorn University

Trainings in Courses Arranged by Thai Institute of Directors Association

- Anti Corruption : The Practical Guide

Other Important Trainings/Seminars

- Analytical Thinking in the Internal Audit Process Course, Federation of Accounting Professions
- Risk Based Audit, The Institute of Internal Auditors of Thailand
- Fraud Audit, The Institute of Internal Auditors of Thailand
- COSO, the Newest Internal Audit Framework, Federation of Accounting Professions

Work Experiences in the Previous 5 Years (2016 - 2020)

- 2018 - 2019 Senior Assistance Vice President, Internal Audit Division, RATCH Group Public Company Limited
- 2012 - 2018 Assistant Vice President, Internal Audit Division, RATCH Group Public Company Limited

Current Positions in Other Listed Companies : None

Current Positions in Non-listed Organizations :

- None

The Company's Securities Holding Proportion (%)

- Direct : None
- Indirect : None

Prohibited Qualifications/Committed an Offence : None

Family Relationship with Directors and Executives : None

General Information of Subsidiaries, Affiliates, and Joint Ventures

20 Subsidiaries

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
1. Ratchaburi Electricity Generating Co., Ltd. 128 Moo 6 Phikunthong, Muaeng, Ratchaburi 70000 Tel: +66 2978 5111, +66 3271 9185 ext.3762 Fax: +66 2978 5110, +66 3271 9185 ext.3204 2nd Branch Office 39 Moo 5 Ratchaburi-Huayphai Road, Hin Kong, Muang, Ratchaburi 70000 Tel: +66 3271 9000 Fax: +66 3271 9090	99.99	Generating and distributing electric power and investing in electricity-related businesses	21,900 million baht	2,190 million shares	10 baht	21,900 million baht
2. Ratchaburi Alliances Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	99.99	Investing in electricity-related businesses	420.20 million baht	42.02 million shares	10 baht	420.20 million baht
3. Ratchaburi Energy Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	99.99	Investing in electricity-related businesses	640 million baht	64 million shares	10 baht	640 million baht
4. RH International Corporation Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	99.99	Investing in overseas electricity-related businesses	32,650 million baht	3,265 million shares	10 baht	25,930 million baht
5. Hin Kong Power Holding Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	51	Investing in electricity-related businesses	1,204 million baht	120.40 million shares	10 baht	305.20 million baht
6. RATCH O&M Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	99.99	Providing power plant operation andmaintenance service	10 million baht	1 million shares	10 baht	2.5 million baht

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
7. RATCH-Lao Services Co., Ltd. 187 Unit 12 Phonsa-art Village, Xaysettha District, Vientiane, Lao PDR Tel: +856 21 454 074 Fax: +856 21 454 075	99.99	Providing power plant operation and maintenance service and investing in related businesses	2.5 million US dollar	2.5 million shares	1 US dollar	2.5 million US dollar
8. RATCH Cogeneration Co., Ltd. 8/22 Moo 18, Klongnueng, Klongluang, Pathumthani 12120 Tel: +66 2529 1711	99.97	Producing and distributing electric power and steam	Common shares 479.34 million baht Preferred shares 1,170.66 million baht	Common shares 4.793 million shares Preferred shares 11.706 million shares	100 baht	Common shares 479.34 million baht Preferred shares 1,170.66 million baht
9. Smart Infranet Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	51	Investing in and developing Fiber optic networks and providing telecom infrastructure and related services	550 million baht	55 million shares	10 baht	550 million baht
10. RE Solar 1 Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	99.99 (Held by Ratchaburi Energy Co., Ltd.)	Generating and distributing electric power	100 million baht	10 million shares	10 baht	25 million baht
11. Hin Kong Power Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	51 (Held by Hin Kong Power Holding Co., Ltd.)	Generating and distributing electric power	1,204 million baht	120.40 million shares	10 baht	304 million baht
12. RH International (Mauritius) Corporation Ltd. 4th Floor, Ebene Skies, Rue de L'Institut, Ebene, the Republic of Mauritius	100 (Held by RH International Corporation Ltd.)	Investing in overseas electricity-related businesses	794.33 million US dollar	794.33 million shares	1 US dollar	794.33 million US dollar
13. RH International (Singapore) Corporation Pte. Ltd. 8 Marina Boulevard #05-02 Marina Bay Financial Centre Tower 1, Singapore 018981	100 (Held by RH International (Mauritius) Corporation Ltd.)	Investing in overseas electricity-related businesses	793.83 million US dollar or equivalent	793.83 million shares	1 US dollar	793.83 million US dollar or equivalent

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
14. RATCH China Power Limited 14th Floor, One Taikoo Place, 979 King's Road, Quany Bay, Hong Kong	100 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Investing in overseas electricity-related businesses	12,000 US dollar	0.012 million shares	1 US dollar	12,000 US dollar
15. RATCH-Australia Corporation Pty Ltd. Level 7, 111 Pacific Highway, North Sydney, NSW 2060, Australia Tel: +61 2 8913 9400 Fax: +61 2 8913 9423	100 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Develop and operate power plants and invest in electricity-related business	812.30 million Australian dollar	1,436.43 million shares	-	812.30 million Australian dollar
16. CN Biomass Co., Ltd. (Under liquidation process) 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	-	-	-	-	-	-
17. PB Biomass Co., Ltd. (Under liquidation process) 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	-	-	-	-	-	-
18. LP Biomass Co., Ltd. (Under liquidation process) 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	-	-	-	-	-	-
19. RATCH & AIDC Wind Energy Pte. Ltd. 11 Collyer Quay, # 06-03 The arcade, Singapore 049317	63.80 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Investing in overseas electricity-related businesses	6.117 million US dollar	6.117 million shares	1 US dollar	6.117 million US dollar
20. Ecowin Energy Corporation Land lot No. 137, Map No. 02, Thanh Thoi B Hamlet, Thanh Hai Commune, Thanh Phu District, Ben Tre Province, Vietnam	51.04 (Held by RATCH & AIDC Wind Energy Pte. Ltd.)	Generating and distributing electric power	0.289 trillion Vietnamese dong	2.89 million shares	100,000 Vietnamese dong	0.289 trillion Vietnamese dong

36 Affiliates and Joint Ventures

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
1. Chubu Ratchaburi Electric Service Co., Ltd. 128 Moo 6 Pikunthong, Muang, Ratchaburi 70000 Tel: +66 3271 9300 Fax: +66 3271 9309	50	Providing power plant operation and maintenanc service	20 million baht	0.40 million shares	50 baht	20 million baht
2. Things on Net Co., Ltd. 170/63 Ocean Tower 1, 20th Floor, Sukhumvit Soi 16 (Sammit), Ratchadapisek Road, Klongtoey, Klongtoey Bangkok 10110 Tel: +66 2157 9499	35	Investing in and developing communication network project to support domestic Internet of Things (IoT) services and related businesses	133 million baht	13.3 million shares	10 baht	133 million baht
3. SouthEast Asia Energy Ltd. 587 Viriyathavorn Building, 20th Floor, Suthisarn Vinijchai Road, Ratchadapisek, Din Daeng, Bangkok 10400 Tel: +66 2691 9720-34 Fax: +66 2691 8307	33.33	Investing in energy-related businesses	6,606.75 million baht	660.675 million shares	10 baht	6,606.75 million baht
4. Xe-Pian Xe-Namnoy Power Co., Ltd. 6th Floor, Capital Tower, 23 Singha Road, Nongbone Village, Xaysettha District, Vientiane, Lao PDR Tel: +856 21 455 025 Fax: +856 21 454 758	25	Generating and distributing electric power	306 million US dollar	3.06 million shares	100 US dollar	306 million US dollar
5. First Korat Wind Co., Ltd. 87/1 Capital Tower, All Seasons Place, 25th Floor, Wireless Road, Lumpini, Pathumwan, Bangkok 10330 Tel: +66 2106 8000 Fax: +66 2106 8008	20	Generating and distributing electric power	1,996.02 million baht	199.602 million shares	10 baht	1,996.02 million baht
6. K. R.Two Co., Ltd. 87/1 Capital Tower, All Seasons Place, 25th Floor, Wireless Road, Lumpini, Pathumwan, Bangkok 10330 Tel: +66 2106 8000 Fax: +66 2106 8008	20	Generating and distributing electric power	1,827 million baht	182.70 million shares	10 baht	1,827 million baht

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
7. EGAT Diamond Service Co., Ltd. 56/25 Moo 20 Klong Neung, Klong Luang, Pathumthani 12120 Tel: +66 2529 0800 Fax: +66 2529 0900	10	Providing power plant's gas turbine maintenance service	623 million baht	6.23 million shares	100 baht	623 million baht
8. Northern Bangkok Monorail Co., Ltd. 21 Soi Chueyphuang, Vibhavadi-Rangsit Road, Jomphol, Chatuchak, Bangkok 10900 Tel: +66 2273 8511-5 Fax: +66 2273 8516	10	Mass Transit System	14,400 million baht	144 million shares	100 baht	11,800 million baht
9. Eastern Bangkok Monorail Co., Ltd. 21 Soi Chueyphuang, Vibhavadi-Rangsit Road, Jomphol, Chatuchak, Bangkok 10900 Tel: +66 2273 8511-5 Fax: +66 2273 8516	10	Mass Transit System	14,400 million baht	144 million shares	100 baht	12,000 million baht
10. Ratchaburi World Cogeneration Co., Ltd. 155/115 Moo 4, Ratchaburi Industrial Estate, Chetsamian, Photharam, Ratchaburi 70120 Tel: +66 3291 9990 Fax: +66 3291 9998 Branch Office (1) 155/116 Moo 4, Ratchaburi Industrial Estate, Chetsamian, Photharam, Ratchaburi 70120 Branch Office (2) 155/117 Moo 4, Ratchaburi Industrial Estate, Chetsamian, Photharam, Ratchaburi 70120	40 (Held by Ratchaburi Electricity Generating Co., Ltd.)	Generating and distributing electric power and steam	2,500 million baht	250 million shares	10 baht	2,500 million baht
11. Nava Nakorn Electricity Generating Co., Ltd. 111 Moo 20 Phaholyothin Road, Khlong Nueng, Khlong Luang, Pathum Thani 12120	40 (Held by Ratchaburi Electricity Generating Co., Ltd.)	Generating and distributing electric power and steam	2,000 million baht	200 million shares	10 baht	2,000 million baht
12. Berkprai Cogeneration Co., Ltd. 302 S&A Building, 2nd Floor, Silom Road, Suriyawong, Bangkok Tel: +66 2978 5380 Fax: +66 2978 5080 ext.5380	35 (Held by Ratchaburi Electricity Generating Co., Ltd.)	Generating and distributing electric power and steam	1,331 million baht	133.10 million shares	10 baht	1,331 million baht

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
13. Solarta Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2978 5200 Fax: +66 2978 5080 ext.5200	49 (Held by Ratchaburi Electricity Generating Co., Ltd.)	Generating and distributing electric power	1,320 million baht	13.20 million shares	100 baht	1,100 million baht
14. Solar Power (Korat 3) Co., Ltd. 1 Capital Work Place, 4th floor, Soi Jamchan, Khlong Ton Nua, Wattana, Bangkok 10110 Tel: +66 2011 8111 Fax: +66 2011 8112	40 (Held by Ratchaburi Energy Co., Ltd.)	Generating and distributing electric power	188.75 million baht	18.875 million shares	10 baht	188.75 million baht
15. Solar Power (Korat 4) Co., Ltd. 1 Capital Work Place, 4th floor, Soi Jamchan, Khlong Ton Nua, Wattana, Bangkok 10110 Tel: +66 2011 8111 Fax: +66 2011 8112	40 (Held by Ratchaburi Energy Co., Ltd.)	Generating and distributing electric power	199.25 million baht	19.925 million shares	10 baht	199.25 million baht
16. Solar Power (Korat 7) Co., Ltd. 1 Capital Work Place, 4th floor, Soi Jamchan, Khlong Ton Nua, Wattana, Bangkok 10110 Tel: +66 2011 8111 Fax: +66 2011 8112	40 (Held by Ratchaburi Energy Co., Ltd.)	Generating and distributing electric power	188.75 million baht	18.875 million shares	10 baht	188.75 million baht
17. Songkhla Biomass Co., Ltd. 56 Moo 3 Khuntadwai, Chana, Songkhla 90130 Tel: +66 7489 0754-5 Fax: +66 7489 0757	40 (Held by Ratchaburi Energy Co., Ltd.)	Generating and distributing electric power	246 million baht	2.46 million shares	100 baht	246 million baht
18. Songkhla Biofuel Co., Ltd. 1842 Bangkok-Nonthaburi Road, Wongsawang, Bang Sue, Bangkok 10800 Tel: +66 2910 9700 Fax: +66 2910 9713	40 (Held by Ratchaburi Energy Co., Ltd.)	Biomass fuel supply	1 million baht	0.01 million shares	100 baht	1 million baht
19. Ratchaburi Power Co., Ltd. 1828 Sukhumvit Road, Phra Khanong Tai, Phra Khanong, Bangkok 10260 Tel: +66 2311 5111 Fax: +66 2332 3882	25 (Held by Ratchaburi Alliances Co., Ltd.)	Generating and distributing electric power	7,325 million baht	73.25 million shares	100 baht	7,325 million baht

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
20. Nam Ngum 2 Power Co., Ltd. 215 Lan Chang Road, Ban Chiang Yuen, Chantaburi, Vientiane, Lao PDR Tel: +856 21 251 718 Fax: +856 21 252 060	25 (Held by SouthEast Asia Energy Ltd.)	Generating and distributing electric power	8,809 million baht	880.90 million shares	10 baht	8,809 million baht
21. Fareast Renewable Development Pte. Ltd. 16 RAFFLES QUAY #40-02 HONG LEONG BUILDING SINGAPORE 048581	50 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Investing in overseas electricity-related businesses	87.80 million US dollar	33.86 million shares	1 US dollar for 19.80 million shares and 4.84 million US dollar for 14.06 million shares	87.80 million US dollar
22. PT Medco Ratch Power Riau The Energy Building, 7th Floor, SCBD Lot 11A, Jl. Jenderal Sudirman Kav. 52-53, South Jakarta 12190, Indonesia	49 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Generating and distributing electric power	1 trillion Indonesian rupiah	1,000 million shares	1,000 Indonesian rupiah	824,552.80 million Indonesian rupiah
23. Hongsa Power Co., Ltd. Sisattanak District, Vientiane, Lao PDR Tel: +856 21 223 911 Fax: +856 21 222 089	40 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Generating and distributing electric power	927 million US dollar	92.70 million shares	10 US dollar	927 million US dollar
24. Phu Fai Mining Co., Ltd. Sisattanak District, Vientiane, Lao PDR Tel: +856 21 223 911 Fax: +856 21 222 089	37.50 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Coal mining	0.05 million US dollar	0.005 million shares	10 US dollar	0.05 million US dollar
25. Asia Water Co., Ltd. NNN Building 5th Floor, Buri Chan Road, Ban Phonsinuoan, Sisattanak District, Vientiane, Lao PDR	40 (Held by RATCH-Lao Services Co., Ltd.)	Tap water supply	100,800 million kip	12 million shares	8,400 kip	100,800 million kip
26. EDL-Generation Public Company Lao-Thai Friendship Road, P.O. Box 2392, Thongkang Village, Sisattanak District, Vientiane, Lao PDR Tel: +856 21 316 142 Fax: +856 21 316 141 Website: www.edlgen.com.la	10.11 (5.65% held by RATCH-Lao Services Co., Ltd. and 4.46% by RH International (Singapore) Corporation Pte. Ltd.)	Generating and distributing electric power	6,717,214.79 million kip	1,679.304 million shares	4,000 kip	6,717,214.79 million kip

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
27. R E N Korat Energy Co., Ltd. 72 Ngamwongwan Road, Bangkhen, Muang Nonthaburi, Nonthaburi 11000 Tel: +66 2794 9999 Fax: +66 2794 9998	40	Generating and distributing electric power and steam	100 million baht	10 million shares	10 baht	25.75 million baht
28. Siphandone-RATCH LAO Co., Ltd. 187 Unit 12 Phonsa-art Village, Xaysettha District, Vientiane, Lao PDR Tel: +865 21 454 074 Fax: +856 21 454 075	25 (Held by RATCH-Lao Services Co., Ltd.)	Manufacturing wood pellets	500 million kip	50,000 shares	10,000 kip	500 million kip
29. Nexif RATCH Energy Rayong Co., Ltd. 142 Two Pacific Place, Floor 23 # 2301, Sukhumvit Road, Khlong Toey, Khlong Toey, Bangkok 10110 Tel: +66 2684 6888	49 (Held by NEXIF RATCH ENERGY SINGAPORE PTE. LTD.)	Generating and distributing electric power and steam	1,181.05 million baht	118.105 million shares	10 baht	1,109.50 million baht
30. NEXIF RATCH ENERGY SINGAPORE PTE. LTD. Singapore Office (Headquarters) 1 Raffles Quay, #36-02 North Tower, Singapore 048583 Tel: +65 6302 9120	49	Investing in electricity-related businesses	34.61 million US dollar	34.61 million shares	1 US dollar	34.61 million US dollar
31. PT Bajradaya Sentranusa Dharmawangsa Raya No. 23 Jakarta	26.61 (Held by Fareast Renewable Development Pte. Ltd.)	Generating and distributing electric power	135.74 million US dollar	1.06 million shares	130.16 US dollar	135.74 million US dollar
32. BGSR 6 Co., Ltd. 21 Soi Chueyphuang, Vibhavadi Rangsit, Chom Pon, Chatuchak, Bangkok 10900 Tel: +66 2273 8511-5 Fax: +66 2273 8516	10	Bidding for government agencies' contracts on the designing, construction, civil works maintenance and installation of toll-collection system for intercity highways	1,000 million baht	100 million shares	10 baht	1,000 million baht

Company/Location	Shareholding (%)	Type of business	Registered capital	Common shares	Par value	Paid-up capital
33. BGSR 81 Co., Ltd. 21 Soi Chueyphuang, Vibhavadi Rangsit, Chom Pon, Chatuchak, Bangkok 10900 Tel: +66 2273 8511-5 Fax: +66 2273 8516	10	Bidding for government agencies' contracts on the designing, construction, civil works maintenance and installation of toll-collection system for intercity highways	850 million baht	85 million shares	10 baht	850 million baht
34. An Binh Energy and Infrastructure Fund Floor 12, Geleximco Building, No.36 Hoang Cau Street, O Cho Dua Ward, Dong Da District, Hanoi City, Vietnam	49 (Held by RH International (Singapore) Corporation Pte. Ltd.)	Investing in energy and infrastructure businesses	3.63 trillion Vietnamese dong	363.09 million shares	10 million Vietnamese dong	3.63 trillion Vietnamese dong
35. An Binh Investment Group Joint Stock Company Floor 6, Geleximco Building, No. 36 Hoang Cau Street, O Cho Dua Ward, Dong Da District, Hanoi City, Vietnam	49 (Held by An Binh Energy and Infrastructure Fund)	Investing in energy and infrastructure businesses	1.716 trillion Vietnamese dong	171.60 million shares	10,000 Vietnamese dong	1.716 trillion Vietnamese dong
36. Thang Long Power Plant Joint Stock Company Le Loi Commune, Ha Long City, Quang Ninh Province, Vietnam	22.05 (Held by An Binh Investment Group Joint Stock Company)	Generating and distributing electric power	3.80 trillion Vietnamese dong	380 million shares	10,000 Vietnamese dong	3.80 trillion Vietnamese dong


RATCH
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RATCH Group Public Company Limited
72 Ngam Wong Wan Road, Bangkhen,
Muang Nonthaburi, Nonthaburi 11000 Thailand
Telephone : +66 2794 9999
Facsimile : +66 2794 9998
www.ratch.co.th

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