

GUNKUL

not only the energy, we care



LEADING
INTEGRATED
ENERGY PLAYER
2020
ANNUAL REPORT

GUN

Vision

Be a leader in the integrated renewable energy and electrical systems business, implementing state of the art technology for sustainable infrastructure development.

Corporate Culture

1. GOAL "G"	Determination to achieve goals
2. RELIABILITY "R"	To be reliable and professional at work
3. OWNERSHIP "O"	Caring and unity
4. WISDOM LEARNING "W"	Learning constantly causing intelligence and adaptation
5. TECHNOLOGY & INNOVATION "T"	Exposure to technology and extending innovation
6. HONESTY & GOVERNANCE "H"	Honest, transparent and dedicated to the responsibilities

KUL

Missions

1. Renewable Energy :

To operate the business of the renewable energy power plants under the highest efficiency standards with the emphasis on the society and environment.

2. Sales :

To procure the equipment for power systems, energy saving products distribution channels and render the service which fulfills the customers' demand.

3. Technology :

To develop the IT system and adopt the new technology to improve management and productivity, increase work efficiency and reduce the production costs.

4. Returns :

To maximize the shareholders' and stakeholders' returns.

5. Personal :

To increase the employees' capability to enhance the Company's competitiveness on the global scale.

6. Management :

To create a strong management structure based on the principle of good governance.

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Message
Message from Chairman

Dear Shareholders,

Over the past 39 years, GUNKUL has performed its operations with stability, by persistence of its visions and strategies imparted as a foundation covering all areas of business. Steady profits are generated through a mixture of revenue streams. Grasping investment opportunities and acquiring potential new business to ensure that the Company continues to expand. Effective financial management is organized to support business growth. Human resources management is also a key drive for success. Building the Company's brand to gain reputation and credibility, adhering to the principles of good corporate governance, and commitment to sustainable development are the Company's top priorities. All these factors made 2020 another successful year for the Company, in which all the targets were achieved as planned during the COVID-19 pandemic.

In 2020, the Company is dedicated to developing corporate governance mechanisms, such as governance of subsidiaries and associates based on equal treatment of shareholders, anti-corruption policy, etc. By virtue of such dedication, the Company has achieved **"Excellent" (5 Star rating) Corporate Governance (CG) scoring for four consecutive years**, including the ASEAN-level award under the 2019 ASEAN Corporate Governance Scorecard ("ACGS") program, the **"ASEAN Asset Class Publicly Listed Companies Award"**, awarded to ASEAN listed companies that score 97.50 points or higher. There are a total of 135 companies, of which 42 are Thai listed companies, the largest in ASEAN. These reflect upon its status as a leading company in good governance, both recognitions are excellent encouragement for the Company to keep the standards up and continue to create value for the stakeholders.

To continue our vision to focuses more on both domestic and foreign investment in order to support the surrounding community by improving the quality of life, income distribution for a better living and share values for sustainability. We ensure that we conduct business with full experiences of management and staff that follows the company philosophy **"Not Only the Energy We Care"**.

The Company develops its business based on the philosophy of harmonious coexistence in economic, social, and environmental aspects through good governance principles to create balance and sustainable values for all stakeholders. The Corporate Governance and Sustainable Development Committee has set goals and guidance for all department within the organization under the framework of the United Nations Sustainable Development Goals (SDG).

On behalf of Chairman of the Board, Board of Directors and Executives, we would like to thank our shareholders, joint investors, customers, and all stakeholders, for your continued trust and support. We would like to extend our appreciation to all staff members for their dedication in helping the Company achieve its goals amidst many challenges throughout the year. GUNKUL will deliver sustainable values to all stakeholders while pressing ahead with the commitment to steady and sustainable growth.



Gunkul Dhumrongpiyawut Ph.D.
Chairman of the Board of Directors

02 Report of the Audit Committee

Dear Shareholders of Gunkul Engineering Public Company Limited,

The Audit Committee of Gunkul Engineering Public Company Limited consists of independent directors who are qualified and knowledgeable, competent and experienced in accounting, finance, law, administration and energy businesses; as well as, qualifications that meet the requirements of the Securities and Exchange Commission and the Stock Exchange of Thailand, which has 3 persons namely; Dr. Chongrak Rarueysong as the Chairman of the Audit Committee, Assoc.Prof. Dr. Panarat Panmanee and Mr. Tarakorn Angpubate as Members of the Audit Committee. In this regard, Dr. Djitt Laowattana resigned from his position as an Independent Director and Chairman of the Audit Committee because of his other increasing missions, resulting in insufficient time to perform the above positions with effective since 13th November 2020. The Board of Directors' Meeting No. 9/2020 on 14th December 2020 resolved to approve the appointment of Mr. Tarakorn Angpubate, an Independent Director and Chairman of the Risk Management Committee, to hold the position of Audit Committee, and appointed Dr. Chongrak Rarueysong as the Chairman of the Audit Committee, with effective since 14th December 2020.

The Audit Committee has performed all duties and responsibilities that assigned by the Board of Directors in full compliance with the Audit Committee Charter. This is in line with the requirements and best practices for the audit committee of the Stock Exchange of Thailand. Also, the performance results were reported to the Board of Directors on a regular basis.

In fiscal year 2020, the Audit Committee arranged 5 meetings and arranged a meeting between the Audit Committee and the Auditor without management in attendance 1 meeting. The meetings were attended by all members of the Audit Committee, the management; as well as, the Company's Internal Auditor Department and External Auditor, in order to share information, comments and give suggestions which were benefit to administration proposes. The results of each meeting were presented to the Board of Directors of the Company. During past year, the Audit Committee had carried out important activities, which could be summarized as follows;

1. **In reviewing the financial statements**, the Audit Committee reviewed the Quarterly Financial Statements, Annual Financial Statements and related financial reports by cooperating with the Certified Public Accountant and the Company's management on material issues, adjustments of material accounting items, accounting estimates that affect financial information and financial reports, Key Audit Matters (KAM). This included the independence of the auditor to ensure that the financial report of the Company had been prepared in accordance with the generally accepted accounting standards, with adequate information disclosure, completely and reliable, complies with applicable laws and notices, before the financial statements were presented for approval to the Board of Directors' meeting.
2. **In reviewing the adequacy and appropriateness of the internal control system**, the Audit Committee reviewed the adequacy, appropriateness and effectiveness of the internal control system of the Company and its subsidiaries by considering the reports of the Company's internal audit and the auditors. This included the evaluation of the internal control system in accordance with the guidelines that set by the Securities and Exchange Commission. The Audit Committee is of the view that the Company has an appropriate and adequate internal control system and can reasonably assure that the Company has sufficient and effective internal control system.
3. **In supervision of internal audit**, the Audit Committee supervised the internal audit department to have independence as specified in the charter of the internal audit department, in order to ensure that the internal auditing plans have efficiency and effectiveness, correct and comply with the rules and regulations of the Securities and Exchange Commission and international standards for the practice of internal auditing. The Audit Committee reviewed the appropriateness and approval of the annual internal audit plan that prepared with a risk-based approach. considered and reviewed the audit report of the Internal Audit Department, including provided comments, recommendations for the improvement of internal control as appropriate. Also, reviewed of the annual internal audit plan to ensure that the audit plan is adjusted to be in line with changing situations effectively and efficiently.

4. **In reviewing the risk management**, the Audit Committee reviewed the risk management system in order to ensure that the Company has an appropriate and effective risk management system to reduce the risk to an acceptable level, which the Company has given importance and developed the risk management system. The Board of Directors has appointed the Risk Management Committee to set the framework for risk management and supervision policies throughout the Company and affiliated companies to be effective in accordance with the organization's goals.
5. **In reviewing the related party and conflicts of interest transactions**, the Audit Committee has given great importance to the consideration of connected transactions and transactions that may have conflicts of interest in accordance with the laws and regulations of the Stock Exchange of Thailand on a quarterly basis by assigning an internal audit team to monitor and review the preliminary accuracy and had the auditor to review such transactions annually. The Audit Committee is of the opinion that the considered connected transaction is a transaction that has been performed in accordance with the general trade conditions, reasonable, and is of the greatest benefit to the Company, without beneficial to any party. Also, the connected transactions are disclosed by following the established process and following the lawful regulations and relevant criteria.
6. **In compliance with the securities and exchange law**, the Audit Committee reviewed the operations and directed the Company to perform various actions in accordance with the law on securities and exchange, notifications and regulations of the Stock Exchange of Thailand; as well as, other specific laws that relating to the Company's business. In addition, the Audit Committee instructed the Company to follow up on the pending laws and may have an impact on the Company in order to prepare before the announcement.
7. **In supporting good corporate governance and considering complaints about fraud or corruption functions**, the Audit Committee emphasized that the Company has operations in accordance with good corporate governance, the establishment of a system for receiving complaints, including providing channels for employees, shareholders and stakeholders to be able to conveniently contact the Audit Committee directly in order to be able to inform the Audit Committee about complaints, illegal or ethical conduct or inquiries in financial reports or internal control systems are conveniently available via email, website, post office and whistleblower box; as well as, having measures to protect the informant and to be treated as confidential.
8. **In consideration, selection, appointment and proposal of remuneration of the auditor of the Company**, the Audit Committee considered the selection of auditors by considering the independence of the operation, business skills including audit fees. The Audit Committee gave an opinions to the Board of Directors for considering and proposing to the Annual General Meeting of Shareholders for the year 2021 to consider appointing an auditor from KPMG Phoomchai Audit Ltd. to be the auditor of the Company and the subsidiary company for the year 2021 by appointing Mr. Waiyawat Kosamarnchaiyakij ,Certified Public Accountant No. 6333 and/or Mr. Charoen Phosamritlert, Certified Public Accountant No. 4068 and/or Mr. Natthaphong Tantichattanont, Certified Public Accountant No. 8829. The said auditor is an auditor that approved by the Securities and Exchange Commission.

In conclusion, the Audit Committee is of the opinion that the Company provides accurate, complete and reliable financial reports, with an adequate internal control system and good corporate governance that complying with the law on securities and exchange, notifications and regulations of the Stock Exchange of Thailand and other relevant laws. This Includes full disclosure of information on connected transactions or transactions that may lead to conflicts of interest.



(Dr. Chongrak Rarueysong)

Chairman of the Audit Committee

24th February 2021

03 Report of the Risk Management Committee

Dear Shareholders of Gunkul Engineering Public Company Limited,

Risk management in business operations is an important and necessary activity to be undertaken. The Company recognizes the importance of risk management that affects business operations. Therefore, the Company has set a policy for the Company and its subsidiaries to have an assessment of the risks that affect business operations by appointing the Risk Management Committee which contain with independent directors and management totaling 4 persons, namely Mr. Tarakorn Angpubate as a Chairman, Mr. Somchai Trairatanapirom, Miss Sopacha Dhumrongpiyawut and Mr. Thitipong Techaratanayuenyong are Members of the Risk Management Committee. The Committee's duties are to review and approve risk management plan, monitor business risk assessment of the Company and its subsidiaries and formulate risk mitigation plan including the preparation of measures to prevent and solve such risks.

The Committee arranged 6 meetings in 2020 to review important issues pertaining to risk management. Key duties are summarized as follows:

1. Risk Management Plan for 2020

The Committee has assigned the secretary to the Risk Management Committee to be the coordinator in organizing the risk management meeting for the management of all relevant departments to present the risk management plan for consideration and approval. The risk management plan covers all dimensions of business operations, including business strategy determination risk, operational risk financial risk, exchange rate fluctuations and interest rates risk, procurement of partners and personnel with expertise and knowledge to support future business growth of the Company risk, information technology risk and relationship management with partners and stakeholders risk. Also, a risk that may affect the community and the environment and legal compliance risks as well as corruption risk.

2. Risk assessment and preventive or corrective measures

The Risk Management Committee has considered the factors and results of the risk assessment according to the established risk management plan that covering the entire organization including risks from uncontrollable external factors, such as political impacts, fluctuations in both domestic and international economic conditions impact as well as natural disasters impact, and especially in the past 2020, the COVID-19 outbreak has affected social and economic conditions around the world which may have an impact on the achievement of business goals of the Group by setting the risk level from high to low by assigning the responsible person to find the ways to prevent and mitigate the effects of potential risks to an acceptable level in order to achieve business goals in accordance with the specified strategy.

3. Monitoring the implementing preventive and risk management measures

The Risk Management Committee closely monitors risk management by arranging meetings with relevant agencies every quarter to acknowledge the risk management results including reviewing the risks of the Company and the Group regularly. Moreover, the Risk Management Committee provided more various suggestions in order to ensure effective and efficient risk management by continuously developing to have a risk culture management in the future.

From the above operations, the Risk Management Committee has considered that the Company and the Group have established a risk management plan and implemented the risk management plan continuously and efficiently. Including internal control that is sufficient and suitable for the business which is in accordance with good corporate governance policy and also compliance with relevant laws and regulations accurately and completely.



(Mr. Tarakorn Angpubate)

Chairman of the Risk Management Committee

16 February 2021

04 Report

of the Nomination and Remuneration Committee

Dear Shareholders of Gunkul Engineering Public Company Limited,

The company recognizes the importance of nominating persons to be Directors and Senior Management including the remuneration such as persons. The Board of Directors has appointed the Nomination and Remuneration Committee which consists of independent directors 3 in 4 of all directors, by searching for a person with talent and qualified to serves in the position of the Directors and Senior Management. Including the proposing of remuneration policy, guidelines for remuneration, other benefits for the Board of Directors and all Committees; as well as, Senior Management which suitable with responsibilities in accordance with the results of the company's operations and market condition as always. In order to motivate and maintain the committee and the executive who has high potentiality and qualification that meets the Company's needs.

In 2020, the Nomination and Remuneration Committee convened 2 meetings for consider matters. The Nomination and Remuneration Committee reported the results of the meeting, comments and recommendations to the Board of Directors for consideration and continuously. The important considerations are summarized as following;

- **To consider the nomination and selection of qualified persons to be Directors of the Company**

The Nomination and Remuneration Committee has considered the recruitment and selection of persons to be appointed as the Company's Directors and Independent Directors including the Sub-Committee that has completed the term, which are considered persons who have suitable qualifications, complete the requirements of the Securities and Exchange Commission and the Stock Exchange of Thailand by considering the qualifications, experience and useful knowledge including supporting the growth of the Company, by preparing the Board of Skill Matrix to be a tool to verify the skills of the directors are complete in order to propose to the Board of Directors' meeting and Shareholders' meeting.

- **To impose and review Policies and Guidelines**

The Nomination and Remuneration Committee has considered and review policies and guidelines which relate to the implementation of the nomination and remuneration. To ensure that the operation was proceeded with efficient which comply with Good Corporate Governance's regulations and policies. As well as, the current international situation and the guidelines as details below;

- The Nomination and Remuneration Committee Charter.
- The Policy on the Recruitment and Appointment of the Directors and Senior Management
- The Policy on the Remuneration of the Board's Directors and Sub-Committee
- The Policy on Succession Plan and Talent Management
- The Policy on Remuneration and Welfare for Executives and Employees
- Self- Assessment of the Nomination and Remuneration Committee for 2020, by Committee

- **To determine the welfare adjustment**

To create a motivation and maintain good and competent employees, the Nomination and Remuneration Committee has approved the annual adjustment and bonus payment according to the Company's operating results and the results of the skills, knowledge and competencies assessments of employees, together with the Executive Committee to be at an appropriate rate and in line with the operating results of the Company and the Group and also in the level of comparable to general practices in the industry.

The Nomination and Remuneration Committee reported the results of every meeting to the Board of Directors continuously. In 2020, the Nomination and Remuneration Committee has fulfilled the tasks assigned in an entirety with duly care and full capacity with a very straightforward for the best interests of shareholders and stakeholders on all sides and a commitment to abide by the principles of equality, fairness and transparency to ensuring compliance with the principles of good corporate governance as prescribed by the Securities and Exchange Commission and the Stock Exchange of Thailand and to be accepted internationally.



(Police Major General Visit Sukarasep)

Chairman of the Nomination and Remuneration Committee

18th February 2021

05 Report

of the Good Corporate Governance Committee

Dear Shareholders of Gunkul Engineering Public Company Limited,

In 2020, the Good Corporate Governance Committee consists of 3 members namely; Dr. Chongrak Rarueysong as the Chairman of the Corporate Governance Committee, Mr. Pongtep Thithapand and Mr. Somchai Trairatanapirom as members of the Corporate Governance Committee, convened 5 meetings in accordance with good corporate governance principles for listed companies of the Stock Exchange of Thailand and the regulations of the Securities and Exchange Commission, which emphasizes the practice and implementation of the good corporate governance policy. The key points can be summarized as follows:

- **Supervision for adherence to rules, regulations, laws, regulations, as well as good practice**
 - Supervised, reviewed, revised and improved policies and practices of good corporate governance for comply with the rules related implementation within 5 categories; Rights of Shareholders, Equitable Treatment of Shareholders, Role of Stakeholders, Disclosure and Transparency and Responsibilities of the Board, including anti-corruption measures and practices corruption with international guidelines; as well as, in accordance with the situation and business operations of the Company.
 - Supervised the equitable treatment of shareholders by allowing shareholders to propose additional agenda items and nominate persons to be elected as the Company's directors in advance from 7th November 2019 to 31st January 2020 according to the criteria specified on the Company's website
 - Supervised and provided suggestions for organizing the 2020 Annual General Meeting of Shareholders starting from before the meeting, on the meeting date and after the meeting in order to organize meetings with transparency and efficiency.
 - Supervised the directors and management to prepare and to submit the report for holding the possession as per as the implementation requires. Also, imposed to report to the Good Corporate Governance Committee regularly on a quarterly basis.
 - Supervised the use of inside information (Inside Trading) from directors, executives, employees to the operating level of the Company with transparency in mind.
- **Operational governance for sustainable development**
 - Established and formulated policies that will benefit the sustainable development of the organization, including gave opinions on policies developed or reviewed by other responsible committees in order to comply with good corporate governance practices.
 - Supervised business operations with concrete responsibility to stakeholders in accordance with the principles of good corporate governance by providing advice and continually monitoring the performance through the presentation of reports. It also requires an assessment of the confidence level of various stakeholders in the Company's business operations in accordance with good corporate governance principles to plan to respond to the expectations of each group of stakeholders.
 - Followed up, supervised and advised the Company's sustainable development operations in accordance with international standards, including reviewed every component within the Company's sustainability framework to be in line with the global social situation and rapidly changing challenges.
- **Promotion of compliance with good corporate governance policy and business ethics**
 - Improved the self-assessment process and criteria of the Good Corporate Governance Committee for the year 2020 to be up-to-date and in line with the current situation in accordance with international guidelines; as well as, provided recommendations for improving processes and criteria in the self-assessment form of the Board of Directors and the Executive Committee, including assessment form for the Chief Executive Officer and Managing Director.

- Reviewed the anti-corruption policy and report clues or complaints including coordinating for managing plan to educate those who involved, and had the assessment of the corruption risk for personnel in the Company, including followed up on various reports that are related.
- Considered the report on compliance with good corporate governance in the Annual Report 2020 (Form 56-2) and the Annual Information Form 2020 (Form 56-1) in order to ensure the disclosure of information is complete in accordance with the supervision guidelines of good corporate governance.
- **Performance reporting, evaluation and director development**
 - Considered and reviewed of good corporate governance charter and review the Board of Directors Charter, Executive Committee Charter, also followed up to review the other committee charters.
 - Improved the process and criteria for self-assessment of the Good Corporate Governance Committee for the year 2020 to be up-to-date and consistent with the current situation in accordance with international guidelines. Also, provided the recommendations for improvement of the process and criteria in the self-assessment form of the Board of Directors and the Executive Committee including the evaluation forms of the Chief Executive Officer and Managing Director.
 - Reported the result of evaluate from operation performance of the Good Corporate Governance Committee to the Board of Directors quarterly.
 - Monitored and supervised the development of directors in accordance with good corporate governance principles continuously by encouraging directors to attend various courses of the Thai Institute of Directors Association (IOD).

The Company is committed to bring good corporate governance principles to concrete operations throughout the organization. As a result, the Company received an assessment results of the Corporate Good Governance (CGR) in 2020 with an excellent score of 95 points, compared with the evaluation that received in 2019 at an excellent score of 94 points. In addition, the Company also received the ASEAN Asset Class PLCs award, which is an award for companies that have scored 97.50 or more points, as a Thai listed company that has been assessed according to the ASEAN CG Scorecard.

Moreover, in the year 2020, the Company received an excellent score of 100 points for the quality assessment of the 2020 Annual General Meeting of Shareholders for the second consecutive year from the Thai Investors Association (TIA). This shows that the Company has placed importance on the rights of shareholders and stakeholders as the top priority in conducting business of the Company. This includes the importance of anti-corruption, which the Company has joined as a member of the Private Sector Collective Action Coalition Against Corruption (CAC) since 2017 and was certified as a CAC membership for the second consecutive time in 2020. These awards show the continued progress in the Company's commitment to good corporate governance.

The Good Corporate Governance Committee recognizes that the good corporate governance is important and beneficial to the Company's business operations as well as shareholders and all stakeholders. The Good Corporate Governance Committee therefore has a commitment to perform duties to propose guidelines and provide good corporate governance advice to the Board of Directors and management, to be a guideline for the operation of the Company and the Company Group with an effective, efficient management, transparent and can be verified for the purpose of providing the Company with sustainable progress. This can be seen from the operations in the past year which reflect the overall development of the Company in good corporate governance.


(Dr. Chongrak Rarueysong)

Chairman of the Good Corporate Governance Committee

19th February 2021

06 Report of the Executive Committee

Dear Shareholders of Gunkul Engineering Public Company Limited,

For the year 2020 is the year that the country's economy has slowed steadily. The main cause is the situation of the COVID-19 epidemic, which inevitably plunged the global economy into a severe crisis. There are also additional negative factors of domestic political tensions. From the above factors, which has resulted in the domestic economy, whether the signal of investment and purchasing power is noticeably decreased. However, the Company is still able to operate a strong business and continuously grow, which can be seen from the revenue of 10,974 million baht and a net profit of 3,425 million baht.

In the year 2020, the Board of Directors held 29 meetings to consider important matters of the Company by performing actions as assigned by the Board of Directors and reporting the meeting results with solutions to problems and adjusting strategies to suit each period, then report the meeting results along with guidelines for solving problems and suggestions to the Board of Directors for accurate and appropriate consideration on a regular basis. It can be summarized as follows;

- Considered and imposed business plans and strategies in accordance with the vision, mission, and culture of the organization for the year 2020.

The Executive Committee had established strategies and operational plans of the Company, subsidiaries and associates in each business line annually and had monitored the results every quarter. In addition, the plan had been transferred to executives and employees at all levels in the organization for acknowledgment and implementation in accordance with the stated goals.

- Reviewed the approval authority and the budget for the Company's operations for the year 2020

The Executive Committee had reviewed and revised the approval authority table in order to be in line with the situation and business operations of the Company, including determined budgets for business operations of the Company.

- Examined and monitored the performance of the Company, subsidiaries and associates

The Executive Committee had reviewed and followed up on the performance of all business lines on a monthly basis in order to comply with the plan and as assigned by the Board of Directors.

- Approved connected transactions or transactions that might have conflicts of interest or items that have interests according to the Company's regulations or related laws

The Executive Committee had considered and approved such transactions as specified in the Company's Articles of Association, policies, regulations, and announcements of the Capital Market Supervisory Board. The approval of such transactions must be submitted to the Board of Directors and / or the shareholders' meeting for consideration and approval according to the Company's regulations or related laws.

- Considered the investment and participation in bidding for the new projects both domestic and international investments, and the distribution of investment in solar power plant projects in Japan

The Executive Committee had scrutinized or approved the investment and / or participated in the bidding of new projects, as well as undertaking various projects and the distribution of investment in solar power plant projects in Japan as it deems appropriate by taking into account the benefits of the Company, shareholders and all stakeholders equally before submitting to the Board of Directors for further consideration.

However, the Executive Committee is confident that the Company has maintained its growth target in 2021, not less than 15%, which is a continuous growth for more than 10 years of the Company since listed in the Stock Exchange of Thailand due to the Company is well equipped in terms of availability of investment capital, qualifications, capabilities and experience of executives and employees. Together with the Company being a leader in renewable energy business and the power system business, with leading technology that can be used to develop sustainable infrastructure according to government policies. In addition, the Company has implemented the policy under the consideration of the best interests of the Company, shareholders and all stakeholders. As well as, ensuring that the Company has a system that operates in a manner that is lawful and ethical in accordance with the principles of good corporate governance in order to bring the organization to a stable and sustainable progress.



(Ms. Sopacha Dhumrongpiyawut)

Chairman of the Executive Committee

19th February 2021



07 Board of Directors

1. Dr. Gunkul Dhumrongpiyawut Chairman of the Board of Directors (Non-Executive Director) 2. Dr. Chongrak Rarueysong Independent Director Chairman of the Audit Committee ¹⁾ Member of the Good Corporate Governance Committee ¹⁾ 3. Assoc.Prof. Dr. Panarat Panmanee Independent Director Member of the Audit Committee 4. Gen. Tarnchaiyan Srisuwan Independent Independent Director 5. Mr. Tarakorn Angpubate Independent Director Member of the Audit Committee ²⁾ Chairman of the Risk Management Committee 6. Mr. Kris Chantanotoke Independent Director	7. Ms. Sopacha Dhumrongpiyawut Director Chairman of the Executive Committee Chief Executive Officer (CEO) Member of the Risk Management Committee 8. Dr. Somboon Aueatchasai Director and Secretary of the Board of Directors Executive Director / Managing Director 9. Ms. Naruechon Dhumrongpiyawut Director / Executive Director 10. Mr. Chaloepon Sricharoen Director / Executive Director 11. Mrs. Areewan Chaloeindan Director Executive Director 12. Ms. Chantira Jongjamareeseethong Company Secretary

¹⁾ Appointed to the position Chairman of the Audit Committee and Member of the Good Corporate Governance Committee on December 14, 2020.

²⁾ Appointed to the position Member of the Audit Committee on December 14, 2020.



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Audit Committee

1. Dr. Chongrak Rarueysong

Chairman of the Audit Committee (Independent Director)¹⁾

3. Mr. Tarakorn Angpubate

Member of the Audit Committee (Independent Director)²⁾

2. Assoc.Prof. Dr. Panarat Panmanee

Member of the Audit Committee (Independent Director)

4. Mr. Tanetsiri Farkmitr

Secretary of the Audit Committee

¹⁾ Appointed to the position Chairman of the Audit Committee on December 14, 2020.

²⁾ Appointed to the position Member of the Audit Committee on December 14, 2020.



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09 Risk Management Committee

1. Mr. Tarakorn Angpubate

Chairman of the Risk Management Committee
(Independent Director)

2. Mr. Somchai Trairatanapirom

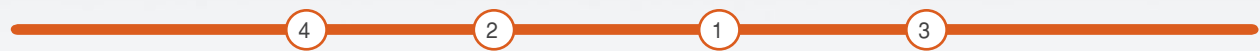
Member of the Risk Management Committee
(Independent Director)

3. Ms. Sopacha Dhumrongpiyawut

Member of the Risk Management Committee

4. Mr. Thitipong Techaratanayuenyong

Member of the Risk Management Committee
and Secretary of the Committee



10 **N**omination and Remuneration Committee

1. Police Major General Visit Sukarasep Chairman of the Nomination and Remuneration Committee (Independent Director)	3. Mr. Hathai Uthai Member of the Nomination and Remuneration Committee (Independent Director)
2. Mr. Decha Chooligorn Member of the Nomination and Remuneration Committee (Independent Director)	4. Mrs. Somluk Kanuenghet Member of the N omination and Remuneration Committee and Secretary of the Committee



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11 **Good Corporate Governance Committee**

1. **Dr. Chongrak Rarueysong**

Chairman of the Good Corporate Governance Committee
(Independent Director) ¹⁾

3. **Mr. Pongtep Thithapand**

Member of the Good Corporate Governance Committee
(Independent Director)

2. **Mr. Somchai Trairatanapirom**

Member of the Good Corporate Governance Committee
(Independent Director) ²⁾

4. **Ms. Chantira Jongjamareeseethong**

Secretary of the Good Corporate Governance Committee

¹⁾ Appointed to the position Chairman of the Audit Committee and Member of the Good Corporate Governance Committee on December 14, 2020.

²⁾ Appointed to the position Chairman of the Good Corporate Governance Committee on December 14, 2020.



12 Executive Committee

1. Ms. Sopacha Dhumrongpiyawut Chairman of the Executive Committee	4. Mr. Chaloepon Sricharoen Executive Director
2. Dr. Somboon Aueatchasai Executive Director	5. Mrs. Areewan Chaloeждан Executive Director
3. Ms. Naruechon Dhumrongpiyawut Executive Director	



13 Management Team

1. **Ms. Sopacha Dhumrongpiyawut**
- Chief Executive Officer
2. **Dr. Somboon Aueatchasai**
- Managing Director
3. **Dr. Phongsakorn Damnoen**
- Deputy Managing Director,
Business Development and Strategic Planning
4. **Ms. Naruechon Dhumrongpiyawut**
- Assistant Managing Director,
Strategic Planning and Investment
5. **Mrs. Areewan Chaloemdan**
- Assistant Managing Director,
Production and Distribution of Electrical Equipment
6. **Mr. Chaisiri Wattanachannarong**
- Assistant Managing Director,
Project Construction Management
7. **Mr. Theerapab Punyasakhon**
- Assistant Managing Director,
Office of Managing Director
8. **Mrs. Somluk Kanuenghet**
- Senior Vice President, Executive Office



9. Mr. Thamrong Chankraithong

- Senior Vice President, Sales & Marketing

10. Dr. Phairot Phanukan

- Senior Vice President, Innovation & Operating Maintenance

11. Mr. Thitipong Techaratanayuenyong

- Senior Vice President, Finance & Corporate Strategic Management

12. Mrs. Nattawan Wongchan

- Senior Vice President, Business Support (Finance, Information Technology, Property)

13. Ms. Suttirat Tangnorakul

- Senior Vice President, Business Support (Accounting)

14. Mr. Chaloempon Sricharoen

- Vice President, Sales and Marketing

15. Mr. Janpon Ngamaroonchote

- Senior Vice President, Sales & Marketing-Energy Solution, Lighting, GRoof and Innovation

16. Ms. Chantra Jongjamareeseethong

- Senior Vice President, Office of Managing Director
- Company Secretary

17. Mr. Tanetsiri Farkmitr

- Vice President, Internal Audit
- Secretary of the Audit Committee

14 Financial Highlights

14.1 Financial Highlights for the pas 5 years

Unit : Baht

	31 Dec 2020 *	31 Dec 2019 *	31 Dec 2018 *	31 Dec 2017 * (Restated)	31 Dec 2016 * (Restated)
Total Assets	46,032,156,115	39,041,539,734	35,624,749,771	30,726,454,730	25,998,105,347
Total Liabilities	33,556,843,009	27,708,625,895	26,124,701,888	20,542,595,532	15,870,131,366
Total Equity	12,475,313,106	11,332,913,839	9,500,047,883	10,183,859,198	10,127,973,981
Issued and Paid-Up Share Capital	2,220,632,743	2,220,632,743	1,854,655,373	1,854,655,373	1,589,693,963

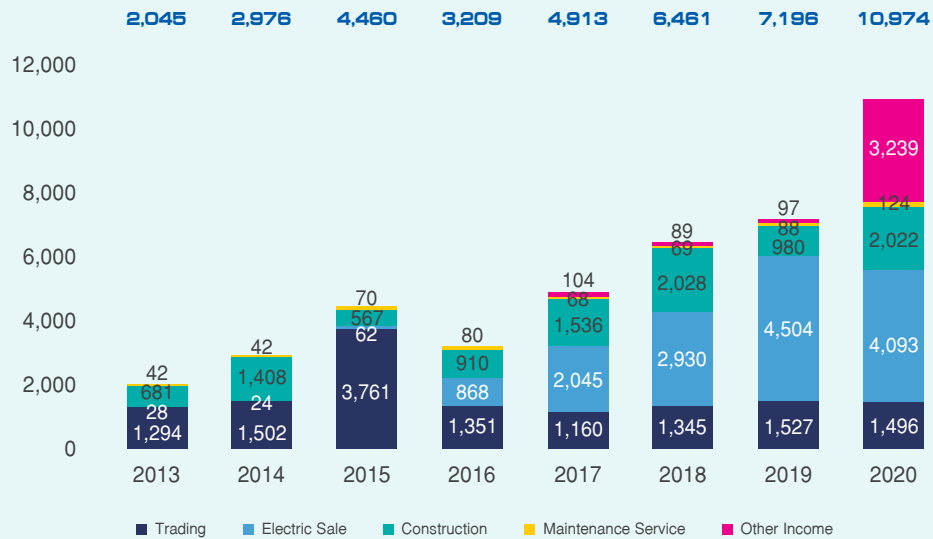
	31 Dec 2020 *	31 Dec 2019 *	31 Dec 2018 *	31 Dec 2017 * (Restated)	31 Dec 2016 *
Total Revenues	10,974,541,028	7,195,259,291	6,460,886,678	4,913,484,308	3,366,833,901
Net Profit (loss)	3,425,292,843	2,222,289,314	1,178,410,096	714,788,237	615,370,138
Return of Assets (%)	7.44	5.50	3.31	2.33	2.37
Return of Equity (%)	27.46	18.95	12.40	7.02	6.08
Net Profit Margin (%)	39.60	30.25	18.91	14.86	19.18

Remark * Consolidated Financial Statements



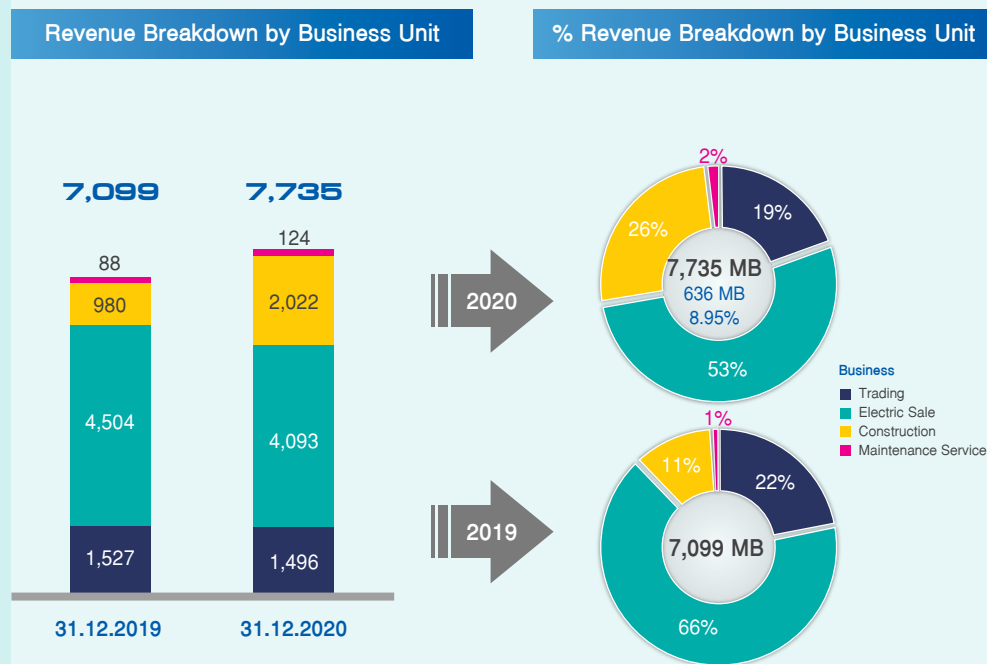
Revenue Breakdown by Business as of 2020

As of December 31, 2020

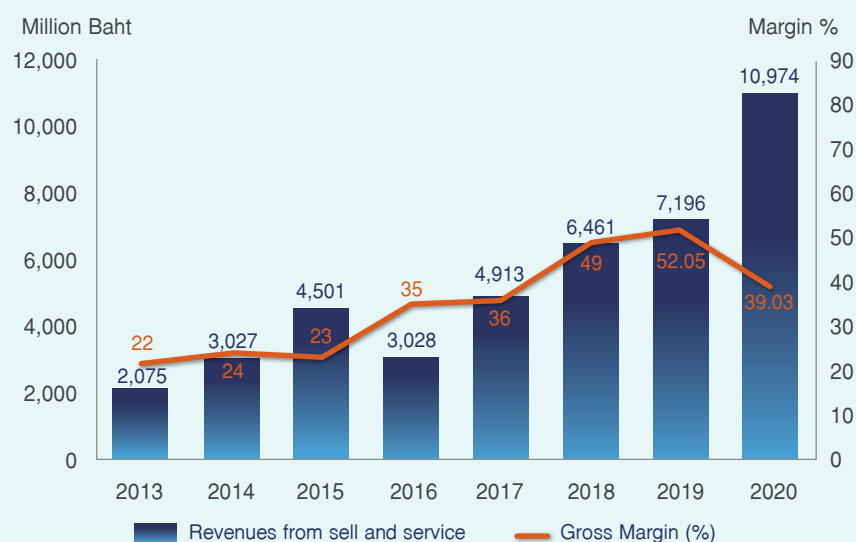


Revenue Breakdown by Business Unit (2020)

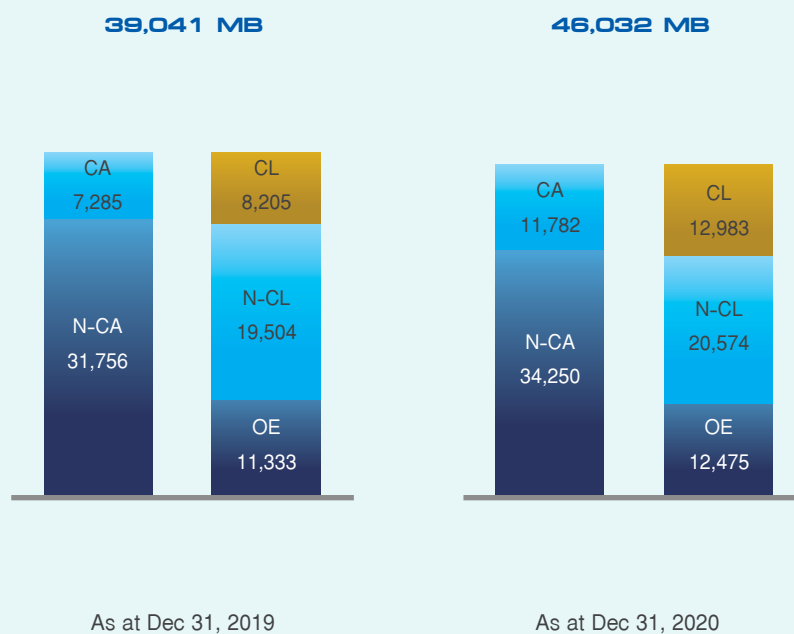
(For the end of the year)



Revenue vs Overall Gross Margin



Growth of Financial Statements



15

General Information and Other Important Information

15.1 General Information

Company's Name	: Gunkul Engineering Public Company Limited
Symbol	: GUNKUL
Company Registration Number	: 0107552000146
Head Office Address	: 1177 PEARL BANGKOK BUILDING FL.8 Phahonyothin Rd, Phayathai, Phayathai, Bangkok 10400
Telephone Number	: 66(2) 242-5800
Website	: www.gunkul.com
Email	: ir@gunkul.com
Type of Business	: - Business to produce, procure and supply equipment for electrical system in domestic and international. - Business to produce, procure and supply energy-saving products including appropriate alternatives energy - Business to produce and distribute electricity from renewable energy resources in domestic and international. - Engineering Procurement and Construction - Business to provide a power plant maintenance service
Industry	: Resources
Sector	: Energy & Utilities
Type of Issued Shares	: Common shares
Registered Capital	: THB 2,220,632,743.50
Paid-up Capital	: THB 2,220,632,743.50
Number of Shares	: 8,882,530,974 Shares
Par Value	: THB 0.25
Annual Report Organizer	: Ms. Chantira Jongjamareeseethong Ms. Tanawan Patana-anek Tel. 66(2) 242-5867 / 66(2) 242-5868

15.2 Subsidiaries

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	% of Holding
1. G.K. Assembly Co., Ltd.	GKA	Production of street lighting equipment and accessories such as handling transmission lines (Performed), cable spacers, and hardware Including production of Mounting Structure for the solar plant under the different brands of the Group, GUNKUL, GK, ZIMLUG, PIGMAN, TOPWELD and ZIMTAP. To distribute to Gunkul Engineering Public Company Limited and K.N.P. Supply Co., Ltd.	200,000,000.00	2,000,000.00	100.00	1,999,998	99.99
2. G.K. Power Products Co., Ltd.	GKP	Production of equipment and control systems for power transmission and distribution lines under the Group's brands "GUNKUL" and "GK". By focusing on the safety equipment and joining systems such as electrical wiring, fuses and switches to distribute to Gunkul Engineering Public Company Limited and K.N.P. Supply Co., Ltd.	100,000,000.00	100,000	1,000.00	99,998	99.99
3. K.N.P. Supply Co., Ltd. (Registration of capital reduction, step 1, date 20 August 2019) (Registration of capital reduction, step 2, 24 Sep 2019)	KNP	Distribution of electrical system equipment and other systems related to public sector customers directly. Acting as a contractor and participating in the bidding for the procurement of the various customer segments. The main customers being Electricity Generating Authority of Thailand (EGAT), the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA).	12,500,000.00	125,000	100.00	124,998	99.99
4. Wind Energy Development Co., Ltd.	WED	Production and distribution of electricity from renewable energy using renewable solar energy amount 60 MW by generating to the EGAT and PEA.	1,575,000,000.00	157,500,000	10.00	157,499,987	99.99
5. Greenovation Power Co., Ltd.	GNP	Production and distribution of electricity from renewable energy using renewable solar energy amount 60 MW by generating to the EGAT.	1,485,000,000.00	148,500,000	10.00	148,499,998	99.99
6. Korat Wind Energy Co., Ltd.	KWE	Production and distribution of electricity from renewable energy using renewable solar energy amount 50 MW by generating to the EGAT	1,107,000,000	11,070,000	100.00	11,069,998	99.99
7. NK Power Solar Co., Ltd. ¹⁾	NKP	Production and distribution of electricity from renewable energy in the capacity of 1 MW by generating to the PEA.	2,600,000.00	Common Shares 23,060 Preferred Shares 2,940	100.00	Common Shares 23,058 Preferred Shares 2,940	99.99

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	% of Holding
8. Gunkul Solar Power 1 Co., Ltd.	GSP-1	Produces and sells electricity from renewable energy to sell to government agencies.	100,000,000.00	1,000,000	100.00	999,997	Shares holding by GSP 99.99
9. Gunkul Solar Power 2 Co., Ltd.	GSP-2	Produces and sells electricity from renewable energy to sell to government agencies.	100,000,000.00	1,000,000	100.00	999,997	Shares holding by GSP 99.99
10. Gunkul Solar Power 3 Co., Ltd. 1. Registration of dissolution on 9 April 2018 2. Registration of liquidation 18 July 2018	GSP-3	Produces and sells electricity from renewable energy to sell to government agencies.	100,000,000.00	1,000,000	100.00	999,998	Shares holding by GSP 99.99
11. Gunkul Solar Power 4 Co., Ltd. 1. Registration of dissolution on 9 April 2018 2. Registration of liquidation 18 July 2018	GSP-4	Produces and sells electricity from renewable energy to sell to government agencies.	100,000,000.00	1,000,000	100.00	999,998	Shares holding by GSP 99.99
12. Gunkul Solar Power 5 Co., Ltd. 1. Registration of dissolution on 9 April 2018 2. Registration of liquidation 18 July 2018	GSP-5	Produces and sells electricity from renewable energy to sell to government agencies.	100,000,000.00	1,000,000	100.00	999,998	Shares holding by GSP 99.99
13. Bright Green Power Co., Ltd.	BGP	Production and distribution of electricity from Renewable Energy by generating to the government entities and investing on the business related to renewable energy.	1,356,300,000.00	13,563,000	100.00	13,562,997	99.99
14. Siam Gunkul Solar Energy Co., Ltd.	SGSE	Produces and sells electricity from renewable energy to sell to government agencies.	40,900,000.00	409,000	100.00	408,997	99.99
15. Solar Energy Society Co., Ltd.	SES	Produces and sells electricity from renewable energy to sell to government agencies.	500,000,000.00	5,000,000	100.00	4,999,997	99.99
16. Gunkul Solar Roof 1 Co., Ltd.	GSR-1	Produces and sells electricity from renewable energy to sell to government agencies.	21,000,000.00	210,000	100.00	209,997	99.99
17. Gunkul Training Center Co., Ltd. (Formerly: Gunkul Solar Roof 2 Co., Ltd.) (Registered name change: on March 16, 2017)	GTRC	Education services. Management of seminars, training management and other related to education.	1,000,000.00	10,000	100.00	9,997	99.97
18. Gunkul Solar Community Co., Ltd.	GSC	Production and distribution of electricity from renewable energy by generating to the government entities.	20,000,000.00	200,000	100.00	199,997	99.99
19. Gunkul Power Development Co., Ltd.	GPD	Power plants construction and distribution systems for electrical equipment and other systems related to the construction of power plants.	300,000,000.00	3,000,000	100.00	2,999,997	99.99

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	% of Holding
20. Gunkul Energy Solutions & Lighting Co., Ltd. (As before: Gunkul LED Lighting Co., Ltd.) (Registered name change on 21 February 2018)	GES	Production and distribution of Lighting Bulb Type LED (In 2018, the Company expanded its business to provide integrated electrical system services.)	100,000,000.00	1,000,000	100.00	999,998	99.99
21. Infinite Alternative Energy Co., Ltd. ²⁾ 1. Registering the change of director and shareholder as of 8 January 2020.	IAE	Shareholding in Rang Ngern Solution Co., Ltd. 99.99% which the company produces and distributes electricity from renewable energy in the capacity of 87 MW to the PEA.	1,564,000,000.00	15,640,000	100.00	15,639,998	99.99
22. Rang Ngern Solution Co., Ltd. ²⁾ 1. Registering the change of director and shareholder as of 8 January 2020.	RNS	Production and distribution of electricity from renewable energy in the capacity of 87 MW by generating to the PEA.	1,355,000,000.00	13,550,000	100.00	13,549,997	Shares holding by IAE 99.99
23. GO Bioenergy Co., Ltd.	GOB	Investment in domestic companies on renewable energy and biomass business by generating to government entities.	34,300,000.00	343,000	100.00	256,906	74.90
24. Outgrow A Co., Ltd. 1. Registration of dissolution on 26 June 2018 2. Registration of liquidation 14 June 2019	OGA	Production and distribution of electricity from biomass by generating to government entities.	8,000,000.00	80,000	100.00	79,998	Shares holding by GOB 99.99
25. Outgrow B Co., Ltd. 1. Registration of dissolution on 26 June 2018 2. Registration of liquidation 12 Dec 2018	OGB	Production and distribution of electricity from biomass by generating to the PEA.	8,000,000.00	80,000	100.00	79,998	Shares holding by GOB 99.99
26. Outgrow D Co., Ltd.	OGD	Production and distribution of electricity from biomass by generating to the PEA.	40,000,000.00	400,000	100.00	399,998	Shares holding by GOB 99.99
27. Outgrow E Co., Ltd. 1. Registration of dissolution on 26 June 2018 2. Registration of liquidation 18 July 2019	OGE	Production and distribution of electricity from biomass by generating to the PEA.	8,000,000.00	80,000	100.00	79,998	Shares holding by GOB 99.99
28. Outgrow Wood Supply A Co., Ltd. 1. Registration of dissolution on 9 April 2018 2. Registration of liquidation 26 July 2018	OGW-A	Distributor wood as raw material	1,000,000.00	10,000	100.00	9,998	Shares holding by GOB 99.98

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	% of Holding
29. Outgrow Wood Supply B Co., Ltd. 1. Registration of dissolution on 9 April 2018 2. Registration of liquidation 18 July 2018	OGW-B	Distributor wood as raw material	1,000,000.00	10,000	100.00	9,998	Shares holding by GOB 99.98
30. Eco Thai Energy Co., Ltd.	ECO	Production and distribution of electricity from renewable energy by generating to the PEA.	76,500,000.00	765,000	100.00	390,150	51.00
31. Gunkul Infinite Group Co., Ltd. (As before: Gunkul Bio Energy Co., Ltd.) (Registered name change on 21 Oct 2019)	GIG	Business for rent, sublease and manage property, Producing and distributing electricity from renewable energy or other energy in all respects including operating a power plant business for selling to private and state agencies.	314,000,000.00	3,140,000	100	2,354,997	74.99
32. Gunkul Solar Power Co., Ltd.	GSP	Produces and sells electricity from renewable energy to sell to government agencies.	599,998,800.00	5,999,988	100	5,999,985	99.99
33. Gunkul Solar Power 6 Co., Ltd. 1. Registration of dissolution on 9 April 2018 2. Registration of liquidation 6 June 2018	GSP-6	Produces and sells electricity from renewable energy to sell to government agencies.	100,000,000.00	1,000,000	100	999,997	Shares holding by GSP 99.99
34. BMP Solar Co., Ltd.	BMP5	Produces and sells electricity from solar panels installed on the ground of 8.0 MW for distribution to the PEA.	980,100.00	98,010	10 (Preferred shares)	48,010	48.98
35. Future Electrical Control Co., Ltd. ⁸⁾	FEC	Construction	100,000,000.00	10,000,000	10	999,998	Shares holding by GPD 99.99
36. GKE & GPD Joint Venture Co., Ltd.	JV GKE&GPD	Electrical system work service and computer systems, Construction, production and distribution of electricity from renewable energy	80,000,000	800,000	100	799,998	Shares holding by GUNKUL 50.00 GPD 49.99
37. Future Energy Corporation Company Limited Co., Ltd.	FE	Application services and computer programs	12,000,000.00	120,000	100	119,199	Shares holding by GSP 99.33
38. GPD & TEECL Joint Venture Co., Ltd.	JV GPD&TEECCL	Power station construction contractor	1,000,000.00	10,000	100	9,897	Shares holding by GPD 98.97
39. FEC & PPB Joint Venture Co., Ltd. 1. Registration of dissolution on 18 Nov 2020	JV FEC&PPB	Underground power station construction contractor	5,000,000.00	50,000	100	47,498	Shares holding by FEC 95.00

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	% of Holding
40. Gunkul B2B Co., Ltd. (As before: Gunkul SCB 10X Co., Ltd.) (Registered name change on 24 Dec 2020)	GKB2B	Application services and computer programs	100,000.00	1,000	100	997	Shares holding by FE 99.70
41. Gunkul International (Mauritius) ³⁾	GIM	Oversea Investment	USD 134,825,624.00	134,825,624	USD 1.00	134,825,624	100.00
42. Gunkul International Investment (Singapore) Pte. Ltd. ³⁾	GII	Oversea Investment	SGD 324,829.00	324,829	SGD 1.00	324,829	Invested by GIM 100.00
43. Gunkul Myanmar Central Power 1 Co., Ltd. ⁴⁾	GKMCP-1	Production and distribution of electricity from Gas Engine by generating to the government in Myanmar.	USD 50,000.00	50,000	USD 1.00	25,500	51.00
44. Sendai Okura GD Dalichi Godo Kaisha ⁵⁾	GK Sendai	Production and distribution of electricity from solar panels installed on the ground of 31.75 by generating to the Tohoku Electric Power Co., Inc. in Japan.	Investment in GK Sendai in the total amount of JPY 2,640,146,000				
45. Kimitsu Mega Solar Godo Kaisha ⁵⁾	GK Kimitsu	Production and distribution of electricity from solar panels installed on the ground of 33.50 by generating to the Tokyo Electric Power Company (TEPCO) in Japan.	Investment in GK Kimitsu in the total amount of JPY 10,897,948,800				
46. Future Asset Management Kabushiki Kaisha	FAM	Investment in renewable energy business	JPY 446,510,000.00	44,651	JPY 10,000	44,651	Shares holding by BGP 100.00
47. Singapore An Yang Pte. Ltd.	SAY	Oversea Investment	USD 150,29,991	150,29,991	USD 1	150,29,991	Shares holding by BGP 100%
48. Singapore Yun Yang Pte. Ltd.	SYU	Oversea Investment	USD 150,00,000	150,00,000	USD 1	150,00,000	Shares holding by BGP 100%
49. Tri Viet Hoa Binh Joint Stock Company	TVHB	Oversea Investment	VND 309,179,000,000	3,091,790	VND 100,000	3,091,790	Shares holding by SAY 99.99%
50. Tri Viet Tay Ninh Joint Stock Company	TVTN	Producing and distributing 30 MW of solar power on ground installed for sale to Vietnam Electricity Group, Vietnam.	VND 244,300,000,000	2,443,000	VND 100,000	2,443,000	Shares holding by TVHB 99.94%
51. Bach Khoa A Chau Hoa Binh Joint Stock Company	BKHB	Oversea Investment	VND 301,606,000,000	3,016,060	VND 100,000	3,016,060	Shares holding by SYU 99.99%
52. Bach Khoa A Chau Tay Ninh Joint Stock Company	BKTN	Producing and distributing 30 MW of solar power on ground installed for sale to Vietnam Electricity Group, Vietnam.	VND 301,606,000,000	2,366,000	VND 100,000	2,366,000	Shares holding by BKHB 99.94%

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	% of Holding
53. GUNKUL ENGINEERING (MYANMAR) COMPANY LIMITED	GKM	Oversea Investment	USD 50,000	50,000	USD 1	50,000	Shares holding GKE 100%
54. Doan Son Thuy Investment Joint Stock Company	DST	Producing and distributing 50 MW of solar power on ground installed for sale to Vietnam Electricity Group, Vietnam.	VND 300,000,000,000	30,000,000	VND 10,000	30,000,000	Shares holding by GKE 99.95%
55. INT Energy Pte. Ltd.	INT	Oversea Investment	USD 9,100,000.00	9,242,242	USD 0.98	9,100,000	Shares holding by BGP 100%
56. Tan Chau Nang Luong Joint Stock Company	TCE	Producing and distributing 50 MW of solar power on ground installed for sale to Vietnam Electricity Group, Vietnam.	VND 180,000,000,000	18,000,000	VND 10,000	18,000,000	Shares holding by INT 99.50%

Remark: ¹⁾ GUNKUL is one of shareholder of N.K. Power Solar Co., Ltd. by holding 23,058 common shares and 2,940 preferred shares. The right of voting for common share is one share per one vote and preferred share is one share per 20 votes.

²⁾ On 19th August 2015, the Extra-Ordinary General Meeting of Shareholders No. 1/2558 passed the approval resolution to acquire IAE's common shares in proportion of 67 percent which IAE is a majority shareholder in RNS in the proportion of 99.99 percent.

On 19th December 2019, the Board of Directors Meeting No. 7/2562 passed the approval resolution to acquire 33% of the additional shares in IAE which held 99.99% of the RNS.

³⁾ GUNKUL is shareholder of GIM by holding 100.00 percent of shares and GIM holds in GIS at 100.00 percent of shares and GIS hold in GMP at 100.00 percent of shares.

⁴⁾ GMP is shareholder of GKWCP-1 by holding 51 percent.

⁵⁾ On 19th August 2015, the Extra-Ordinary General Meeting of Shareholders No. 1/2558 passed the approval resolution to invest in GK Sendai and GK Kimitu through GIM at the ratio of 100 percent.

⁶⁾ On 19th August 2015, the Extra-Ordinary General Meeting of Shareholders No. 1/2558 passed the approval resolution to invest in GK Utsunomiya through GIM at the ratio of 100 percent (Signed on 25th August 2016).

⁷⁾ On 19th August 2015, the Extra-Ordinary General Meeting of Shareholders No. 1/2558 passed the approval resolution to invest in East Japan Solar 13 Godo Kaisha through GIM at the ratio of 100 percent (Signed on 29th November 2016).

⁸⁾ On 28th June 2018, the Extra-Ordinary General Meeting of Shareholders No. 1/2561 passed the approval resolution to purchase ordinary share of FEC at the ratio of 99.99 percent. Therefore, the Company indirectly holds 99.99 percent in FEC.

15.3 Affiliates / Joint Ventures

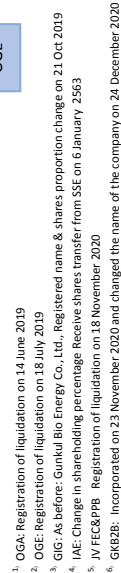
Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Number of Shares holding by GUNKUL (Shares)	Joint Venture	% of Holding
1. G - Power Source Co., Ltd.	GPS	Production and distribution of electricity from renewable energy in the capacity of 26 MW by generating to the PEA.	930,000,000.00	9,300,000	100.00	3,719,998	Electricity Generating Public Co., Ltd.	40.00
2. Gunkul Chubu Powergen Co., Ltd. ¹⁾	GCPG	Production and distribution of electricity from renewable energy in the capacity of 30.9 MW by generating to the PEA.	992,000,000.00	9,920,000	100.00	5,059,195	Chubu Electric Power Gem B.V.	51.00
3. Siam Wind Energy Co., Ltd. - Registration of dissolution: On 19 June 2017 - Registration of liquidation: On 2 August 2017	SWE	To carry out the production and distribution of electricity from renewable energy for sale to government entities	1,000,000.00	10,000	100.00	4,000	Person	40.00
4. Kenyir Gunkul Solar Snd. Bhd. ²⁾	Kenyir	Produces and sells electricity from solar panels installed on the ground of 29.99 MW in Malaysia	RM 37,500,001.00	38,316,444	RM 1.00	(Ordinary shares) 500,000	Company in Malaysia	49.00
					RM 0.57 and 1.400	(Preferred shares) 28,223,687		70.00
5. WHA Gunkul Green Solar Roof 1 Co., Ltd.	WHA_GSR-1	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	11,500,000.00	1,150,000	10.00	287,615	WHA Corporation Public Co., Ltd.	25.01
6. WHA Gunkul Green Solar Roof 2 Co., Ltd. - Registration of dissolution: On 19 June 2017 - Registration of liquidation: On 2 August 2017	WHA_GSR-2	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	1,000,000.00	100,000	10.00	25,010	WHA Corporation Public Co., Ltd.	25.01
7. WHA Gunkul Green Solar Roof 3 Co., Ltd.	WHA_GSR-3	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	14,500,000.00	1,450,000	10.00	362,645	WHA Corporation Public Co., Ltd.	25.01
8. WHA Gunkul Green Solar Roof 4 Co., Ltd. - Registration of dissolution: On 12 SEP 2017 - Registration of liquidation: On 12 OCT 2017	WHA_GSR-4	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	1,000,000.00	100,000	10.00	25,010	WHA Corporation Public Co., Ltd.	25.01
9. WHA Gunkul Green Solar Roof 5 Co., Ltd. - Registration of dissolution: On 12 SEP 2017 - Registration of liquidation: On 12 OCT 2017	WHA_GSR-5	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	1,000,000.00	100,000	10.00	25,010	WHA Corporation Public Co., Ltd.	25.01

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Shares holding by GUNKUL (Shares)	Joint Venture	% of Holding
10. WHA Gunkul Green Solar Roof 6 Co., Ltd.	WHA_GSR-6	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	14,500,000.00	1,450,000	10.00	382,645	WHA Corporation Public Co., Ltd.	25.01
11. WHA Gunkul Green Solar Roof 8 Co., Ltd.	WHA_GSR-8	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	100,000.00	10,000	10.00	2,501	WHA Corporation Public Co., Ltd.	25.01
- Registration of dissolution: On 12 SEP 2017								
- Registration of liquidation: On 12 OCT 2017								
12. WHA Gunkul Green Solar Roof 9 Co., Ltd.	WHA_GSR-9	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	100,000.00	10,000	10.00	2,501	WHA Corporation Public Co., Ltd.	25.01
- Registration of dissolution: On 12 SEP 2017								
- Registration of liquidation: On 12 OCT 2017								
13. WHA Gunkul Green Solar Roof 10 Co., Ltd.	WHA_GSR-10	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	15,500,000.00	1,550,000	10.00	387,655	WHA Corporation Public Co., Ltd.	25.01
- Registration of dissolution: On 12 SEP 2017								
- Registration of liquidation: On 12 OCT 2017								
14. WHA Gunkul Green Solar Roof 16 Co., Ltd.	WHA_GSR-16	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA	100,000.00	10,000	10.00	2,501	WHA Corporation Public Co., Ltd.	25.01
- Registration of dissolution: On 12 SEP 2017								
- Registration of liquidation: On 12 OCT 2017								
15. WHA Gunkul Green Solar Roof 17 Co., Ltd.	WHA_GSR-17	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	16,000,000.00	1,600,000	10.00	400,160	WHA Corporation Public Co., Ltd.	25.01
16. SPI & GPD Joint Venture	JV SPI&GPD	Cleaning service and Shipping goods from the boat.	500,000	-	-	-	SP International Engineering Co., Ltd.	50.00

Remark: ¹⁾ Gunkul Chubu Powergen Co., Ltd. is a joint venture. The Board authorized the signing of joint control.

²⁾ On 21st February 2018, the Board of Directors Meeting No. 1/2561 passed the approval resolution to purchase share of Kenyir Gunkul Solar Srd Bhd., by holding 49.00 percent of the ordinary shares and holding 70.00 percent of the preferred shares.

As of 31st December 2019



15.5 Other References

Regulator	The Securities and Exchange Commission, Thailand (SEC) 333/3 Vibhavadi-Rangsit Road, Chomphon, Chatuchak Bangkok 10900, Thailand Tel. +66 2033 9999 Fax. +66 2033 9660
Regulator	The Stock Exchange of Thailand (SET) 93 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400 Tel. +66 2009 9999 Fax. +66 2009 9991
Share Registrar	Thailand Securities Depository Company Limited (TSD) 93 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400 Tel. +66 2009 9999 Fax. +66 2009 9991
Auditor	KPMG Phoomchai Audit Ltd. Fl. 50-51 Empire Tower No.1 South Sathorn Rd, Yannawa, Sathorn Bangkok 10120 Tel. +66 2677 2000 Fax. +66 2677 2222
Legal Advisor	Kudun and Partners Co., Ltd. 973 President Tower, 14 Floor, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330 Tel. +66 2656 0813 Fax. +66 2656 0814
Financial institution	Siam Commercial Bank PLC. 9 Ratchadaphisek Road, Jatujak, Bangkok 10900 Tel. +66 2544-1000 Fax. +66 2544-4948

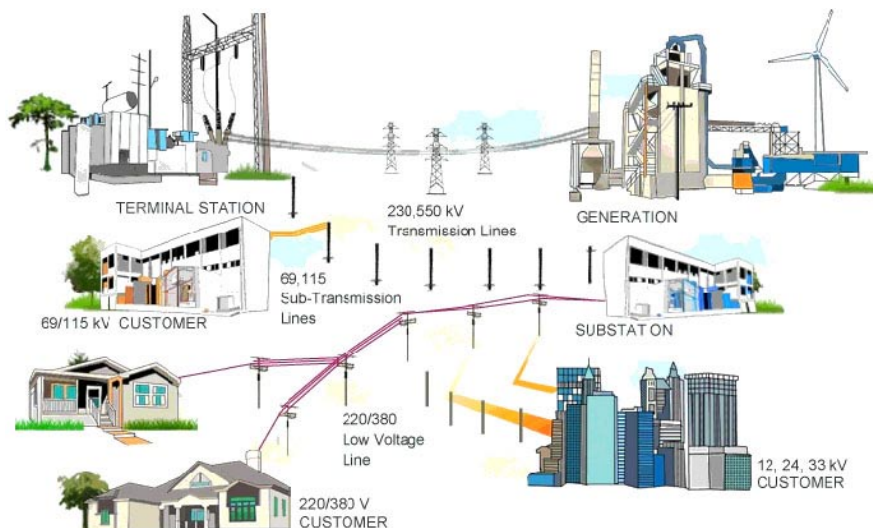
16.1 Perspective of the group business structures

The power system of Thailand consists of two main components:

1. Electricity Production
2. Transmission and distribution

The transmission of electricity from power plants to consumers must go through the various sub-systems including the high voltage grid, power station system, the distribution system, and underground cables, shown in the diagram below.

Diagram of electric transmission and distribution system of Thailand



Business of the Company's group could be classified as follows:

1. Business of manufacture, supply and distribution of equipment for electrical system both in domestically and internationally
 - 1.1 Equipment for transmission lines, Protect and cut the electrical system size 22kV, 33kV and 115kV such as Load Break Switch SF6, Surge Arrester, Disconnecting Switch, Drop Out Fuse etc.
 - 1.2 Equipment for Grounding System, Lightning Rod (LPS System)
 - 1.3 Lighting and electric energy meter such as Smart Meter, Street Lighting etc.
 - 1.4 115kV Power Station Structure (Substation)
 - 1.5 Tools and Personal Safety
2. Business of manufacture, supply and distribution of energy-saving products including appropriate alternative energy
 - 2.1 To produce and supply "Lighting Lamp" LED type, BIPV Glass, Flexible Solar PV including appropriate alternative energy.
 - 2.2 To produce and supply solar cell module including equipment supply which related to the solar power system.

3. Business to produce and distribute electricity from renewable energy resources in domestically and internationally
 - 3.1 Solar Farm and Solar Ground
 - 3.2 Solar PV Rooftop
 - 3.2.1 Production for distribution to the Electricity Authority (PEA / MEA)
 - 3.2.2 Production for distribution to the Private PPA
 - 3.2.3 For Residential and Small Scale Business
 - 3.3 Floating Solar Farm
 - 3.4 Wind Farm
 - 3.5 Biomass Energy including the procurement of raw materials for biomass power plants
4. Engineering Procurement and Construction
 - 4.1 Renewable Energy Power Plant Construction
 - 4.2 Construction of Electricity Station, Transmission System and Underground System
 - 4.3 Procurement and service of underwater cable installation and equipment that related to all types of underwater cables
 - 4.4 Design, procurement and installation of micro-grid systems, energy storage system and intelligent electrical equipment that involved.
5. Business of Power Plant Maintenance Services

16.2 Business Goals.

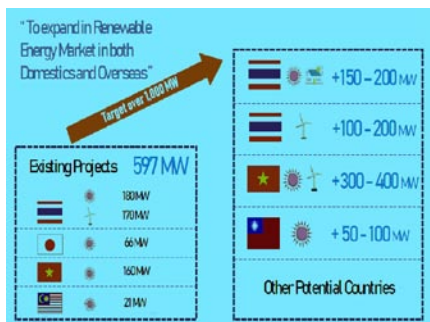
In 2020, the Company has a business goal defined as follows;

1. Maintain the customer base of the organization, including the Provincial Electricity Authority (PEA), Metropolitan Electricity Authority, the Electricity Generating Authority of Thailand, Private sector both domestically and internationally, and the Electricity Authority of the Republic of the Union of Myanmar, Lao People's Democratic Republic, Japan Malaysia and Socialist Republic of Vietnam etc.
2. Expand the domestic and international customer base to be more extensive to increase the market share.
3. Provide new products to meet customer needs.
4. Study an investment and expand a renewable energy business both in domestically and internationally.
 - Electricity generating business by applying to a government agencies for direct electricity purchase agreement including joint ventures with other operators which have power purchase agreements.
 - Distribution business of alternative energy equipment
 - Construction business
 - Power plant maintenance business
 - Consulting business related to renewable energy
 - Any other business related
5. Complete the construction of the renewable energy power plant as specified in the power purchase agreement with the counterparties.
6. Study the investment in biomass and biological power plants or alternative energy, both domestically and internationally.
7. Increase business partnerships to increase business security.
8. Enhance the efficiency of operations to support the expansion of business by adopting advanced technologies, such as information network in the enterprise, video conferencing.
9. Develop staff ability to keep pace with the growth of the Company.
10. Promote corporate social responsibility (CSR) and sustainable growth of the Company.
11. Control the Company's performance and the Group to comply with the rules of the corporate governance and with an effective internal control.
12. Encourage the organization to comply with anti-corruption measures.

3 - 5 years Business Plans

Gunkul Engineering Public Company Limited is committed to being the leader in integrated renewable energy and power systems business with leading technology to develop sustainable infrastructure. The business model of generating electricity from renewable energy and related business which the Company takes an interest in the following businesses:

- Solar Cell Power Plant
- Wine Turbine Power Plant
- Biomass Power Plant
- E-commerce platform business



The Company's targets within year 2021, the Company will have renewable power plants in the domestically and internationally, with a total capacity not less than 1,000 Megawatts (MW). The Company aims to invest a power plant in Asian, such as Thailand, Japan, Vietnam, Malaysia and Taiwan, respectively.

The investment in power plants in Thailand, the Company has prepared to develop and invest in Solar power plants, Other alternative power plants, Smart grid network system, Submarine cable project to various islands, Power station construction project and the construction project of high-voltage transmission lines according to the power development plan and the National Energy Policy Council. In addition to this, the Company is also interested in the installation of solar roof power plants to sell electricity to industrial plants and department stores including projects that provide solar roof installation services for interested homes. In 2018, the Company expanded the business of installing solar power generation systems to support the growth of renewable energy in the household sector by launching the brand "GRoof" to focus on meeting the requirement of customers in this group and continuously growing in 2019 and 2020.

In addition, the company launched the GUNKUL SPECTRUM business, which is an e-commerce platform that extends the business based on the company's original foundation to bring technology as a component in business operations to create more competitive and reach end users.

For the power plant investment in abroad, the Company focused on investing in the countries with high political stability, such as Japan, Vietnam and Malaysia, which the Company has started the investment and studied the feasibility of investing in renewable energy power plants since the end of 2014. At present, the Company has invested in solar power plants in Japan totaling 66 megawatts including invested 29.99 MW in solar power plants in Malaysia and 160 MW of solar power plants in Vietnam.

In addition, from the policy of being a leader in the production of electricity from renewable energy, the Company continues to develop new products and original products by focusing on research and development to get competitive advantage by emphasizing engineering value and also promotes continuous product quality development to deliver satisfaction to our customers. This will lead to the acceptance of the "GUNKUL" brand and build loyalty to the Company's brand and products. The products which developed by the Company are support the growth of the Company and increase the chances of a new products, sales channels and the market value which will rise for the next two to three years such as;

- Products for construction and building projects, such as grounding system and lightning protection devices.
- LED Lamp product in brand "GLO" and "GUNKUL"
- Lighting equipment which have LED as a component.
- Electronic meter (AMI) and Mechanical watt-hour meter.
- Solar Panel brand "GUNKUL".

The Company expects to develop new products based on above which will increase the market value and growth rate of the Company's high-voltage equipment manufacturing and distribution business. To maintain annual growth rate, not to be less than 15%, and to maintain the leading position in Thailand's high-voltage equipment manufacturer and distributor market and can create mutual pride with the Company in the future.

16.3 Change and Development of the Company and its subsidiaries are as follows:

Year 1982	- Establishment of Gunkul Engineering Co., Ltd. with registered capital of 1,000,000 baht. (At present, the registered capital is 2,225,586,448 bath and paid-up capital is 2,220,632,743.50 bath)
Year 1992	- Establishment of G.K. Assembly Co., Ltd with registered capital of 2,000,000 baht (Current registered capital: 200,000,000 baht and the Company holding shares in the ratio of 99.99%) - Establishment of G.K. Power Product Co., Ltd. (Formerly known as Kerney (Thailand) Co., Ltd.), with registered capital of 2,600,000 baht. (Current registered capital: 100,000,000 baht and the Company holding shares in the ratio of 99.99%)
Year 1993	- Establishment of K.N.P. Supply Co., Ltd. with registered capital of 1,000,000 baht. (Current registered capital: 12,500,000 baht and the Company holding shares in the ratio of 99.99%)
Year 2009	- Gunkul Engineering Co., Ltd. increased its registered capital from 300,000,000 baht to 400,000,000 baht and changed the par value of ordinary shares from 100 baht to 1 baht per share. - The Company is transformed into a public limited company and changed its name to "Gunkul Engineering Public Company Limited". - On December 11, 2009, Establishment of Gunkul Powergen Co., Ltd. with registered capital of 100,000,000 baht to produce and sell electricity from renewable energy. (Current registered capital: 992,000,000 baht and the Company holding shares in the ratio of 51%)
Year 2010	- On October 11-13, 2010, the Company has made an initial public offering of 100,000,000 shares, representing 25% of the total number of 400,000,000 ordinary shares with a par value of 1.00 baht each, at a price of 5.40 baht. - On October 15, 2010, the Stock Exchange of Thailand added GUNKUL securities as new securities on the Stock Exchange of Thailand. - On October 19, 2010. GUNKUL securities traded on the Stock Exchange of Thailand for the first day (First Day Trade). - On November 19, 2010, the Company acquired the common stock of G-Power Source Co., Ltd. which operates in the production and distribution of electricity from solar energy and being a party with the Provincial Electricity Authority (PEA) which has 4 contracts of power purchase agreements in a total of 26 Megawatts (MW) with a period of 25 years and is supported by an additional electricity charge of 8.00 baht per unit for a period of 10 years. This project also receives promotional privileges from the Board of Investment (BOI). The Company has purchased 9,898 ordinary shares, holding 98.98% of the registered capital of 1,000,000 baht (Current registered capitals: 930,000,000 baht and the Company holding shares in the ratio of 40%) - Gunkul Powergen Co., Ltd. signed a power purchase agreement with the Provincial Electricity Authority to produce and sell electricity from solar energy, with a total of 5 contracts for a total of 30.9 megawatts of solar power for a period of 25 years. The price for the electricity purchase (Adder) from the Provincial Electricity Authority at the price of 8.00 baht per unit for a period of 10 years, including the project is also received a benefit of investment support from the Board of Investment (BOI).

Year 2012 - On March 30, 2012, the Company sold shares of G-Power Source Co., Ltd. to The Electricity Generating Public Company Limited of 4,500,000 shares, representing a total stake of 60% of the registered capital 750,000,000 baht. (Currently registered 930,000,000 baht and the Company holding shares in the ratio of 40%)

- On May 15, 2012, the Company acquired the shares of Wind Energy Development Co., Ltd. from Impact Energy Asia Co., Ltd., which operates production and distribution of electricity from wind energy. This is a power purchase agreement with the Electricity Generating Authority of Thailand, in the amount of 1 contract of 50 MW and the Provincial Electricity Authority of 2 contracts of 8 MW and 2 MW, totaling 60 MW and has been supporting the electric margin (Adder) 3.50 baht per unit, the Company acquired the common stock of 5,460,000 shares, representing a stake of 70% of the registered capital 78,000,000 baht. (Current registered capital 1,575,000,000 baht and the Company holding shares in the ratio of 99.99%)

Year 2013 - On January 31, 2013, the Company acquired a stake in NK Power Sola Co., Ltd. which operates and distributes electricity from solar power by having a contracting party to the Electricity Generating Authority of Thailand, with 1 MW power purchase agreement, representing as 49.00% shareholding. The Company holding shares as 9,799 ordinary shares and 2,940 preferred shares. The voting right for 1 ordinary share is 1 vote and 1 preferred stock is 20 shares. (Currently registered capital 2,600,000 baht However, In 2016, the Company received transfer ordinary shares from the ordinary shareholders for 13,259 shares. The total number of ordinary shares is 23,058 shares and 2,940 preferred shares, representing as holding shares in the ratio of 99.99%)

- On February 25, 2013, the Company sold common shares in Gunkul Powergen Co., Ltd. to Chubu Electric Power Gem B.V., Japan in the amount of 4,860,800 shares, equivalent to 49.00% of the registered capital of 992,000,000 baht. (The current registered capital is 992,000,000 baht and the Company holds 51.00% of the shares.)

- On June 13, 2013, Establishment of Siam Wind Energy Co., Ltd., which operates production and distribution of electricity from renewable energy by emphasized on wind energy. The Company holding shares at the ratio of 40% of the registered capital 1,000,000 baht. (This company registered the dissolution of the company on June 19, 2017 and the liquidation was completed on August 2, 2017.)

- The Company registered the Establishment of Gunkul International (Mauritius) ("GIM") in the Republic of Mauritius. The Company held a stake of 100% of the 12,000 USD registered capital in GIM and establish Gunkul International (Singapore) Pte. Ltd. ("GIS") and Gunkul Myanmar Power (Hlawga) Pte. Ltd. ("GMP") in Singapore. GIM held a stake of 100% of the 28,000-SGD registered capital in GIS, and GIS held a stake of 100% of the 14,000-SGD registered capital in GMP with the objective of expanding investment in foreign companies. (GIS registered the dissolution of the company on June 4, 2019, and GMP changed the company name to Gunkul International Investment (Singapore) Pte. Ltd. ("GII") in which GIM holds shares directly in GII.) (Currently, GIM has a registered capital of 134,825,624 USD and GII has a registered capital of 284,829-SGD.)

- On July 1, 2013, Gunkul Powergen Co., Ltd., changed name into Gunkul Chubu Powergen Co., Ltd.

- On August 29, 2013, The Company has established a subsidiary company, Siam Gunkul Solar Energy Co., Ltd. to operate the business of producing and distributing electricity from power plants installed on the roof, registered capital 1,000,000 baht, with a par value of 100 baht. (Current registered capital 40,900,000.00 baht and the Company holding shares in the ratio of 99.99%)

- In August 2013, the Company established Gunkul Solar Roof 1 Co., Ltd. (GSR-1), Gunkul Solar Roof 2 Co., Ltd. (GSR-2), Gunkul Solar Power 1 Co., Ltd. (GSP-1), Gunkul Solar Power 2 Co., Ltd. (GSP-2), Bright Green Power Co., Ltd. (BGP) and Solar Energy Society Co., Ltd. (SES) in order to operate the production and distribution of electricity from power plants that installed on the roof, in which the Company holds 99.97% of the registered capital of 1,000,000 baht

- BGP has expanded the business to invest in companies that related to the renewable energy business.
 - On March 16, 2017, Gunkul Solar Roof 2 Co., Ltd. ("GSR-2") changed name into Gunkul Training Center Co., Ltd. ("GTRC") with the purpose of education services, management of seminars, training management and other related to education.
(The current registered capital of GSR-1 is 21,000,000 baht, GTRC is 1,000,000 baht, GSP-1 is 100,000,000 baht, GSP-2 is 100,000,000 baht, BGP is 190,000,000 baht and SES are 500,000,000 baht. The Company held stakes in GSR-1, GSP-1, GSP-2, BGP, SES as 99.99% and in GTRC as 99.97%).
 - In August 2013, the Company established Gunkul Power Development Co., Ltd. to operate the solar rooftop power generation and distribution for supplying to the Provincial Electricity Authority and the Metropolitan Electricity Authority, as well as to operate businesses of constructing power plant and distributing equipment for electrical and other systems related to power plant construction. The Company held a stake of 99.99% of the 1,000,000 baht registered capital (The current capital is 300,000,000 baht and the Company holding shares in the ratio of 99.99%).
 - In August 2013, WHA Corporation PCL, established WHA Gunkul Green Solar Roof 1 Co., Ltd. (WHA_GSR-1), WHA Gunkul Green Solar Roof 2 Co., Ltd. (WHA_GSR-2), WHA Gunkul Green Solar Roof 3 Co., Ltd. (WHA_GSR-3), WHA Gunkul Green Solar Roof 4 Co., Ltd. (WHA_GSR-4), WHA Gunkul Green Solar Roof 5 Co., Ltd. (WHA_GSR-5), and WHA Gunkul Green Solar Roof 6 Co., Ltd. (WHA_GSR-6), in which the Company held stakes of 25.01% of their respective 1,000,000 baht registered capitals, to operate solar rooftop power generation and distribution business for supplying to the Provincial Electricity Authority and the Metropolitan Electricity Authority. (Currently registered capital of WHA_GSR-1 is 11,500,000 baht, WHA_GSR-3 is 14,500,000 baht and WHA_GSR-6 is 14,500,000 baht and the Company still holding shares in the ratio of 25.01%. For WHA_GSR-2, WHA_GSR-4 and WHA_GSR-5 completed liquidated the companies).
 - In September 2013, WHA Corporation PCL established WHA Gunkul Green Solar Roof 8 Co., Ltd., WHA Gunkul Green Solar Roof 9 Co., Ltd., WHA Gunkul Green Solar Roof 10 Co., Ltd., WHA Gunkul Green Solar Roof 16 Co., Ltd., and WHA Gunkul Green Solar Roof 17 Co., Ltd., which the Company held stakes of 25.01% of their respective 100,000 baht registered capitals, to operate solar rooftop power generation and distribution business for supplying to the Provincial Electricity Authority and the Metropolitan Electricity Authority. (Currently registered capital of and WHA_GSR-17 is 16,000,000 baht and the Company still holding shares in the ratio of 25.01%. For WHA_GSR-8, WHA_GSR-9, WHA_GSR-10 and WHA_GSR-16 completed liquated the companies).
- Year 2014
- On February 13, 2014, the Company had acquired common shares in Greenovation Power Co., Ltd. ("GNP") from Impact Energy Asia Limited ("IEA") which do business as a Power Producer from wind energy resource and being a contract partner with Electricity Generating Authority of Thailand and has a Power Purchase Agreement (PPA) in capacity of 60 MW. The Company purchased 199,998 ordinary shares, which is 99.99% of the total 200,000 registered shares, registered capital of 2,000,000 baht. (Currently registered capital is 1,485,000,000 baht and the Company still holding shares in the ratio of 99.99%).
 - On April 17, 2014, The Company established a subsidiary company, Gunkul LED Lighting Co., Ltd., to operate the production and distribution of LED lighting products (LED) which the Company held stakes of 74.79% of their respective 10,000,000 baht, registered capitals.
(On February 21, 2018, Gunkul LED Lighting Co., Ltd. changed its name to Gunkul Energy Solution and Lighting Co., Ltd., by expanding the objectives to conduct a full range of electrical system services).
(Current registered capital is 100,000,000 baht and the Company holding shares in the ratio of 99.99%).

- On June 2, 2014, the Company had acquired additional ordinary shares in the amount of 31,563,000 shares, equivalent to 30% of the total registered capital of 1,052,100,000 shares of Wind Energy Development Co., Ltd. from Impact Energy Asia Co., Ltd., which operates in the production and distribution of electricity from wind power. (current capital: 1,575,000,000 baht and the Company holding shares in the ratio of 99.99%).
- On June 16, 2014, the Company had established a new subsidiary to carry out the Generating Electrical Power and Engineering Procurement and Construction named Gunkul Solar Community Co., Ltd., in which the registered capital of 1,000,000 at par value of 100 baht (Current registered capital 20,000,000 baht and the Company holding shares in the ratio of 99.99%).
- On December 17, 2014, Gunkul International (Mauritius) (GIM), a subsidiary of the Company, purchased shares of Sendai Okura Mega Solar Godo Kaisha ("GK Sendai"), which is incorporated in Japan by operating the solar power plant business with 31.75 Megawatts (MW) contract capacity (38.10 Megawatts installed capacity) located in Miyaki, Japan. GK Sendai produces electricity from solar energy and sells the electricity to Tohoku Electric Power Co., Inc. ("Tohoku Electric") in Japan, the local utility, at JPY 36 per unit in feed in tariff scheme of a period 20 years which the Company invests in the ratio of 100%. (Changed name into "Sendai Okura GD Daiichi Godo Kaisha")

Year 2015	- On February 23, 2015, the Company has purchased the ordinary shares of Korat Wind Energy Co., Ltd. ("KWE") from Quantitus Engineering Co., Ltd. ("QE") which engaged in the business of generating electricity from wind energy for distribution to the EGAT of 50 megawatts, at 9,998 shares or equivalent to 99.98% of total registered shares of 10,000 shares. (Current registered capital 1,107,000,000 baht and the Company holding shares in the ratio of 99.99%). - On March 9, 2015, Wind Energy Development Co., Ltd. ("WED"), which is the one of the Company's subsidiaries, has invested in the wind turbine power plant project. WED has signed the contract in PPA in the capacity of 50 MW of wind turbine power plant from Electricity Generating Authority of Thailand ("EGAT") as well as the capacity of 8+2 MW with 3.50 baht, adder from Provincial Electricity Authority ("PEA") for the period of 10 years. - On June 23, 2015, the Company has informed the information technology of investment in the wind turbine power plant of Greenovation Power Co., Ltd. ("GNP"), with a power purchase agreement between GNP and EGAT. This power plant is situated in Huay Bong Sub-district, Dan Koon Tod District, Nakorn Ratchasima Province with the expected complete construction and commercially distribution within the first quarter of 2017. - On August 19, 2015, the Extraordinary General Meeting of Shareholders No. 1/2015 passed the following resolutions: - Ratified the Company in investing in the capacity of 60 MW wind turbine power plant with Greenovation Power Co., Ltd. - Ratified the Company in investing in the capacity of 31.75 MW solar cell power plant; Sendai Okura Mega Godo Kaisha ("GK Sendai") (Changed name into "Sendai Okura GD Daiichi Godo Kaisha") in Japan. - Approved the Company in purchasing 67% of ordinary shares of Infinite Alternative Energy Co., Ltd. ("IAE") which is a shareholder of Rang Ngern Solution Co., Ltd. ("RNS"). RNS is the counterparty in the power transaction of the solar cell power plant and the capacity of 87 MW. (Current registered capital of IAE is 1,564,000,000 baht and RNS is 1,355,000,000 baht) - Approved the Company in investing in the capacity of 33.50 Megawatts (MW) solar cell power plant; Kimitsu Okura Mega Solar Godo Kaishi ("GK Kimitsu") (Changed name into "Kimitsu Mega Solar Godo Kaisha") in Japan by production and distribution of electricity from solar power to the Tokyo Electric Power Company (TEPCO) in Japan.

- Approved the Company in acquiring source of investment fund as the capital increase by issuing the newly ordinary share to the Company's existing shareholders in proportion to their respective shareholding (Right Offering) and issue the warrant certificate to the Company's existing shareholders who wish to exercise their right in purchasing the ordinary shares of the Company. These newly ordinary shares issuance for Right Offering shall be not more than 274,981,118 shares at the par value of Baht 1 per share. Details are as follows:

1. Issuing not more than 183,320,745 newly ordinary shares at the par value of 1 baht per share to the existing shareholders of the Company in proportion to their respective shareholding (Right Offering) of 6 existing shares to 1 unit of warrants (disregarding the fraction). The offering price is 22 baht per share.

In the event, that there are remaining amount of the newly issued ordinary shares after the issuance to the existing shareholders of the company, the company shall allocate such amount to the shareholders who express their intention in purchasing the newly issued ordinary shares apart from the proportion to their respective shareholding until the full amount is completely allocated, unless the remaining is the fraction which cannot be allocated or no more shareholder expresses personal intention in purchasing the newly issued ordinary shares.

2. Issuing not more than 91,660,373 newly ordinary shares at the par value of 1 baht per share to the existing shareholders of the Company in proportion to their respective shareholding (Rights Offering) of 2 existing shares to 1 unit of warrants for the exercise of right of GUNKUL-W.

- On November 4, 2015, the Company informed the information of the establishment of GO Bioenergy Co., Ltd. to conduct electricity business from biomass which the Company holds 74.90% of the shares and Outgrow Energy Consult Co., Ltd. holds 25.10% of the registered capital of 34,300,000 baht. (Current registered capital is 34,300,000 baht)
- The above company has acquired 99.99% of the shares in Outgrow A Co., Ltd., Outgrow B Co., Ltd., Outgrow D Co., Ltd., Outgrow E Co., Ltd., Outgrow Wood Supply A Co., Ltd. and Outgrow Wood Supply B Co., Ltd. which are all doing a business about electricity from biomass power.
- On November 12, 2015, the Company has made a purchase transaction of 150,000 ordinary shares in Gunkul LED Lighting Co., Ltd. (Current name: Gunkul Energy Solution and Lighting Co., Ltd.) from the original shareholders, equivalent to 15% of the registered capital. In total, the Company holds 899,999 shares, representing 90% of the total shares.
(Current registered capital is 100,000,000 baht and the Company holding shares in the ratio of 99.99%).
- In December, the Company has made a purchase transaction of 255,000 ordinary shares in Eco Thai Energy Co., Ltd., representing 51% of the 500,000 registered shares or registered capital of 50,000,000 baht. (Current registered capital is 76,500,000 baht and the Company holding shares in the ratio of 51%).

- Year 2016
- On January 21, 2016, the Extraordinary General Meeting Shareholders No.1/2016 passed a resolution to increase the authorized capital of the Company up to 41,500,000 shares valued at par value 1 baht to the Siam Commercial Bank, which is offering a private placement. The price per share was 22.84 baht per share.
 - On April 26, 2016, Annual General Meeting of Shareholders for 2016 resolved to:
 - Approve the change of the par value per share of the Company from 1.00 baht per share to be 0.25 baht per share
 - Approve an increase in the registered capital of the Company in order to support the stock dividend and to accommodate the exercise of the Warrants. The warrants to purchase the common shares of the Company 1 (GUNKUL-W). After the revaluation of capital stock shares. The new capital total 1,416,405,589 baht changed to 1,699,686,359 baht. Issuing new ordinary shares amount 1,133,123,080 shares at par value of 0.25 baht per share.

- Approve the adjustment of the warrants to purchase common shares of the Company No. 1 (GUNKUL-W).
As per the exercise Ratio 1 warrant: 1 common share to 1 unit: 4.8 common share, and the exercise price of 27.00 baht per share to 5.625 baht per share.
 - Approve the increase in the amount of issuance and offering of debentures in the amount of 2,000 million baht.
Thus, from the original limit not exceeding 1,000 million baht, adjusted to a new limit not exceeding 3,000 million baht, not more than 7 years old.
-
- On April 27, 2016, the Company filed a registration with the Department of Business Development, Ministry of Commerce to change the par value of one baht to be 0.25 baht.
-
- On August 10, 2016, the Company informed the information of the establishment of Gunkul Bio Energy Co., Ltd., to produce raw material for the biomass power plant, the Company held 99.94% of the registered capital of 500,000 baht (Current registered capital of 2,000,000 baht)
(October 21, 2019, Gunkul Bio Energy Co., Ltd. changed its name to Gunkul Infinite Group Co., Ltd. in order to support the expansion of the rental, sublease and property management business, production and distribution of electricity from alternative energy or other energy in all respects, including the power plant business for distribution to private and state agencies)
-
- On August 25, 2016, the Board of Directors Meeting No. 6/2016 resolved to approve Gunkul International (Mauritius) ("GIM"), a subsidiary of the Company, to enter into the investment transaction in the GD Utsunomiya solar power plant project. (Changed name into "GD Solar Utsunomiya Godo Kaisha" "GK Utsunomiya"), which locates in Utsunomiya City, Tochigi Province, Japan. The capacity under power purchase of 66.78 MW, Installed of 72.80 MW, The manufacturer and distributor of solar power to the Tokyo Electric Power Company ("TEPCO") in Japan was awarded the concession to sold electricity to TEPCO in Japan, period 20 years. The rate of purchase power feed-in tariff (FIT) Yen 36 per unit.
-
- On October 12, 2016, the Board of Directors Meeting No. 7/2016 resolved to approve the Company to acquire preferred shares in BMP Solar Co., Ltd. ("BMPS"), which operates the solar power plant business with the capacity of 8.0 MW, at the amount of 48,000 shares, equivalent to 48.98% of the paid-up registered capital, totaling 98,000 shares. (Consisting of 50,000 ordinary shares and 48,000 preferred shares) The Company has the right to receive dividends from operations and voting rights in the proportion of 99.99%. This power plant is located Tha Carter, Watthana Nakhon district, Srakaew Province by receiving the power purchase rate of Feed-in-Tariff (FiT) is 5.66 baht per unit for a period of 5 years. (Current registered capital is 980,100 baht and the Company holding shares in the ratio of 48.98%).
-
- On November 29, 2016, the Extraordinary General Meeting of Shareholders No. 2/2016 passed a resolution as details:
 - Approved Gunkul International (Mauritius) ("GIM"), a subsidiary of the Company, to entered into an investment in solar power plant projects in East Japan Solar 13 Godo Kaisha ("GK Iwakuni") Iwakuni City, Yamanguchi Province, Japan. The production capacity of the project under the Power Purchase Agreement is 75.0 MW (installed capacity 90.0 MW), which has received a concession to sell electricity to Chugoku Electric Power for a period of 20 years at the rate of purchase of feed-in Tariff (FIT) 32 yen per unit.
 - Approve the increase in the amount of issuance and offering of debentures in the amount of 3,000 million baht. Thus, from the original limit not exceeding 3,000 million baht, adjusted to a new limit not exceeding 6,000 million baht, not more than 7 years old.
-

Year 2017	- On April 21, 2017, the Annual General Meeting of Shareholders passed a resolution of shareholders to approve details as follows; - Approved the second adjustment of purchasing right for the exercise of warrant No.1 (GUNKUL-W) by adjusting an Exercise Ratio from 1 Unit: 4.8 Ordinary Share to 1 Unit: 5.6 Ordinary Share and adjusting an Exercise Price from 5.625 baht per share to 4.821 baht per share. - Approved the capital increment for supporting the dividend payment and second adjusting right of purchasing for the exercise of warrant No.1 (GUNKUL-W) from THB 1,699,685,996.75 to be the new registered capital THB 1,982,967,060.25 at the par value of THB 0.25. - Approving the issuance and offering of debentures in amount of 3,000,000,000 baht from the original amount not exceeding 6,000,000,000 baht, adjusted to a new limit not exceeding 9,000,000,000 baht, not more than 7 years old. - On May 4, 2017, the Company established a subsidiary company, Gunkul Solar Power 6 Co., Ltd. ("GSP-6") in order to produce and sell electricity from renewable energy to sell to government agencies. The Company held 99.99% of the registered capital of 100,000,000 baht. (Registered for liquidation) - On May 9, 2017, the Company established a subsidiary company, Gunkul Solar Power Co., Ltd. ("GSP") in order to produce and sell electricity from renewable energy to sell to government agencies. The Company held 99.99% of the registered capital of 560,999,100 baht (Current registered capital of 599,998,800 baht and the Company holding shares in the ratio of 99.99%). - On May 30, 2017, the Company acquired 48,000 shares in BMP Solar Co., Ltd. ("BMP Solar"). The Company will be entitled to receive dividends from its operations and rights for voting in proportion to 99.99%. This power plant is located at Tha Kwian, Watthana Nakhon District, Sa Kaeo Province. The capacity is 8.0 MW with Feed-in-Tariff (FiT) 5.66 baht per unit for a period of 25 years. The Commercial Operation Date starts from April 29, 2016. (Current registered capital of 980,100 baht and the Company holding 48,010 shares in the ratio of 48.98%). - On June 7, 2017, the Company signed a Memorandum of Understanding between BG Energy Solution Co., Ltd. and Gunkul Power Development Co., Ltd. to launch the Solar Rooftop project for its own use with the capacity of 4.84 MW at Ayudhya Glass Industries factory. - On August 16, 2017, the Company acquired additional 99,999 common shares in Gunkul LED Lighting Co., Ltd. (New name: Gunkul Energy Solution and Lighting Co., Ltd.) from the existing shareholders or equivalent to 9.99% of the current registered capital, total holding 999,998 shares or equivalent to 99.99% of total shares. (Current registered capital is 100,000,000 baht). - On September 30, 2017 is the date on which the remaining warrants to purchase the Company's ordinary shares No.1 (GUNKUL-W) have been set as listing status termination.
Year 2018	- On January 12, 2018, the Company became a shareholder in Kenyir Gunkul Solar Sdn Bhd, Malaysia holding 49% of the ordinary shares and subsequently holding the proportion of investment in preferred shares to receive dividends in the form of dividend at 70%. - On March 27, 2018, Greenovation Power Co., Ltd. ("GNP"), a subsidiary of the Company which operates wind power plant business. The Company holding 99.99% of registered and paid-up capital, GNP has operated commercial electricity ("COD") of the Saranlom Wind Farm Project which is located in Tumbon Huay Bong, Amphur Dan Khuntod, Nakhonrachasima province, with total capacity of 60 MW. These projects are supported by the government through adder at 3.50 baht per KW for 10 years started from the commercial operation date.

- On April 10, 2018, the Board of Directors of Gunkul Engineering Public Company Limited No. 2/2018 on Tuesday, April 10, 2018 resolved to approve the treasury stock program to maximize benefit from the excess liquidity management of the Company and to signal to investors on the strong financial position of the Company, with the maximum amount that used to repurchase shares not exceeding 1,000 million baht, the maximum amount of repurchased shares not exceeding 300,000,000 shares at a par value of 0.25 baht per share. The number of shares to be repurchased is equal to 4.04% of the total issued shares by specifying the period for the repurchase of shares from April 25, 2018 to October 24, 2018. The totaling repurchased shares in the above program are 93,475,100 shares or 1.26% of the total issued shares of the Company. The total value of all repurchased shares equal to 304,674,256.00 baht.

- On April 20, 2018, the Annual General Meeting of Shareholders for the year 2018 resolved to approve as follows:
 - Approval of the decrease of the registered capital of the Company totaling 513,246,748 shares, or 128,311,687 baht, which were not able to be allocated for dividend payment according to the resolutions of the Annual General Meeting of Shareholders for the year 2017 of 6,421 shares or 1,605.25 baht. The remaining portion of the warrants for the Company's ordinary shares is 513,240,327 shares or 128,310,081.75 baht from the current listed share of 7,931,868,241 shares or original registered capital of 1,982,967,060.25 baht at the par value of 0.25 baht to be new registered shares of 7,418,621,493 shares at the par value of 0.25 baht or new registered capital of 1,854,655,373.25 baht at the par value of 0.25 baht.
 - Approval of the reorganization of the Board of Directors from 9 to 10 persons so that the Board of Directors has more variety of professional skills and expertise including for more balance of power in the Board of Directors.
 - Approval of the amendment of the Company's Articles of Association Chapter 4 'Shareholders' Meeting' Article 24.

- On June 20, 2018, Korat Wind Energy Co., Ltd. ("KWE"), a subsidiary of the Company operates wind power plant business. The Company holds 99.99% of the registered and paid-up capital. KWE has operated commercial electricity ("COD") of the Mittraphap Wind Farm Project which is located in Nong Nam Sai Sub-district, Sikhiu District, Nakhon Ratchasima province, with total capacity of 50 MW. These projects are supported by the government through adder at 3.50 baht per KW for 10 years started from the commercial operation date.

- On June 28, 2018, the Extraordinary General Meeting of Shareholders No.1/2018 resolved to approve as follows:
 - Approved the Gunkul Power Development Co., Ltd. ("GPD"), a subsidiary of the Company which the Company holds 99.99% of the issued and paid-up shares, to enter into the purchase of 10,000,000 ordinary shares of Future Electrical Control Co., Ltd. ("FEC"), representing 100.00% of total issued shares with the par value of Baht 10.00 per share and with the paid-up capital of Baht 47,500,000.00 from existing shareholders of FEC in total not exceeding 650,000,000.00 Baht.
 - Approved an amendment of the Articles of Association of the Company, Article 45. "The Company's Seal".

- On November 1, 2018, Sendai Okura Power Plant project which is located in Sendai Miyagi, Japan with total capacity of 31.75 MW. (38.10 MW: Installed Capacity). This is a project that produces and sells solar power to Tohoku Electric Power Co., Inc. ("Tohoku Electric") at JPY 36 per unit in feed-in tariff scheme, with 20-year concession period starts from the commercial operation date which has started its commercial operation already.

- Year 2019 - On April 1, 2019, Kimitsu Power Plant project which is located in Kimitsu, Chiba Prefecture, Japan, with total capacity of 33.50 MW. (40.41 MW: Installed Capacity). This is a project that produces and sells solar power to TEPCO Energy Partner, Inc. ("TEPCO Energy Partner") at JPY 36 per unit in feed-in tariff scheme, with 20-year concession period starts from the commercial operation date which has started its commercial operation already.

- On April 18, 2019, the Annual General Meeting of Shareholders for the year 2019 resolved to approve as follows:
 - Approval of the increase of the registered capital of the Company totaling 1,483,724,299 shares, or 370,931,074.75 baht, to support the stock dividend payment; therefore, from the original registered shares of 7,418,621,493 shares or existing registered capital of 1,854,655,373.25 baht at the par value of 0.25 baht, to a new registered share of 8,902,345,792 shares or new registered capital equal of 2,225,586,448.00 baht at the par value of 0.25 baht, by proceeding with the registered capital with the Department of Business Development on April 23, 2019.
 - (On May 7, 2019, the Company registered the change in paid-up capital with the Department of Business Development after the allocation of stock dividend has been completed as a current paid up shares of 8,882,530,974 shares and current paid-up capital of 2,220,632,743.50 baht).
 - Approval of the reorganization of the Board of Directors from 10 to 12 persons so that the Board of Directors has more variety of professional skills and expertise including for more balance of power in the Board of Directors.
 - Approval of the amendment to the objectives of the company in order to cover and support the increased business expansion.
 - Approval of the amendment of the Articles of Association of the Company, Article 45. "The Company's Seal".
- On September 30, 2019, the Company offered to sell the Company's debentures No. 1/2019, in an amount not exceeding 2,500,000,000 baht, divided into the amount offered for sale 2,000,000,000 baht and additional reserve debentures 500,000,000 baht, with a period of 2.9 years and due for redemption in the year 2022, bearing interest at a fixed rate of 4.50% per annum, paid interest every 3 months throughout the term of the debentures. The objective is to take money from this offering of debentures to repay the debentures that are due in October 2019 and/ or to support the Company's business expansion and/ or use as working capital.
- On December 19, 2019, The Company passed a resolution approving the acquisition of additional ordinary shares in Infinite Alternative Energy Company Limited ("IAE") at 33% of the registered and paid-up capital. IAE holds 99.99% stake in Rangngern Solution Co.,Ltd. ("RNS") , which operates solar power plants and has received a power purchase agreement for the solar power plant project (PPA).

- Year 2020
- On February 4, 2020, Bright Green Power Co., Ltd., a subsidiary of the Company has entered into a transaction to invest in 2 solar power projects with a total size of 60 MW, namely Tri Viet 1 Solar Power Plant Project and Bach Khoa A Chau 1 Solar Power Plant Project ("the Projects"), located in Tay Ninh Province, Vietnam by acquiring all ordinary shares of Singapore An Yang Pte. Ltd. ("An Yang") and Singapore Yun Yang Pte. Ltd. ("Yun Yang"), which are the ultimate shareholders of the Projects.
 - On March 17, 2020, the Board of Directors' Meeting of GUNKUL No. 7/2020 passed a resolution to approve the 2nd Shares Repurchase Project for liquidity management for the maximum benefit of the Company. The maximum amount that used for share repurchase is not more than 1,100 million baht. The number of shares to be repurchased is not more than 440,000,000 shares with the par value of 0.25 baht per share or equal to 5.01% of the issued and paid-up capital after deducting the actual treasury shares in the 1st time which set a period to repurchase the shares from April 1, 2020 to September 30, 2020. The number of shares repurchased by the Company in this time is 0 shares or equivalent to 0% of the total number of sold shares of the Company. The total value of the repurchased shares equal to 0 baht.
 - On April 21, 2020, the Annual General Meeting of Shareholders for the year 2020 resolved to approve as follows:
 - Approval of the reduction of the Company's registered capital in the part that cannot be allocated for stock dividend payment according to the resolution of the 2019 Annual General Meeting of Shareholders for the amount of 19,814,818 shares or 4,953,704.50 baht; therefore, from the original listed shares of 8,902,345,792 shares or the existing registered capital 2,225,586,448.00 baht, par value of 0.25 baht per share, to be a new

listed stock of 8,882,530,974 shares or equal to THB 2,220,632,743.50, par value THB 0.25, by reducing the registered capital with the Department of Business Development on April 23, 2020

- Approval of the amendment of the Company's objectives and the amendment of Clause 3 of the Company's Memorandum of Association to be in line with the amendment of the Company's objectives by amending item (2) and adding item (64) - item (83) and amendment to Clause 3 of the Company's Memorandum of Association.
 - Approval of the issuance and offering of the debenture by increasing credit line of 6,000 million baht, from the previous credit line of not exceeding 9,000 million baht to be new credit line of not exceeding 15,000 million baht, maturity is not exceeding 7 years.
-
- On April 27, 2020, the Company offered the Company's debentures No. 1/2020, Series 1 (age 3 years) and No. 1/2020, Series 2 (age 5 years) by issuing and offering the Company's unsubordinated, unsecured debentures, totaling up to 2,800 million baht, paying interest every 3 months. There were investors subscribed for a total of 1,348.70 million baht or 48% of the total debentures issued
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- On September 18, 2020, the Company sold the Utsunomiya solar power plant project in Japan, with a capacity under the PPA of 66.78 MW and according to the installation of 69.83 MW, by selling 100% of GD Solar Utsunomiya Godo Kaisha ("GD Solar") held by (a) Future Asset Management KK ("FAM") (a subsidiary of the Company). (B) Gunkul International (Mauritius) ("GIM") (a subsidiary that the Company holding 100% shares) with the sale value of 5,964,930,000 yen or equivalent to 1,679,921,130.69 baht according to the resolution of the Board of Directors Meeting of GUNKUL No. 5/2019 held on November 6, 2019.
-
- On November 25, 2020, the Company has acquired 100% of Doan Son Thuy Investment JSC Company Limited ("DST") to invest in a solar power plant project with a total capacity of 50 MWp in Hue, the Socialist Republic of Vietnam, with the investment value of USD 39,850,000 or equivalent to 1,258,582,550 baht according to the resolution of the Board of Directors Meeting of GUNKUL No. 5/2020 on July 23, 2020.
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- On December 7, 2020, Bright Green Power Company Limited, a subsidiary of the Company, has acquired 100% of the ordinary shares of INT Energy Pte. Ltd. ("INT") to invest in a solar power plant project, with a total capacity of 50 MWp, in Tay Ninh Province, the Socialist Republic of Vietnam which is held by Tan Chau Energy Joint Stock Company ("TCE") with the investment value of USD 47,140,000 or equivalent to 1,471,097,980 baht according to the resolution of the Board of Directors Meeting of GUNKUL No. 7/2020 on October 9, 2020.
-
- On December 18, 2020, Phong Dien II solar power plant project, located in Hue, Socialist Republic of Vietnam, has a total production capacity of 50 MWp. This is a project that produces and sells solar power to Vietnam Electricity Corporation ("VEC") at USD 0.0709 per unit in feed-in tariff scheme, with 20-year concession period starts from the commercial operation date which has started its commercial operation already.
-
- On December 28, 2020, the Company sold the Iwakuni Solar Power Plant Project, Japan. The capacity of the PPA is 75 MW and according to the installed capacity of 98 MW, by selling 100% of East Japan Solar 13 Godo Kaisha ("EJS 13") held by (a) Future Asset Management KK ("FAM") (B) Gunkul International (Mauritius) ("GIM") (a subsidiary of the Company) with the sale value of 9,942,653,495.00 yen or equivalent to 2,863,842,142.09 baht according to the resolution of the Board of Directors Meeting of GUNKUL No. 7/2020 on October 9, 2020.
-
- On December 31, 2020, the LSSPV Solar Power Plant Project, located in Terengganu State, Malaysia, with a total production capacity of 50 MWp and the contracted electric quantity of 29.99 MW, installed power size at 39.0297 MW. This is a project that produces and sells solar power to Tenaga Nasional Berhad ("TNB") at MYR 0.38 per unit in feed-in tariff scheme, with 21-year concession period starts from the commercial operation date which has started its commercial operation already.
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17 Nature of Business

17.1 Nature of Product and Service

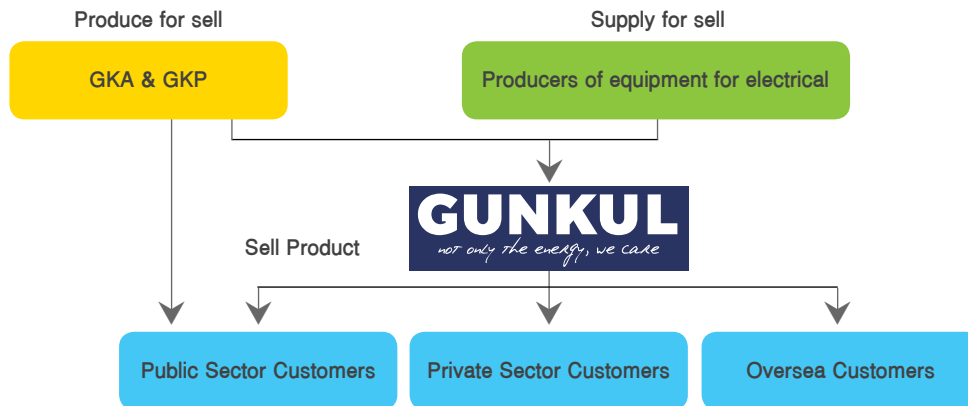
Details of the business operations of the Company and its subsidiaries as follows:

1. Business to produce, procure and supply equipment for electrical system in domestic and international
 - 1.1 Power protection and disconnection devices for distribution and transmission lines, 115kV medium to high voltage such as SF6Load Break Switch, Surge Arrester, Disconnecting Switch, Drop Out Fuse Cutout, etc.
 - 1.2 Grounding devices and Lightning Protection System (LPS)
 - 1.3 Lighting and electric energy meter such as Smart Meter, Street Lighting etc.
 - 1.4 Hardware accessories and structures for installation of equipment in distribution systems, transmission lines, and medium to high voltage power substations of 115kV.
 - 1.5 Tools and Personal Safety Equipment
2. Business to produce, procure and supply energy-saving products including appropriate alternative energy:-
 - 2.1 To product and supply lighting lamp type LED, BIPV Glass, Flexible Solar PV including appropriate alternative energy
 - 2.2 To product and supply solar cell module including supplying equipment related to the electricity production system of solar energy.
3. Business to produce and distribute electricity from renewable energy resources in local and international
 - 3.1 Solar Farm or Solar Ground
 - 3.2 Solar PV Rooftop
 - 3.2.1 Manufacture and distribute to Provincial Electricity Authority (PEA) and Metropolitan Electricity Authority (MEA)
 - 3.2.2 Manufacture and distribute to Private Power Purchase Agreement (Private PPA)
 - 3.2.3 For Residential and Small Scale Business
 - 3.3 Floating Solar Farm
 - 3.4 Wind Farm
 - 3.5 Biomass Energy and Supply of raw materials for biomass power plants
4. Engineering Procurement and Construction Business
 - 4.1 Renewable Energy Power Plant Construction
 - 4.2 Construction of Electricity Station, Transmission System and Underground System
 - 4.3 Procurement and service of underwater cable installation and equipment that related to all types of underwater cables
 - 4.4 Design, procurement and installation of micro-grid systems, energy storage system and intelligent electrical equipment that involved.
5. Operating and maintenance Business

Diagram shows business conduct structure of the group of companies

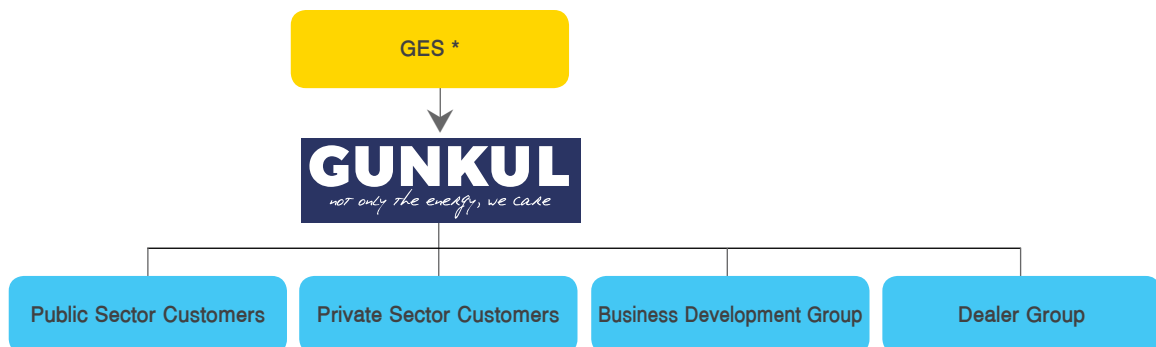
1) Business to produce, procure and supply equipment for electrical system in domestic and international

- Manufactures and distributes equipment for the installation, maintenance or expansion of 115kV medium to high voltage distribution and transmission lines to provide electric energy to consumers, such as cable welding equipment, cable connection equipment, live part equipment, etc.
- Manufactures and distributes grounding equipment and lightning protection system (LPS) or lightning rods to prevent the danger from leakage current or over voltages from outside, such as Air Terminal, Exothermic Welding, etc.
- Manufactures and distributes protective and cut-out equipment for distribution systems and power transmission lines in order to prevent damage to the entire system to cause widespread damage, such as Surge Arrester, SF6 Load Break Switch, Disconnecting Switch, Dropout Fuse Cutout, etc.
- Manufacture and distributes of 115kV medium to high voltage substation equipment by designing from expert engineers with consideration to safety in use for various power stations.
- Production and distribution of hand tools and personal protective equipment to enable those who do the job to work quickly and safely, such as Safety Belt, Shorting Circuit Earthing set, 22kV, 33kV, 115kV systems, Disconnect Sticks, etc.



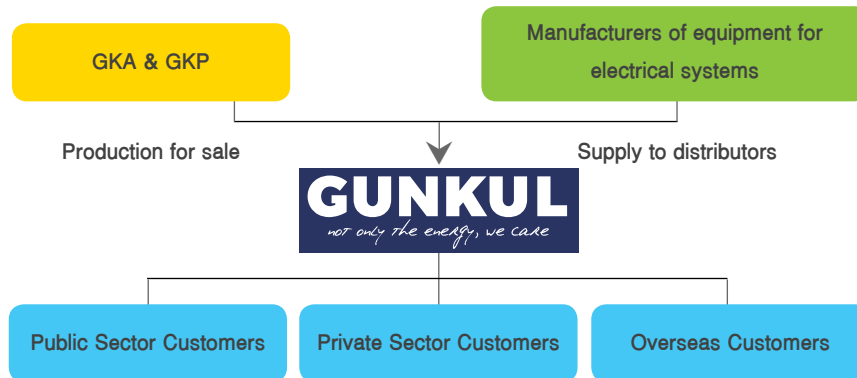
2) Business to produce, procure and supply energy-saving products including appropriate alternative energy

- To manufacture and distribute lighting lamp type LED, BIPV Glass, Flexible Solar PV including appropriate alternative energy It is suitable for architectural or landscape improvement, electronic system renovation in the office or factory and consultation on supplying alternative energy systems to customers such as Solar Rooftop, Solar Floating, Solar Water Pump and Solar Air Conditioner system or Organic Rankine Cycle (ORC) system for Waste Heat Recovery etc.



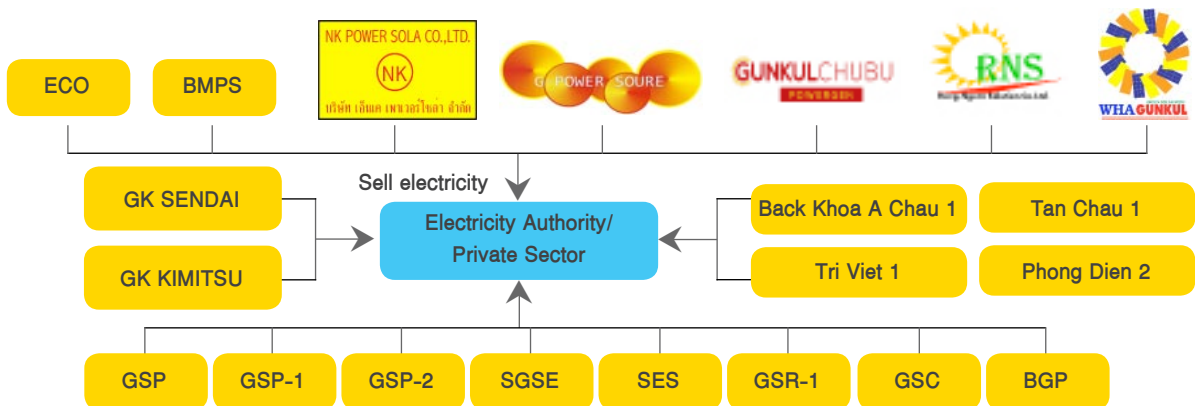
* In 2018, Gunkul Lighting LED Co., Ltd. changed its name to "Gunkul Energy Solutions and Lighting Co., Ltd." to expand its business of integrated power system services.

- To manufacture and distribute solar cell module including supplying equipment related to the electricity production system of solar energy



3) Business to produce and distribute electricity from renewable energy resources in local and international

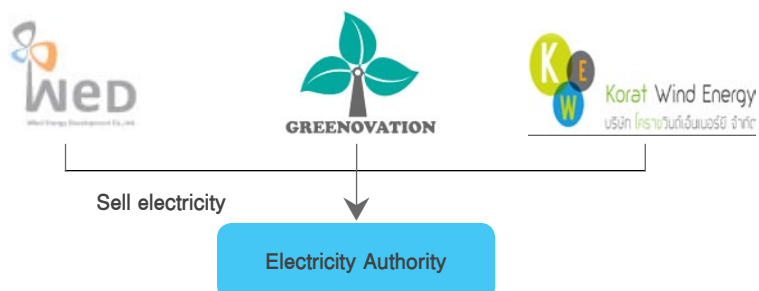
- Solar Farm & Solar PV Rooftop



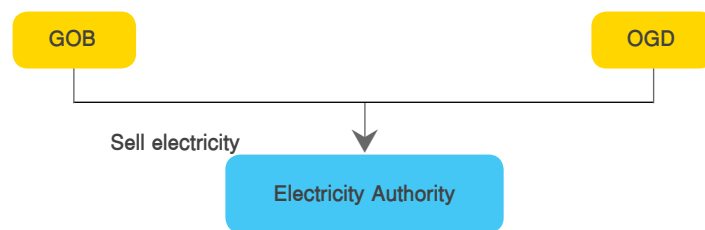
- Solar for Residential and Small Scale Business 200 kilowatt



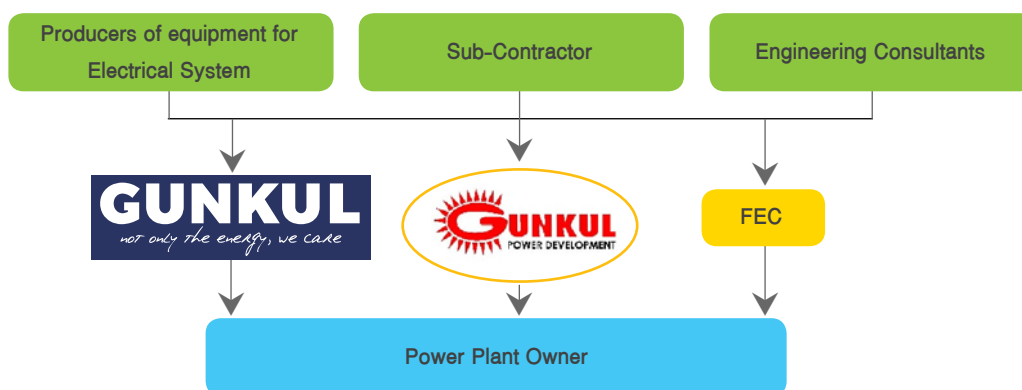
- Wind Farm



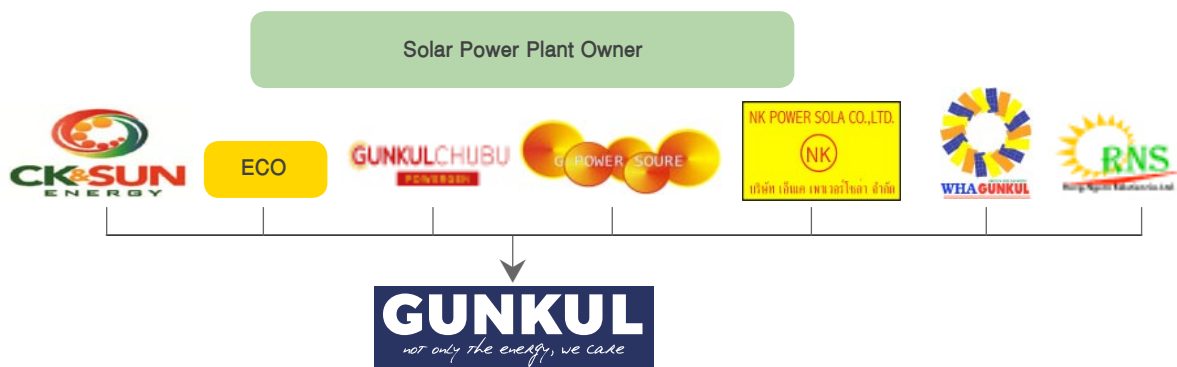
- Biomass Energy and Supply of raw materials for biomass power plants
 - o Biomass Power Plant



4) Engineering Procurement and Construction Business



5) Operating and maintenance Business



1. Business to produce, supply and sell equipment for electrical system in domestic and international



The Group operates in the business of manufacturing, procuring and distributing equipment for electrical systems covering all stages of the electricity transmission and distribution system, from power plants to power users. (See diagram showing electricity transmission and distribution systems in the topic of Policy and Business Overview) The Group is regarded as one of the leaders in the said business, especially in the variety of product categories. This can be seen from the fact that the Group has more than 5,000 products which distributed to meet the needs and different usage of various groups of customers, including products manufactured from the Group's factories and products that the Group procures from manufacturers that are recognized for quality and standards of products from both domestic and foreign countries such as the United States, Germany, Sweden, Japan and the People's Republic of China and etc.

The Group's products can be classified into five categories based on the usage as follows:

- 1) Protection and control devices for transmission and distribution lines, such as Disconnecting Switch, SF6 Gas Load Break Switch or Remote-Controlled Switch, Air Brake Switch, Transformer, Fuse, Fuse Cutout, Surge Arrester, Live part cover and Grounding.
- 2) Transmission and distribution lines equipment, such as Cable, Cable Spacer, Connector, Cable Termination, Cable Splicing and Insulator.
- 3) Tools and equipment including safety belts, fuse stick, electrical rubber gloves, industrial gloves, helmets, instrumentation and testing equipment.
- 4) Street lighting equipment, including street lamps, control switches (Photo Control Switch) and a street light control relays (Street Lighting Control Relay).

- 5) Group of equipment for the system of renewable energy, including wind turbines, solar energy equipment and solar cells, hydro turbine, generator, transformer, control equipment etc.

G.K. Assembly Co., Ltd. and G.K. Power Products Co., Ltd., a subsidiary of the Company, engage in the business of manufacturing and distributing all types of electrical equipment which in 2020, the said companies have developed their quality control system with laboratory control systems as follows:

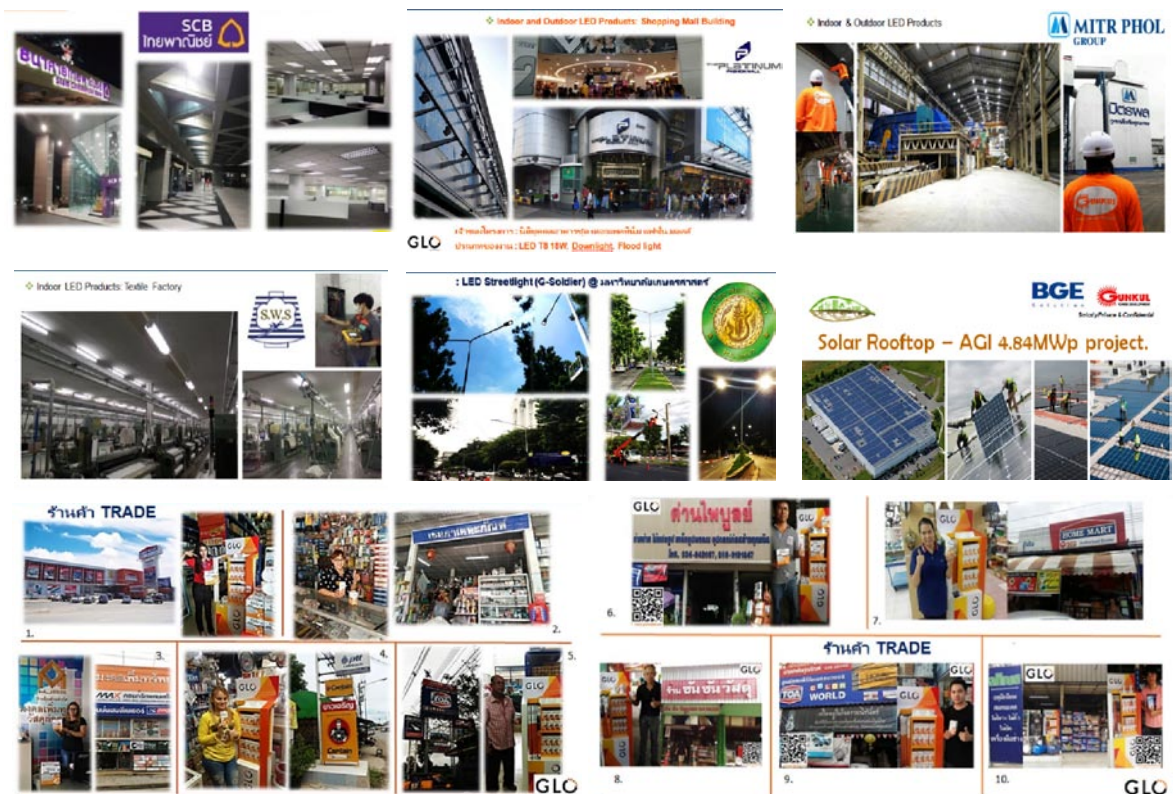
1. The factory is accredited for testing laboratory accreditation in accordance with the standards No. TIS 17025-2561 (ISO / IEC17025: 2017) for testing surge arresters from the Thai Industrial Standards Institute (TISI).
2. The factory has certified product registration for Price-Performance of 22-33kV Surge Arrester with the Provincial Electricity Authority.
3. The factory has certified the registration of the Surge Arrester Testing Network Unit to be able to perform tests to verify equipment of the Provincial Electricity Authority.
4. The factory received Lightning Protection System product certification from the UL institute, USA.



suitable for customers including Engineering, Procurement and Commissioning and electric system or power plant such as, Solar Rooftop, Solar Floating, Solar Water Pump, Solar Air Conditioner or Organic Rankine Cycle (ORC) for Waste Heat Recovery etc.



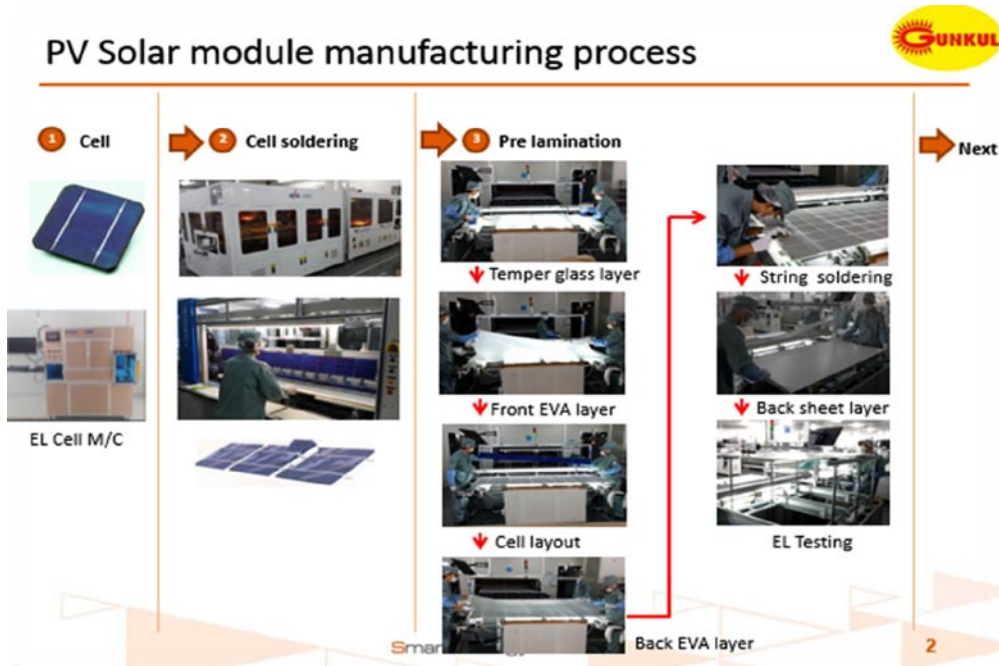
With the manufacturing products that meet international standards and high quality. That is why it has been well received from project clients such as sugar mills factory group, steel production group, hospital group, bank group and warehousing service providers group including public sector customers, universities and dealer in Bangkok and provinces across the country.



The Company aims to develop and maximize its potential, increase competitiveness by focusing on serving customers with full range by focusing on energy saving with quality control by a team of experienced engineers and technicians for ensuring the customers that the Company can deliver reliable products and services with international standard and high quality to the customer.

2.2. Produce and sell solar cell panels including the supply of equipment related to the solar power system

Production of solar panels according to TIS 61215 and TIS 2580 standards



The company has increased the efficiency and production technology of solar panels to a higher power of 320Watt per panel and is continuously developing to increase the power per panel in the future. By production, the company has quality control in accordance with international standards and uses automatic mechanical production technology which is also in line with the government policy to drive the country to fight Thailand 4.0 in alternative energy, and to provide people with continuous electricity usage; as well as, support the policy to drive energy in Thailand.

3. Business of Generating and Distributing Power from Renewable Energy Sources

3.1 Solar Farm or Solar Ground

The Group operates a business of generating and distributing power from renewable energy sources (RES) for supplying to government sector in response to the state policies to promote renewable energy power generation and consumption.

Foreseeing that the business related to renewable energy carries a good opportunity for development

and investment for reasons of high growth potential, low risk as well as steady and sustainable profitability, the Group has expanded its scope of business from the supply and distribution of renewable energy equipment to the generation and distribution of RES power, Solar Farm or Solar Ground. The new business is undertaken by Gunkul Chubu Powergen Co., Ltd., G-Power Source Co., Ltd., Rang Ngern Solution Co., Ltd. and Eco Thai Energy Co., Ltd. which are joint venture companies including NK Power Solar Co., Ltd. and BMP Solar Co., Ltd, subsidiaries of the Company including investments in solar power projects in Japan, such as GK Sendai project, GK Kimitsu project, and in the year 2020, the Company has invested in Kenyir Gunkul Solar SDN BHD (KGS), which operates solar power plants that are installed on the ground. Also, KGS sold the commercial power (COD) of the 29.99 MW Large Scale Solar PV (LSSPV) power plant project in Malaysia on December 31, 2020.



Over the past year, the Company approved the sale of GK Utsunomiya and GK Solar 13, 2 solar power plant projects in Japan, to reduce the risk of delays in the projects' development process. Along with providing funding sources for the Company to invest this investment in a power plant in Vietnam totaling 160 megawatts, namely the Bach Khoa A Chau 1, Tri Viet 1, Tan Chau 1 and Phong Dien 2 projects, all of which have now sold commercial power.

In addition, the Company aims to invest in additional countries in Vietnam and in other countries such as Taiwan that have the potential for investment in order to increase business opportunities.

In 2015, the Company acquired shares in Rang Ngern Solution Co., Ltd., which received the power purchase agreement with the Provincial Electricity Authority in accordance with the project of purchasing electricity from solar power plant producer, Solar Farm, total amount 11 projects. The project, with a total capacity of 87 MW., in Feed-in-Tariff form (FIT) is priced at 5.66 baht per kilowatt for 25 years in the proportion of 67%. In 2019, the Company has held 99.99% of the shares in the said project, and in 2016, the Company also acquired shares in Eco Thai Energy Co., Ltd. which was trusted by the Samutsakhon Organic Fertilizer Cooperative Ltd., which selected as a project sponsor. It was also selected by a lottery as one of the projects that received 5 MW. power purchase agreement for 25 years in the form of a FiT fee of Baht 5.66 per unit. It also received a resolution from the Board of Directors of the Company to approve the acquisition of shares in BMP Solar Co., Ltd., which will be assigned the rights of the power purchase contract for solar power plant from BMP Energy Co., Ltd., in total 1 contract with a capacity of 8 MW. in the Feed-in Tariff form (FiT) rate of 5.66 Baht for 25 years contract. Therefore, the capacity that offered for sale to the Provincial Electricity Authority from solar power plants, Solar Farm or Solar Ground until now with the total amount 157.90 MW.

Details of the Group's solar farm projects offered to the PEA, Thailand that could be summarized as follows:-

Project	Capacity (MW)	Project Site (according to application)	Commencement of Output Sale
Gunkul Chubu Powergen Co., Ltd. “GCPG” (A joint venture, the Company holds 51% of the registered capital)			
1	3.0	Tambon Bannklui, Amphoe Chondaen, Phetchabun	January 2011
	4.4	Tambon Bannklui, Amphoe Chondaen, Phetchabun	October 2011
2	8.0	Tambon Srichula Amphoe Sichula, Nakhon Nayok	June 2013
3	8.0	Tambon Samyaek, Amphoe Wichianburi, Phetchabun	March 2013
4	4.5	Tambon Noenpor, Amphoe Sam-ngam, Phichit	March 2013
5	3.0	Tambon Subsamortod, Amphoe Buengsamphan, Phetchabun	May 2013
	<u>30.9</u>	The proportion of GUNKUL is 51% = 15.759 MW.	
G-Power Source Co., Ltd. “GPS” (A joint venture, the Company holds 40% of the registered capital)			
6	6.5	Tambon Takeed, Amphoe Banphotphisai, Nakhon Sawan	March 2012
7	6.5	Tambon Tasang, Amphoe Banphotphisai, Nakhon Sawan	March 2012
8	6.5	Tambon Dongkorn, Amphoe Sankhaburi, Chainat	March 2012
9	6.5	Tambon Subsamortod, Amphoe Buengsamphan, Phetchabun	February 2013
	<u>26.0</u>	The proportion of GUNKUL is 40% = 10.4 MW.	
NK Powersolar Co., Ltd. “NKP” (A subsidiary, the Company holds 99.99% of the registered capital)			
10	1.0	Tambon Nongkum, Amphoe Bo-phloi, Kanchanaburi	November 2013
	<u>1.0</u>	The proportion of GUNKUL is 99.99% = 1.0 MW.	

Project	Capacity (MW)	Project Site (according to application)	Commencement of Output Sale
Rang Ngern Solution Co.,Ltd. “RNS” (A joint venture, the Company holds 99.99% of the registered capital)			
11	8.0	Tambon Donsalam, Amphoe Huaykrajao, Kanchanaburi	December 2015
12	8.0	Tambon Lumrang, Amphoe Bo-phloi, Kanchanaburi	December 2015
13	8.0	Tambon Pangtru, Amphoe Tamuang, Kanchanaburi	November 2015
14	8.0	Tambon Yangnamklad, Amphoe Nongyaplong, Phetchaburi	December 2015
15	8.0	Tambon Nongchumpon, Amphoe Kaoyoi, Phetchaburi	April 2016
16	8.0	Tambon Kludluang, Amphoe Tayang, Phetchaburi	December 2015
17	8.0	Tambon Anghthong, Amphoe Tubsakae, Prachuapkhirikhan	December 2015
18	8.0	Tambon Anghthong, Amphoe Tubsakae, Prachuapkhirikhan	December 2015
19	8.0	Tambon Agnthong, Amphoe Tubsakae, Prachuapkhirikhan	December 2015
20	7.0	Tambon Tungkwang, Amphoe Muangpan, Lampang province	December 2015
21	8.0	Tambon Taopoon, Amphoe Song, Phrae province	April 2016
<u>87.0</u>		The proportion of GUNKUL is 99.99% = 87.0 MW.	
BMP Solar Co., Ltd. “BMP” ¹⁾ (A joint venture, the Company holds 99.99% of the registered capital)			
22	8.0	Tambon Takwien, Amphoe Watthana Nakhon, Srakaew	April 2016
<u>8.0</u>		The proportion of GUNKUL is 99.99% = 8.0 MW.	
Eco Thai Energy Co., Ltd. “ECO” (A joint venture, the Company holds 51% of the registered capital)			
23	5.0	Tambon Bangkrachua, Amphoe Mueang Samut Sakhon, Samut Sakhon	December 2016
<u>5.0</u>		The proportion of GUNKUL is 51% = 2.55 MW.	
Total	157.9	The total proportion of GUNKUL is = 124.71 MW.	

¹⁾ The Company hold 48,000 shares in BMP Solar Co., Ltd., representing 48.98% of the paid-up capital of 98,000 shares, with the right to receive dividends from the operation and the right to vote 99.99%. Also, to hold increased ordinary shares after the company has already sold commercial electricity for 3 years. The shareholding ratio will increase from 48.98% to 99.99% in April 2019.

The above projects, GCPG, GPS NK, ECO and RNS Tao Poon Project have obtained investment promotion certificates from the Board of Investment, in the form of an exemption of corporate income tax on net operating profit for 8 years since the date of sale income recorded. After the expiry date of the aforesaid corporate income tax exemption, the Company is still granted an allowance of 50% of the normal rate of corporate income tax for 5 years. The tax rates could be summarized as follows:-

Year	Tax Rate	
	Tax Exemption	Corporate Income Tax Payment
1 st - 8 th years	100%	0%
9 th - 13 th years	50%	10%
13 th year onward	0%	20%

For BMP projects and other projects of RNS, BOI has been granted a BOI privilege, in the form of an exemption of corporate income tax on net operating profit for 8 years since the date of sale income recorded. The tax rates could be summarized as follows:

Year	Tax Rate	
	Tax Exemption	Corporate Income Tax Payment
1 st - 8 th years	100%	0%
8 th year onward	0%	20%



In addition, the company also operates for the solar power plant projects in Japan which applied the electricity generating to Tohoku Electric Power Co., Inc. or Provincial Electricity Authority of Tohoku and Tokyo Electric Power Co., Inc. or Provincial Electricity Authority of Tokyo at the rate of 36.00 Yen per Kilowatt per hour (Feed-in-Tariff “FIT”), TEPCO Energy Partner or “TEPCO EP” at the rate of 36.00 Yen per Kilowatt per hour (Feed-in-Tariff “FIT”) by summarized as follows:

Project	Capacity (MW)	Project Site (Requested Permission)	Feed-in-Tariff (FIT)	Start date of commercial electricity distribution
GK Sendai Okura Mega Solar Co., .Ltd. (“GK Sendai Okura Mega Solar”) (Investment proportion 100.00%)				
1	31.75	Sendai, Miyaki	36.00 Yen per Kilowatt per hour	Q4/2018
Kimitsu Mega Solar Godo Kaisha Co., .Ltd (“Kimitsu Mega Solar Godo Kaisha”) (Investment proportion 100.00%)				
2	33.50	Kimitsu, Chiba	36.00 Yen per Kilowatt per hour	Q2/2019
Total	<u>65.25</u>			

For Malaysia, the Company has invested in 1 solar power plant project by submitting the request to sell electricity to Tenaga Nasional Berhad (TNB) which is the electricity of Malaysia with the power purchase rate of Feed-in-Tariff (FiT) at 0.38 Malaysian ringgit per kilowatt hour which can be summarized as follows;

Project	Capacity (MW)	Project Site (Requested Permission)	Feed-in-Tariff (FiT)	Start date of commercial electricity distribution
Kenyar Gunkul Solar SDN BHD (A joint venture, the Company holds 70% of the registered capital)				
1	29.99	Paka, Terengganu	0.38 MYR per kilowatt hour	December 2020
Total	<u>29.99</u>			

And for Vietnam, the Company has invested in 4 solar power plant projects by entering into a power purchase agreement at the power purchase rate Feed-in-Tariff (FiT) with Vietnam Electricity: EVN. Bach Khoa A Chau Tay Ninh Joint Stock Company and Tri Viet Tay Ninh Joint Stock Company entered into the agreement at a price of USD 0.0935 per kWh. While Doan Son Thuy Investment Joint Stock Company and Tan Chau Energy Joint Stock Company entered into the agreement at a price of USD 0.0709 per kWh. Which can be summarized as follows;

Project	Capacity (MW)	Project Site (Requested Permission)	Feed-in-Tariff (FiT)	Start date of commercial electricity distribution
Bach Khoa A Chau Tay Ninh Joint Stock Company (Invest in the proportion of 100.00%)				
1	30	Tay Ninh Province	USD 0.0935 per kilowatt hour	Q2/2019
Tri Viet Tay Ninh Joint Stock Company (Invest in the proportion of 100.00%)				
2	30	Tay Ninh Province	USD 0.0935 per kilowatt hour	Q2/2019
Tan Chau Energy Joint Stock Company (Invest in the proportion of 100.00%)				
3	50	Tay Ninh Province	USD 0.0709 per kilowatt hour	Q4/2020
Doan Son Thuy Investment Joint Stock Company (Invest in the proportion of 100.00%)				
4	50	Hue Province	USD 0.0709 per kilowatt hour	Q4/2020
Total	160			

3.2 Solar PV Rooftop to sell electricity to the system

At the meeting on 13 August 2013, the cabinet acknowledged the National Energy Policy Council's resolution dated 16 July 2013 approving the program on power purchase from rooftop PV system at a quantity generated at the overall installed capacity of photovoltaic panels of 200 MWp, 100 MWp of which for resident-type buildings and another 100 MWp for industrial and factory buildings. The commercial sale to the power network connection system is scheduled to commence within 2013, under a Feed-in Tariff allowance for a term of 25 years.

Joining the program, Gunkul Engineering PCL has invested in projects in various provinces across the country. Gunkul Power Development Co., Ltd. was then established to support the construction of solar PV rooftop. Details of investments and projects by area of state responsibility are as follows:-

Solar PV Rooftop Projects with the Provincial Electricity Authority

No.	Applicant	Installed Capacity (kWp)	Type of Business
1	Gunkul Solar Power 2 Co., Ltd.	538.56	99.99% owned by the Company
2	WHA Gunkul Green Solar Roof 17 Co., Ltd.	997.56	25.01% owned by the Company
3	Green Line Energy Co., Ltd.	997.56	Power plant construction
Total		2,533.68	

Solar PV Rooftop Projects with the Metropolitan Electricity Authority

No.	Applicant	Installed Capacity (kWp)	Type of Business
4	WHA Gunkul Green Solar Roof 1 Co., Ltd.	636.48	25.01% owned by the Company
5	WHA Gunkul Green Solar Roof 3 Co., Ltd.	832.32	25.01% owned by the Company
6	WHA Gunkul Green Solar Roof 6 Co., Ltd.	832.32	25.01% owned by the Company
7	Solar Energy Society Co., Ltd. (Phranakhon Nuea 1)	499.20	99.99% owned by the Company
8	Siam Gunkul Solar Energy Co., Ltd. (Donmueang)	873.60	99.99% owned by the Company
9	T S Power Energy Co., Ltd.	416.16	Power plant construction
10	T S Power Energy Co., Ltd.	997.56	Power plant construction
11	Gunkul Solar Roof 1 Co., Ltd.	241.92	99.99% owned by the Company
12	Gunkul Solar Roof 1 Co., Ltd.	22.40	99.99% owned by the Company
13	Mon RM Co., Ltd.	948.48	Power plant construction
Total		6,300.44	

3.3 Solar PV Rooftop for Self-Consumption

In 2017, BOI has issued the Announcement of the Board of Investment No. 9/2017 on Investment Promotion Measures to improve production efficiency. The purpose is to change the machinery for energy saving and alternative energy use in order to reduce the impact on the environment. The promoted person is exempted from corporate income tax for a period of 3 years accounting for 50% of the investment including duty exemption for machinery. As a result, the industrial sector has become more active and enrolled in this project. Moreover, commercial building and other business groups with mass usage of electricity without support, also interested in installing solar panels as well by producing the renewable energy to use for self-employment within organizations or self-organizations. The Company is aware of the investment direction in the business group with a lot of potential and is not obliged to have a power purchase agreement with government agencies. It has decided to penetrate the solar installation business on the roof of the factory including commercial buildings, residential group, organizations and government agencies and other business groups that need to use large quantities of electricity. In addition, some customers have utilized land which they can use the land to make electricity projects on the ground for their own use within the organization as well. Currently, the Company has been trusted by many customers by selecting the Company as a project operator. There are customers who are electricity, factory industry, department store, printing house, private company and hospital, etc. The total number of installation capacity that the Company provides services reaches 99,998.64 kWp.



In the year 2019, Gunkul Engineering Public Company Limited ("GUNKUL") foresaw the growing demand of Residential Solar Rooftop market, causing GUNKUL to establish a new company under the GRoof brand specifically for Residential Solar Rooftop. There are packages for those who interested to choose to install from 2 kilowatts or

more, which has both On-grid and Hybrid models that have installed a battery system for those who are interested to save energy or want to install electricity generation systems from house renewable energy, and with the decrease in investment in solar energy systems and increased understanding of the Solar Rooftop system, GUNKUL sees that the Residential Solar Rooftop market is a good market with high growth potential.

3.4 Solar Floating

The Company has studied the possibility of installing solar panels on the water in order to produce electricity and connect with the transmission line system to be used. There are many technologies that can bring solar panels and power systems to float on the water without impact on the electricity generation system. The suitable water sources should be reservoirs, dams or general reservoirs without waves or only little waves including can also maintain a water level without sudden change or rapid change. The benefits of electricity generation on water can also help reduce evaporation. It is suitable for storage ponds that require water for all year round and the evaporation of water also lowers the temperature under the solar panel which brings about the efficiency of solar power generating. This is a benefit to use the land over water resources and reduce the use of land can be developed in another way.

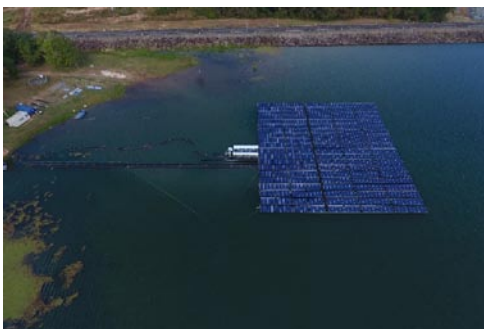
At present, the Company has implemented 2 Solar Floating power plant project.

Solar Floating Project

Number	Participating Business Groups	Capacity (kWp)	Type of business
1	Electricity Generating Authority, Sirindhorn Dam	256.00	Power Plant Construction
2	Prachinburi Glass Industry Co., Ltd.	696.80	Power Plant Construction
Total		952.80	



Solar Floating Power Plant Project at Sirindhorn dam with a size of 256 KW.



Solar Floating at Prachinburi Glass Industry Co., Ltd., 696.80 KW.

3.5 Wind Farm

Although Thailand near the equator make to wind speeds average level low to moderate but since it is a natural source of energy, no energy cost. Thailand is continuing to focus on the development of wind energy by exploring the potential for wind energy sources. The research and development of wind speed to suit the wind potential of the country and promote the use of high efficiency wind turbine in either Domestic or overseas. In accordance with the



Renewable Energy Development Plan and Alternative Energy under the Power Development Plan of Thailand 2018-2037, revised No. 1 (October 2020), the goal is to promote electricity generation from new wind energy in the amount of 1,485 MW by purchasing electricity from wind power faster from the beginning of the purchase in 2034 changed to 2022, which during the years 2022-2024 will purchase 90 MW per year.

Recognizing the government policy to strengthen the national energy security alongside the green growth strategy, the Company sees itself as being a supportive part in the development of alternative energy power generation and thus contributing to Thailand's electricity security. It is therefore committed to develop wind-based power generation projects. Details of the wind farm projects and supply of power output applied for sale to the Provincial Electricity Authority (PEA) and the Metropolitan Electricity (MEA) could be summarized as follows:

Project	Capacity (MW)	Project Site (according to application)	Scheduled Date of Commercial Sale under the PPA
Wind Energy Development Co., Ltd. "WED" (A subsidiary of the Company holds 99.99% of the share capital)			
1	2.0	Tambon Huabong, Amphoe Dankhunthot Nakhon Ratchasima	March 2016
	8.0	Tambon Huabong, Amphoe Dankhunthot Nakhon Ratchasima	March 2016
2	50.0	Tambon Huabong, Amphoe Dankhunthot Nakhon Ratchasima	December 2016
	<u>60.0</u>		
Greenovation Power Co., Ltd. "GNP" (A subsidiary of the Company holds 99.99% of the share capital)			
3	60.0	Tambon Huabong, Amphoe Dankhunthot Nakhon Ratchasima	March 2018
	<u>60.0</u>		
Korat Wind Energy Co. Ltd. "KWE" (A subsidiary of the Company holds 99.99% of the share capital)			
4	50.0	Tambon Nongnamsai, Amphoe Sikhio Ratchasima province	June 2018
	<u>50.0</u>		
Total	<u>170.0</u>		

The above projects have obtained investment promotion certificates from the Board of Investment, in the form of an exemption of corporate income tax on net operating profit for 8 years since the date of sale income recorded. After the expiry date of the aforesaid corporate income tax exemption, the Company is still granted an allowance of 50% of the normal rate of corporate income tax for 5 years. The tax rates could be summarized as follows:-

Year	Tax Rate	
	Tax Exemption	Remaining Tax Payment
1 st - 8 th years	100%	0%
9 th - 13 th years	50%	10%
13 th year onward	0%	20%

3.6 Biomass power plant including the supply of raw materials for biomass power plants

Thailand is an important agricultural country in the world. The majority of the country is an agricultural population with an agricultural diversity. They also have the right climate including fertility of the land. For example, the central part of the country has farming more than 50% of the total area etc. The by-product of agriculture is an unused material, so the return of the agricultural materials to bring benefits and generate income for farmers. They can be used as fuel in biomass power plants. In addition, the government now has a policy to increase green space for the country by 20%, so it is planned to promote economic afforestation. The Company also sees the business of biomass power plants. This requires a reliable supply of raw materials throughout the life of the project, thus promoting the rapid growing of trees for fuel in biomass power plants, which will be in the form of encouraging farmers to cultivate and harvest for selling to the Company. This can generate income for farmers to earn more stable. It also adds another green space according to government policy.

The Company has signed a memorandum of cooperation with the Faculty of Forestry, Kasetsart University to study the feasibility of sustainable tree planting in low fertility soils. In order to develop low fertility land that can't grow crops. To turn to grow fast growing trees instead that has the ability to grow in the soil with low fertility. Including fast growing trees also have the qualities to improve soil fertility.

The target of purchasing electricity from the biomass power plant project under the PDP2018 plan (2015-2036) with electricity demand from biomass power plants is equal to 5,570 MW. However, there are 2,690 MW. of installed and operated capacity for biomass power plants which distributed around 1,515 MW. of installed capacity. Therefore, the Company has considered the business opportunity can be expanded for the future company business.

4. Engineering Procurement and Construction Business

4.1 Renewable Energy Power Plant Construction



The government policy to promote power generation from alternative energy together with the Company's capabilities in the production of alternative energy power, the distribution of products related to power plant operations and the engineering services provide the Company a firm step into the business of constructing alternative energy power plants.

Due to active promotion of alternative energy utilization by government agencies in effort to reduce global warming, the Group views that businesses related to alternative energy are of great potential for development and investment. Furthermore, generation of power based on alternative energy, though being a fresh idea, has shown a promising start and strong growth in the future. The Company has provided construction services for power plant projects of its affiliates, including the completed and under construction, totalling 372.06 megawatts.

4.2 Construction of Electricity Station, Transmission System and Underground System

Gunkul Power Development Co., Ltd. ("GPD") and Future Electrical Control Co., Ltd. ("FEC"), subsidiaries of Gunkul Engineering Company Limited PCL ("the Company"). The Company holds 99.99% of the shares in GPD and GPD holds 99.99% of the shares in FEC. Both companies operate the electrical system construction business. GPD and FEC provide services as shown in the dashed line in the diagram below. In this regard, GPD also focuses on the construction of solar PV rooftop for using in the customer's business.



Transmission line structure and power distribution system structure

In the year 2019, Gunkul Power Development Co., Ltd. built a total of 66 solar PV rooftop projects for customers in the private sector for a total of 66 projects and Future Electrical Control Co., Ltd. constructed the Transmission Line, Sub-Station and Grounding system work for the Provincial Electricity Authority and the Metropolitan Electricity Authority, totaling 13 projects.

4.3 Procurement and service of underwater cable installation and equipment that related to all types of underwater cables

Due to the government and the Provincial Electricity Authority policy, they have plans to implement various projects to distribute prosperity to the region in order to have a well-being and a good quality of life. As for the electrical system development on the island areas where there are 61 people living and have used electricity, by installing diesel power plants in the amount of 5 islands in order to connect the electricity system from the mainland, by fixing the pole across the electric wires of 13 islands for connecting with the submarine cable of 23 islands because the electricity service in some islands still have inadequacy problems. PEA is aware of this electrical system development in order to provide areas throughout the country with sufficient electricity systems.

The submarine cable construction project is one of the projects that the agency has undertaken to replace and increase the ability to provide electricity to various islands in order to solve the power failure problems of the island's power supply system and to develop electrical systems to increase capacity; as well as, to increase stability in electricity distribution including to support the increasing electricity demand of various islands which is an important tourist destination that has a relatively high rate of economic growth. Currently, the Company completed 2 construction projects, namely the 22KV submarine cable maintenance project at Ko Si Chang, Chonburi province and the 33KV submarine cable construction project at Koh Phra Thong, Phang Nga province.

Currently, the Company still has 2 submarine cable construction projects which are under consideration for bidding from the PEA, which is the 115 KV submarine cable construction project at Koh Samui, Surat Thani and the 33 KV submarine cable project at Koh Panyee, Phang Nga Province.

4.4 Design, procurement and installation of micro-grid systems, energy storage system and intelligent electrical equipment that involved.

Due to the government policy and energy network development plan which is in line with the 11th National Economic and Social Development Plan which focuses on creating energy security together with the strategy of growth on the quality of life that is friendly to the environment (Green Growth). The Company won the bidding and participated in the development of a Microgrid power system development project of the PEA at Mae Sariang District, Mae Hong Son Province, with a work value of 132.90 million baht, the construction period of 360 days. This project is considered as a project to extend the alternative energy business of the Company in terms of the management of alternative energy appropriately which is also the first pilot project in Thailand.

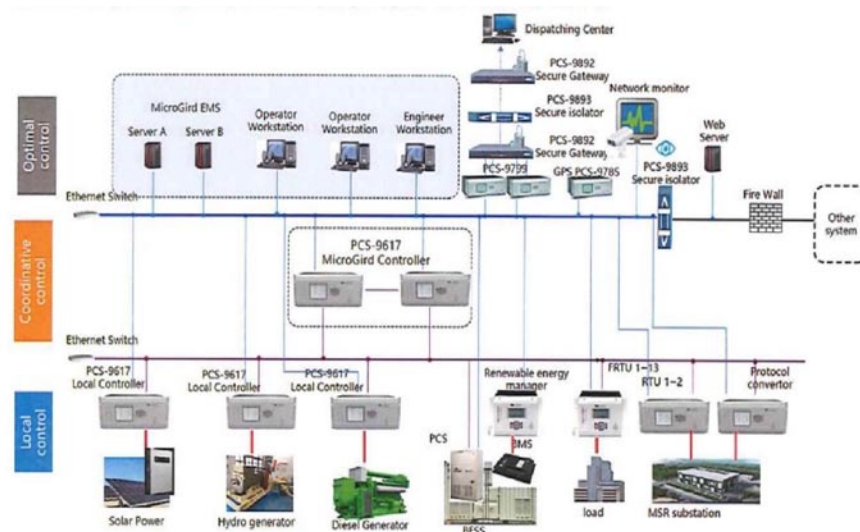


Diagram of an intelligent electrical control system of a microgrid power system development project of PEA
at Mae Sariang District, Mae Hong Son Province



Picture of smart power system control building, microgrid power system development project of PEA at Mae Sariang District, Mae Hong Son Province



Microgrid controller, the microgrid power system development project of PEA at Mae Sariang District, Mae Hong Son Province

Battery Energy Storage system size of 3MW/2.2 MWh, the microgrid power system development project of PEA at Mae Sariang District, Mae Hong Son Province





5. Operating and Maintenance Business

The Company has earned the trust of its business alliance as well as other operators to be the provider of post-construction maintenance services for their solar farms. The said supervision will control the operation of the production and oversee the efficiency of the electricity distribution of the solar power plants that installed on the roof and the ground. At present, the Company has provided maintenance services for 35 companies, 56 projects, totalling 206.44 MW.



In the year 2020, the Company realized the technological change affecting every industry, so the company established an Innovation Department under the brand name Gunkul Spectrum. This innovation division was established as a Trend Setter in energy and to apply various technologies to the Company's existing businesses such as electrical equipment and renewable energy businesses.

6. Innovation Development and Digital Platform of Energy Business

6.1 About GUNKUL SPECTRUM



In addition to the development of its existing business, Gunkul Spectrum also has innovative projects related to the energy industry, such as: Development of a Peer-to-Peer Power Trading System (P2P Energy Trading Platform), Solar panel monitoring system by unmanned aircraft and electric motor vehicles. Which the P2P Energy Trading Platform project, the Company has joined the Energy Regulatory Commission sandbox project to test the P2PEnergy Trading Platform cross-grid, also has cooperation with Naresuan University in testing and developing the said system.

Launched on September 3, 2020, GUNKUL SPECTRUM is an energy innovation business unit established to create a new type of energy digital business, with the main mission to create a dynamic energy source of the future for A better future for all Thais and becoming the country's first energy trendsetter as a bridge to lead everyone to a better life.

The new business model under GUNKUL SPECTRUM will open up additional business opportunities and expand customer base from the original focus on B2B (Business-to-Business) and B2G (Business-to-Government) businesses, expand into the B2C (Business-to-Consumer) market or the electric consumer market. This is in line with the trend of the energy industry that is gradually transforming from a centralized system to a decentralized system. GUNKUL SPECTRUM is responsible for studying the feasibility of energy innovation technology and bringing good and suitable innovation for Thai people to know, utilize, which the Company will move from a service provider role to an energy innovator.

The GUNKUL SPECTRUM development principle is divided into 3 axes:

1. Performance Enhancement is the introduction of innovation to enhance the performance of the organization.
2. Market Expansion is the expansion of the energy business to a wider market such as Digital platform business.
3. Leader in Energy Innovation as a Thailand's Trend Setter

The goal is to study technology that plays a role in other industries in order to develop innovative products that can be a tool to penetrate new markets by bringing Blockchain, AI, Social Commerce, and IOT as part of innovation, GUNKUL SPECTRUM focuses on working with strong and industry-leading business partners such as SCB10X, AIS and SGtech (from Naresuan university).

6.2 Projects developed for commercial launch

After selecting interesting projects and having the potential to do business, GUNKUL SPECTRUM will conduct detailed business planning, market study, business plan, set up a working team, develop systems and provide real service to clients, for example;

6.2.1 VOLT ENERGY MARKETPLACE

E-commerce platforms are another way to expand the market, increase competitiveness, and create an unfair advantage for the Company in the ever-growing era of online trading. VOLT ENERGY MARKETPLACE is a platform to gather professional rooftop solar installers around Thailand to be online and provide matching services to customers who are interested in installing a solar rooftop system thoroughly and makes solar installation from difficult matters to become easy, convenient and safe. The VOLT platform focuses on solar roof markets to serve homes to SMEs with system sizes from 3 kW to 100 kW, or existing electricity users with monthly electricity bills from 3,000 baht per month

The services of the VOLT platform are covered;

- (1) Calculate the customer's electricity usage and recommend the appropriate solar rooftop.
- (2) Compare local service providers in every detail (e.g. price comparison, product quality, warranty).
- (3) Coordinate as a payment intermediary. (Secured payment)
- (4) Installation quality inspection service.

ทำโซลาร์ให้เป็นเรื่องง่าย...แค่ปลายนิ้ว

แพลตฟอร์มช่วยค้นหาผู้ติดตั้งโซลาร์ฟาร์มที่ได้รับความนิยมทั่วประเทศผ่านระบบออนไลน์ โวลต์ช่วยทั้งคำนวณขนาดติดตั้ง จัดเรียงและเปรียบเทียบข้อเสนอให้กับลูกค้าที่สนใจ ดูได้ทุกกระบวนการแบบครบวงจร

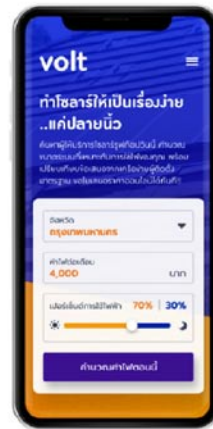


HOUSEHOLD
กลุ่มลูกค้าระดับครัวเรือน



SME / BUSINESS
กลุ่มลูกค้าธุรกิจ > 100KW

<https://www.voltmarketplace.com>



Volt Emarketplace service model

The services of the VOLT platform are not only focused on providing services to solar system buyers, but also to provide fair service to solar roof Installer / EPC contractor to be comfortable in the work as well such as,

- (1) Increase sales and marketing channels in online media.
- (2) Reduce costs for solar roof installers by reducing steps and supporting installers in sales and marketing matters.
- (3) Coordinate and answer questions to customers.
- (4) Receive payment for the service to reduce the risk for solar rooftop installers.

ขายผ่านเรา รับงานสะดวก เอกสารรวดเร็ว



" Volt กำลังมองหาทีมผู้ติดตั้งโซลาร์ฟาร์มมืออาชีพมาร่วม
เติบโตไปกับเรา เพื่อช่วยยกระดับคุณภาพการให้บริการและ
เพิ่มการเข้าถึงให้กับลูกค้าจากทั่วประเทศ"

Photo of Volt's service process to solar installers

6.2.2 Wholesale Platform: GodungFaifaa.com

GUNKUL SPECTRUM has partnered with SCB10X to develop a Marketplace called “Electric Warehouse” (www.GodungFaifaa.com) in a comprehensive Marketplace format that connects buyers of electrical equipment. (Such as electrical equipment stores and contractors) easily meet with domestic and international equipment manufacturers, establish transportation systems, diversify payment systems, and provide end-to-end services to achieve a sustainable Eco system with efficiently reduce step restrictions and trade nationwide, Asia’s first Wholesale online platform, and being the first Wholesale online platform for electrical equipment in Asia.

The electric warehouse platform has four main strategies:

- (1) Best Price Offer
- (2) Real Time Process
- (3) After Sale Service and Warranty
- (4) Logistics Services (end-to-end)

The advantage of the platform from a seller’s point of view is that it helps to manage the difficulties that large sellers often face when dealing with small buyers, such as clarifying product details, inquiries and negotiations on prices and the issuance of documents. Also, in the buyer’s point of view is to assure the buyer that the product is from the manufacturer or official agent and purchased the product at a price close to the factory price or the lowest price available in the market.



Picture of Godungfaifaa banner on Social Media channel

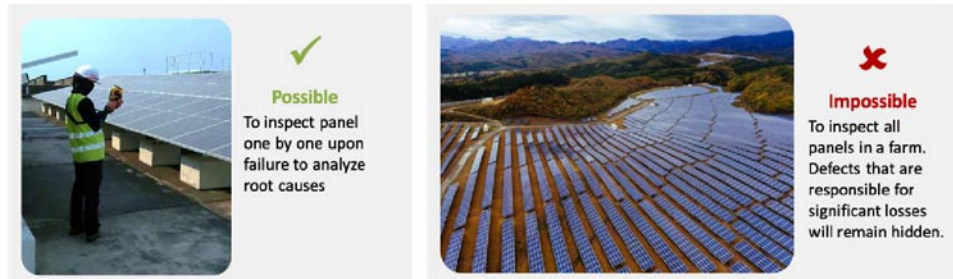
The platform is currently under development, aiming to launch the market in 2021, during the development process, there were periodic trading tests to test the market demand and increasing the number of sellers of major brands of products in order to prepare their own products for sale on the platform. The Company sincerely hopes that it will gain popularity and success and create business opportunities for the Company.

6.2.3 Drone Thermal Scan

The process of maintaining a solar power plant in good condition on a regular basis is very important to the power plant’s income because it helps the efficiency of electricity generation to be continuously produced and can also sell a lot of electricity and have a longer lifespan.

Traditional method cannot cover all defects on the whole solar power plant

- Thermal inspection is **traditionally** done by a hand-held thermal camera, **inspecting one panel at a time**.
- Average solar farm has **more than 30,000 panels**. To inspect all panel, **at least 1 month** is needed.
- With our innovation, it takes **only 1 hour** to gather all the data, **and 1 day** to process all the data.

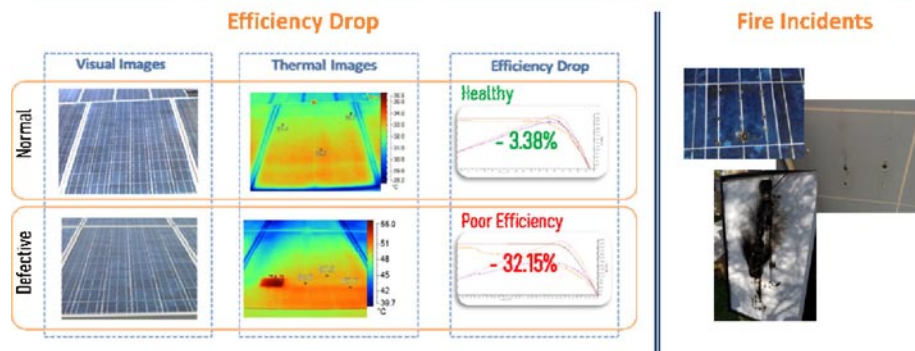


Comparison of solar power plant maintenance

GUNKUL SPECTRUM combines unmanned aerial vehicle technology (Drone) and thermal imaging cameras (Thermal Scan) to detect faults of solar panels with thermal imaging in order to detect panels for hotspot problems or other possible patterns of damage, find panels that do not produce full electrical energy. Drone Thermal Scan tool takes thermal images of the solar panels and can be analyzed for more accurate results, detecting faulty solar panels before the panels wear out. The condition is so great that it affects the production of electricity significantly.

There are defects on solar panel which cannot be seen

These defects cause power production efficiency drop, and in some rare case, could lead to fire incidents. However, these defects can only be seen in thermal images.



An accurate comparison of the operation of a thermal camera and the detection of problem panels.

Thermal Drone Image Processing

- (1) Send an unmanned vehicle (Thermal Drone) equipped with a thermal imaging camera to fly over the solar farm to capture the thermal image of the solar panel.
- (2) Capture detailed images and send them to a detailed Image Processing, which is integrated with AI to analyze and detect damaged solar panels such as, hot spots and other types of damage, including accurate calculation of the reduction of electricity production
- (3) Collect data and report on the efficiency of the solar power plant.
- (4) Knowing the location of the damaged solar panel, it is possible to plan the maintenance and replacement of the damaged panel more efficiently.

Traditionally, solar panel anomalies can be detected with a hand-held thermal camera, but there are limitations on speed. This results in delays or costly checking every solar panel every few months. This transformation of the inspection system to Thermal Drone Image Processing is believed to reduce time, cost and efficiency in monitoring solar cell performance for businesses.

6.2.4 Peer-to-peer power trading platform

Solar roofs now have access to more and more households every year. People are more alert to clean energy; however, solar cells can only produce lights during the day or only during the sun and once the electricity is produced, it is necessary to use it at all and cannot be stored for later use without a storage system. Therefore, there is wasted energy if the homeowners use less electricity than they produce. One of the options for reducing wastage and increasing energy efficiency from photovoltaic systems is sale of excess electricity to power consumers who have demand for electricity at that time.

GUNKUL SPECTRUM was selected to join the Energy Regulatory Commission (ERC) sandbox program to build and test a Peer to Peer energy trading system with an 18-month test period to study and develop energy trading systems with relevant government sectors.

17.2 The Company's revenue structure is divided into business structure

The company's customers are divided into 3 groups: Public Sector Clients. The Private Clients and Internationally Clients, each group has a structure as follows;

The Revenue Structure of the Company by Product Line

Revenue Type	2018		2019		2020	
	THB min	%	THB min	%	THB min	%
1. Revenue from the manufacturing, supply and distribution of equipment business for electrical systems and renewable energy systems						
1.1 Sourcing for Distribution	573.03	9.20	1,017.92	11.77	510.26	5.90
1.2 Production for Distribution	771.93	12.39	508.58	5.88	985.62	11.40
2. Revenue from electricity generation and distribuion business from renewable energy						
- Produce and sell electricity from solar energy	2,929.75	47.02	4,504.40	52.08	4,093.35	47.33
3. Revenue from construction of renewable energy power plants	1,887.24	30.29	979.95	11.33	2,022.42	23.38
4. Service Revenue	68.54	1.10	87.72	1.01	124.21	1.44
5. Revenue from sales of property under the lease agreement	-		-	-	913.48	10.56
Total Revenue	6,230.49	100.00	7,098.57	82.07	8,649.34	100.00

The Revenue Structure of the Company by Customers Line

Revenue	2018		2019		2020	
	THB min	%	THB min	%	THB min	%
Public Sector Customer						
- Revenue from the sale of equipment for electrical and renewable energy systems and revenue from rendering of services	764.44	12.33	1,087.69	15.32	3,555.92	41.11
- Revenue from electricity distribution	2,929.75	47.02	4,504.40	63.46	4,093.35	47.33
Private Sector Customer						
- Revenue from the sale of equipment for electrical and renewable energy systems	620.46	9.96	515.42	7.26	263.22	3.04
- Revenue from construction of power plants	1,887.24	30.29	979.95	13.80	728.10	8.42
Foreign customers	24.60	0.39	11.11	0.16	8.75	0.10
Total Revenue	6,230.49	100.00	7,098.57	100.00	8,649.34	100.00

17.3 Industry Overview and Competition

Year	Maximum power			Electrical Energy			Load factor
	Megawatts	Add		Megawatts	Add		
		Megawatts	%		Million units	%	
True Value							
2015	28,082	449	1.62	189,521	6,643	3.63	77.04
2016	30,973	2,890	10.92	196,868	7,347	3.88	72.36
2017	30,303	-669	-2.16	198,442	1,575	0.80	74.75
Forecast Value							
2018	29,969	-335	-1.11	203,203	4,761	2.40	77.40
2019	31,377	1,408	4.7	211,664	8,461	4.16	77.01
2020	32,732	1,355	4.32	219,946	8,282	3.91	76.71
2021	34,006	1,274	3.89	228,131	8,184	3.72	76.58
2022	35,213	1,207	3.55	236,488	8,357	3.66	76.67

Peak Demand Calculated and Peak Electricity

Since 2017, the increased infrastructure investment was made from the government sector. Moreover, Eastern Economic Corridor announcement will be more construction project in the future such as high speed railway construction, motorway construction, connecting to the industrial areas and transportation routes, etc. This will be expanded all growth progress along those paths. There are strategic industrial areas which are appropriate for transportation. Therefore, the country needs more electricity. The net peak of demand for electricity in the system of Electricity Generating Authority of Thailand (Net Peak Generation Requirement) in 2019 was at 31,377 Megawatts (MW) increased from last year around 4.70% equal to 1,408 MW (as shown table below). As a result of the government energy conservative policies and support of renewable energy. However, Thailand GDP growth expected to increase. As well as the projects construction completion will be increased in electricity consumption. The government needs to add more energy efficiency policies and resource management to match with the economic growth, by expecting the electricity demands will be increased around 3.89% in

2021. The imbalance of natural gas use in power generation is as high as 70% and the policy to promote the construction of coal power plants in the southern region in order to meet the demand for electricity at the peak demand level. With the environmental factors of the population in the area which caused the construction was delayed. It focuses on the construction of power transmission system and power station to carry the electricity from excess supply sources such as in the Northeast to distribute in the South.

Although in 2020, electricity consumption in the first half of the year dropped as a result of lower business and industrial electricity demand due to the COVID-19 epidemic situation. The government has to announce the closure of some business establishments nationwide. Including city shutdown measures, but at the same time, the government pushes for the use of electric vehicles (EVs), with the National Energy Policy Council approving the energy policy on innovation and energy technology, promoting the installation of EV Charging Station Mapping The policy framework covers community areas, gas stations, shopping malls, commercial buildings, office buildings, main roads between cities, allowing the public and private sectors to apply for support from the Energy Conservation Fund and when people see that there are enough stations that are sufficient to meet the widespread demand, they will begin to pay attention to the use of electric vehicles, which means that in the future there will be more electricity. In addition, in 2020, the United States has elected a new president, with Democrat Joe Biden as the new leader and redefining the country's policy direction. One of the issues that Joe Biden places emphasis on is the Green Recovery policy, in order to drive the economy while caring for the environment, by focusing on investing and developing environmental innovations in areas related to clean energy, such as supporting the use of electric vehicles, improving infrastructure by increasing energy capacity from solar and wind turbines, aiming to become a nation with 100% clean energy and a carbon neutral by 2050. So, if the world's largest economy and second-largest emitters in the world, like the United States, has taken a serious green action. These things will continue to affect the world and be a force for other countries to move towards a greener direction. Therefore, it is an opportunity for the company to expand its investment and grow in a favorable situation in terms of policy and social values.

Moreover, the industry situation and competition in the renewable energy sector in the country since the year 2018, from the policy of limiting the amount of promotion of all types of renewable energy power plants which have accelerated or reduced the use of renewable energy in the past year. However, the Power Development Plan of Thailand B.E. 2561 - 2580: (PDP 2018 - April 2019) of the Ministry of Energy's Policy and Planning Bureau focuses on promoting the use of renewable energy in the public solar rooftop group to replace But under the reliance on obtaining a license to sell electricity (PPA) that is reduced due to the above reasons but under the reliance on obtaining a license to sell electricity (PPA) that is reduced due to the above reasons. It turns out that the cost of installing solar power plants on the roof and on the ground has a lower value, resulting in the cost of electricity production per unit compared to the purchase of electricity from the Provincial Electricity Authority and the Metropolitan Electricity Authority at an economical level in case of installed for self-use, it can reduce or save by approximately 12 - 30%. Resulting in greater demand from the private sector who wish to improve the energy use structure of the business by aiming to offer services in many forms such as:

1. Determine the Company to be the investor in the installation and act as the electricity supplier produced from the installation of the solar system on the roof of the customer by determining the discount rate for the distribution of electricity and the return period of the project for the target purpose from the transfer of such assets to the customer at the end of the project
2. Determine the company to be a service provider for the installation of electricity generation systems from solar panels on the roof. The client is the issuer of this investment.

From the above cases, the demand for solar roof installation on the roof has increased since 2017 onwards and if it is the case that customers want to invest themselves, it will appear more than 5 major competitors in the market. However, the Company is a manufacturer and distributor of solar system equipment and is a full service provider of installation and maintenance with the cost efficiency including quality. As a result, the Company having high competitiveness compared to competitors in the same market and for the same reason, if the customer wishes the Company to invest in the construction and distribution of electricity with a discount, the Company will consider the suitability from the risk of compliance with the power purchase agreement. Including the impact on the industry in which the customers operate the business as a basis for consideration in order to source long-term funding to support the offering of such services.

Regarding the industrial situation and competition in the renewable energy industry abroad, the Company has focused on investing in ASEAN countries.

Japan

As the Company has invested in a total of 200 MW solar power plants (4 power plants), which in the past 2017, the Company has developed two-fourths of the project until it is able to sell commercial power in 2018 and 2019. The Company has also continued to develop two more power plants, but since 2016 the Japanese government has revised the law by stipulating the conditions to expedite FiT-approved projects to start selling commercial power within a specified period of time to prevent the purchase price from falling from the purchase contract. Moreover, in year 2017, the Japanese government has changed the system of determining the purchase price from the model from Feed-in-Tariff system to a price bidding system which; as a result, the purchase price of electricity in new projects in Japan at present has dropped considerably. Therefore, the Company foresees the risk of the Japanese government periodically enacting new laws. In order to terminate the PPA that has not yet commenced commercial power distribution, the Company has resolved to sell both power plants that have not yet begun to distribute commercial power, totaling 141.78 MW in the past year. This is because the Company considers that both power plants will need almost 3 years to develop projects in order to distribute commercial power, also there are proponents to invest and give better returns compared with the company has to develop a project despite the risk of a delay in the project development process.

Malaysia

Since 2017, Malaysia has promoted the policy to use of renewable energy, especially the type of solar power plant. Previously, Malaysia has supported by create a Power Purchase Agreement (PPA) of lower than 5 MW. There is an investor of power plants in Malaysia around 100 MW. However, the Malaysian government recognizes the potential of the country and the cost of construction of power plants dropping dramatically. The cost of solar energy per unit is reduced to a competitive level compared to other types of electricity. As a result, the Malaysian government aims to promote more electricity from solar power by increasing the size of the power plant and the number permission to apply for a power purchase agreement.

The company has joined with local partners in the development countries by submitting the Power Purchase Agreement at 29.99 MW in Terengganu, Malaysia. The completion and approval of the Board of Directors' meeting on February 21, 2018 is the first step for Gunkul Engineering Public Company Limited to invest in a 29.99 MW Large Scale Solar PV (LSSPV) solar power plant project in Malaysia, as information has been given to all shareholders. The project has been completed and the commercial power distribution has been carried out since December 31, 2020.

Source: www.bot.or.th, www.eppo.go.th, www.egat.com, <http://www.drborworn.com/>

17.3.1 Industry conditions

- **Overview of the Electricity System in Thailand**

The industry of electrical power and system production in Thailand can be divided into 3 main groups, details as follows;

1) Power producers

Manufacturers of electrical systems in Thailand can be divided into 6 groups, i.e. the Electricity Generating Authority of Thailand, major independent power producers (IPP), small power producers (SPP), very small power producers (VSPP), other producers including government agencies such as the Department of Energy and Energy Conservation that produce electrical power from small hydropower dams and the import of power from Internationally.

The Electricity Generating Authority of Thailand ("EGAT") serves as the country's largest power producer, the largest purchaser of electrical power produced by other manufacturers, as well as the importer of electricity from neighbouring countries, namely Laos and Malaysia. EGAT determines the amount of power, each power plant has to supply to national transmission system to meet the electricity demand in each period.

2) Power suppliers

The Electricity Generating Authority of Thailand is the supplier of electrical power to 2 state enterprises, i.e. the Metropolitan Electricity Authority ("MEA") and the Provincial Electricity Authority ("PEA") that are responsible for distribution of electricity to industrial sector, business sector and household sector around the country. EGAT supplies electrical power directly to some customers as well.

In electricity transmission from power plants to MEA and PEA requires, the voltage must be regulated to reduce any power loss during long-distance transmission of electricity. Then MEA and PEA transmit electricity to users through the voltage transmission system in Bangkok, Nonthaburi and Samutprakan. For PEA is responsible for electricity transmission to areas other, except the 3 provinces on above. In electricity transmission to end users, the voltage must be reduced to level suitable for using.

3) Consumers

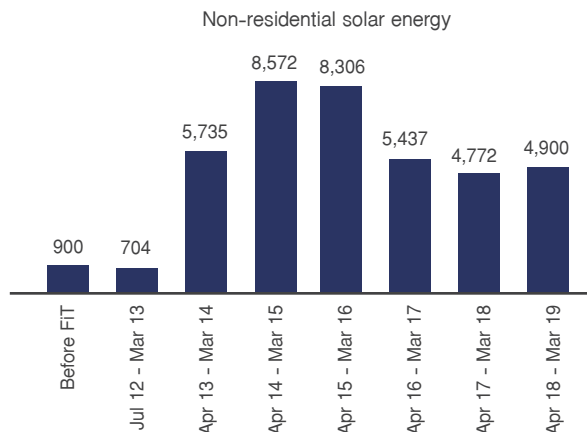
Consumers consist of industrial sector, business sector and residential users, etc.

The electrical systems associated with the Group's private sector clients, generally diversified various in the construction of high power, public transport and the electrical power industry. However, when considering only large projects from an overview of the private sector. That will be seen that, large private sector investment projects are involved or supported by the public sector. Especially in relation to investment in public utilities, the government initiated the investment. The government plans to stimulate the economy. The emphasis is on investment in public infrastructure such as investment in mass transit systems by the electric train project. Both Metro and Underground. With a total investment of over 800,000 million baht within 20 years, has resulted in the private sector. Related to such investments. More investment for the group. These investment projects look at the opportunity to distribute electrical equipment related to the transmission of electricity to rail systems such as lightning protection devices. Cable Termination Device and wiring harness, grounding equipment. Also other equipment that, related to the transmission of electricity to the electric rail system of the project.

Overview of the electrical system of Japan

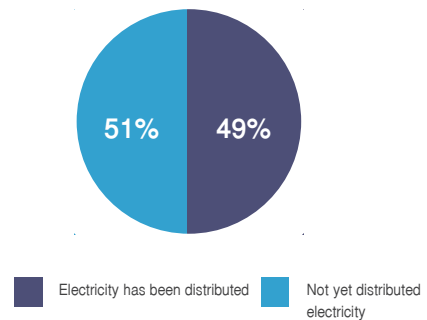
As a result of the Fukushima nuclear power plant incident in 2011, the Japanese government has increasingly encouraged electricity from renewable energy as shown in Graph 1. The government has set up an energy plan targeting 22-24% of electricity generated from renewable energy by 2030, which will come from solar energy 7.0% or equivalent to 68,656 million kilowatt hours.

Graph 1: Amount of power production under distribution by license

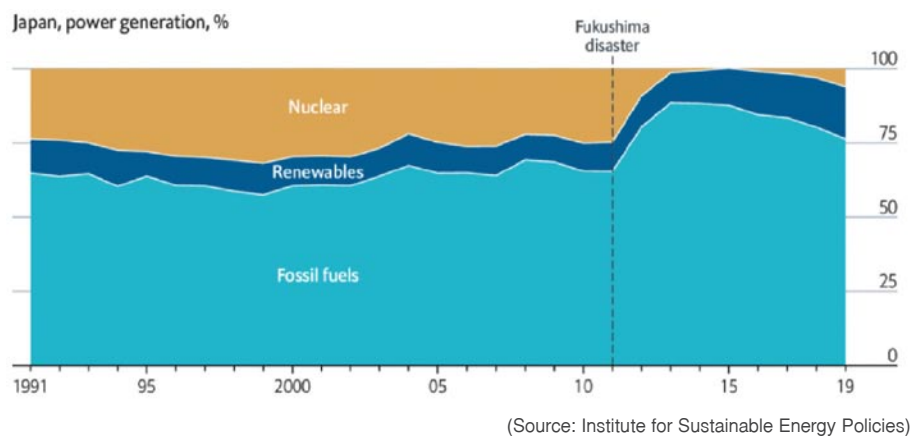


Source: Status of domestic and foreign energy reports, September

Graph 2: Power plant status classified by



Source: Energy White Paper 2019



Graph 1: Ratio of electrical systems in Japan

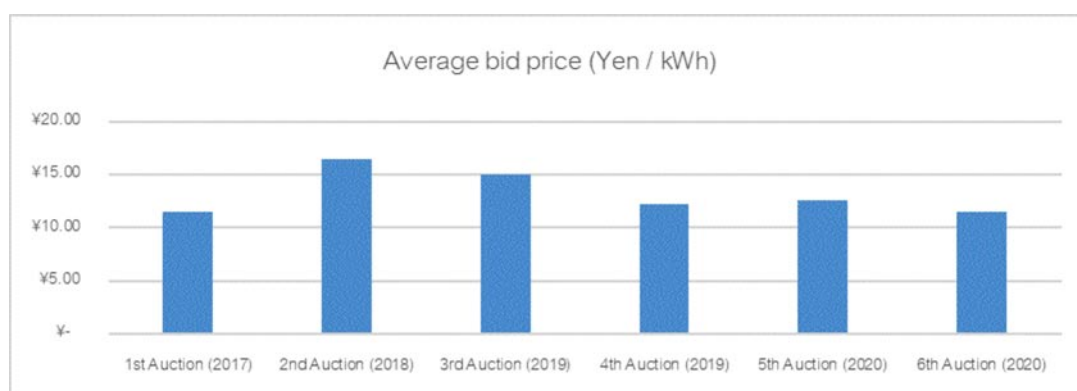
And to support electricity generation from renewable energy, the Japanese government has changed its support method for purchasing electricity from the Renewables Portfolio Standard (“RPS”) system to Feed in Tariff (“FIT”), which has been in effect since 2012. As a result of this change, the number of non-residential solar power generation has increased from 900 MW before the policy announcement to 39,326 MW within 6 years and 8 months. The growth of the approved project volumes is inconsistent with the real solar power generation conditions. As more than half of the approved projects are still under development, the government has issued measures to stimulate project development; as well as tighten the approval of new projects for example, the applicant for the project will have to enter into a power connection agreement with the utility authority as evidence for the project approval, making the investment in solar projects more complex.

Trends in electricity generating industry and power systems in Japan

The Company views that investing in the electricity generating industry in Japan, especially solar power, will be more challenging due to 2 main factors: 1) the adjustment of the purchase price from the FIT system as an auction system 2) Efforts from the government to stimulate projects that are still in development, even after approval for some time.

In other words, from the FIT price that set by the Japanese government at 40 yen / kWh in fiscal year 2012, the government has gradually reduced the purchase price. Until the fiscal year of 2017, the government changed the way the government set the purchasing price to be the price that the operator bid for projects larger than 250 kW in order to reduce the purchase price to reflect the lower cost of producing solar power. The auction results report for the purchase price as shown in Table

1 below shows that the auction price is likely to continue to decline and due to increased price competition from the operators. The Company is of the view that new projects will not receive a suitable purchase price according to the investment policy of the Company.

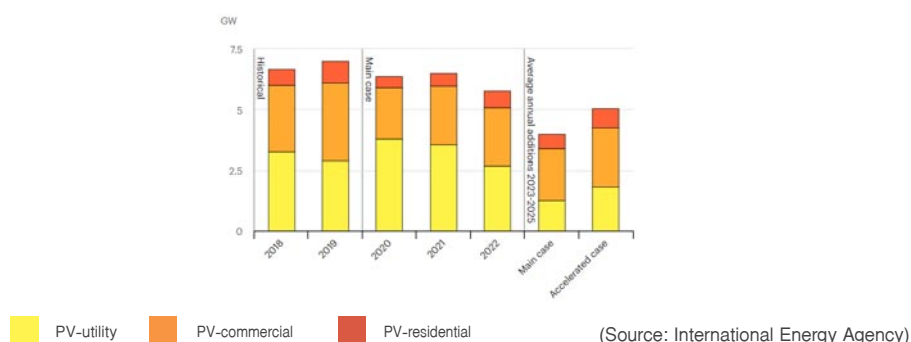


(Source: Green Investment Promotion Organization, Japan)

Graph 1: Average Bid Price in 2017 - 2020

In addition, from the measures to stimulate projects that are still under development, especially those that have been licensed before fiscal year 2015. As a result, the Company has resolved to approve the sale of 2 projects that have not yet been signed to connect to the Electricity Authority in the past year in order to reduce the risk of delays in the project development process that may cause the price FiT dropped from the originally agreed upon.

However, the Japanese government still has a policy to support electricity production from renewable energy, especially large-scale solar power projects and wind power projects that have drafted a law to amend the Electricity Business Act and relevant laws to initiate the use of the Feed-In-Premium (FIP) system, where operators will receive income from the sale of electricity, will also receive additional subsidies throughout the FIP period. In addition, the market situation and other factors must also be taken into account in order to establish rules and standards for calculating the reference price of the system. When the said draft law is approved, it will take effect from April 1, 2022 as shown in graph 2 below that shows an accelerated construction of the power plant to be ready for commercial sale within the 2021. According to the government policy and the growth of power plants after 2022 will not be very clear, depending on the policy to support renewable energy plants such as the FIP system that remains to be watched.



(Source: International Energy Agency)

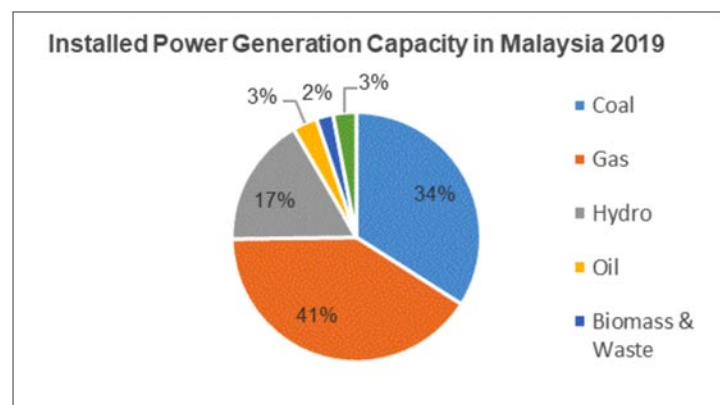
Graph 2: Increased solar power production between 2018 and 2022
and the average increase in volume from 2023 - 2025

In this regard, the Company is still looking for investment opportunities in Japan, since the Company has expertise in the business environment, the Company has started to consider alternative investment options in other areas, based on government policies, as well as considering investment in other countries.

Overview of the electrical system of Malaysia

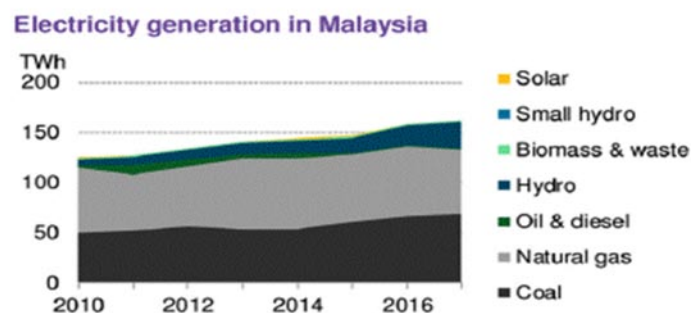
The economy of Malaysia during the past year has grown steadily in accordance with the driving force of consumer consumption. As a result, there are many industrial factories in Malaysia over the years. As a result, the demand for electricity since 2010 has grown by 4.0%.

In 2019, the total installed capacity in Malaysia is 36.9 gigawatts, consisting of 74.8% of the electricity used from coal and gas from the total electricity generating capacity in 2019 as shown in below graph.



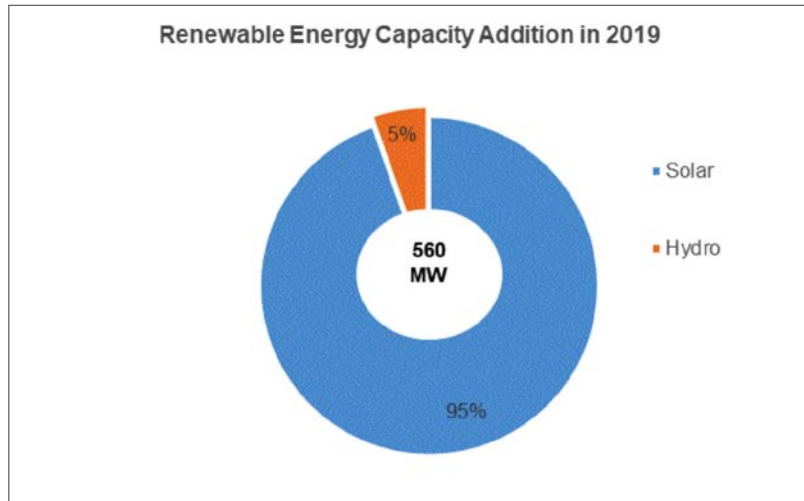
Source: Energy Commission, Malaysia, Sustainable Energy Development Authority, BloombergNEF

However, electricity that produced from fossil fuels has continuously decreased since 2010, at that time, representing 94.0% of the total electricity generating capacity and reduced to only 78.0%, with electricity from water power to replace 4 gigawatts as shown in the chart below.



Source: Energy Commission, Malaysia, Sustainable Energy Development Authority, BloombergNEF

As mentioned above, due to the high demand for electricity in Malaysia, resulting in the year 2019, the installed capacity of electricity in Malaysia has increased by 2.7 gigawatts from 2018, with an increase of 21.1%. This is the increase of production capacity from renewable energy power plants or equivalent to an additional 560 MW of total installed capacity. The chart below shows the additional installed capacity in 2019 for the additional installed capacity from renewable energy power plants.



Source: Energy Commission, Malaysia, Sustainable Energy Development Authority, BloombergNEF

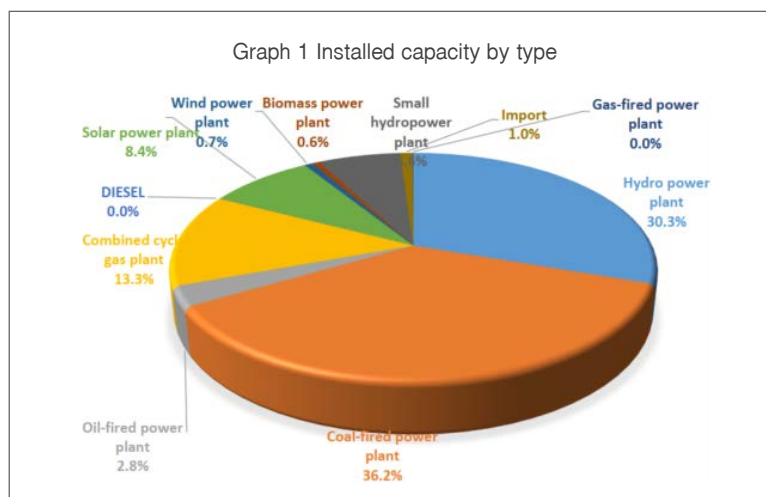
In addition, in order to support renewable energy power plants, the Malaysian government has allowed the private sector to participate in the ownership of solar power plants in the Large Scale Solar Power Plant (LSS) project by participating in the auction according to the conditions that set by government agencies which currently consists of the LSS1, LSS2 and LSS3 projects. For the LSS1 project, 19 companies won a total of 451 MW and LSS2 had a total of 562 MW (Source: BloombergNEF). As for the LSS3 project, the Malaysian government has opened for bidding more than 500 MW by the end of 2019. The lowest electricity price per unit announced by the government for the private sector that won the bidding is 0.178 Malaysian ringgit per kilowatt hour which is expected to start commercial distribution in 2021. In addition, the Malaysian government announced the auction for a total of 1 gigawatt of LSS4 projects in late 2020, which requires at least 75% of the shareholders to be Malaysian companies and is expected to begin selling commercial lights in the late 2023 period.

In terms of supporting other alternative energy sources, the government has supported the production of solar electricity on the rooftop, including small hydro power plants, biomass power plants and biofuels power plants with tax incentives to operators in the area of such renewable energy. Which the Malaysian government predicts that within the year by 2025, electricity produced from renewable energy accounts for 20% of the total energy that is used to generate electricity.

Vietnam electrical system overview

Vietnam has experienced continuous economic growth, with the gross domestic product (GDP) from 2015-2019 averaging at 6.9% and even with the impact of the covid-19 virus outbreak by 2020, Vietnam can still experience positive economic growth in Q3 of about 1.6% (source: IMF).

While Vietnam's energy demand at the end of 2019 stood at 240.1 billion kWh, a 9.1% increase from 2018, representing an increase of 9.1% from 2018. While the maximum load was 38,249 MW (June 21, 2019), while the total installed capacity for the country was 55,367 MW, an increase of 13.2% compared to 2018 which has a share of solar energy consumption at 4,696 MW (8.48%) and wind power at 377 MW (0.68%).



Source: Vietnam National Load Dispatcher, December 2019

Trends in the electricity generating industry and power systems in Vietnam

The Vietnamese government has a policy to continuously push for renewable energy from solar, wind and others, which the policy of purchasing power from the private sector is a Feed In Tariff (FIT) system, with the electricity cost divided by type and date of power distribution as follows:

Solar power plant type	Power supply before 30 JUNE 2019	Power supply before 31 DEC 2020
Solar Farm	9.35	7.09
Solar Roof	-	8.38
Floating Solar	-	7.69

* Unit: US cent / kilowatt hour

Wind power plant type	Power supply before 31 OCT 2021	Power supply between 1 NOV 2021 and 31 DEC 2023
Wind power plants on the coast	8.5	Not yet announced
Offshore wind power plants	9.8	Not yet announced

* Unit: US cent / kilowatt hour

According to the government's policy after the end of FIT this round, it is not clear whether the government will continue to maintain FIT or it will switch to a bidding model.

Outlook for power generation industry and electrical system in Thailand

The Ministry of Energy together with the Electricity Generating Authority of Thailand has developed a Power Development Plan of Thailand, Revised Edition B.E. 2561 (PDP2018) which is the main plan for power development of the country from the original PDP2015, the 3rd edition of the plan, to be more consistent with the current situation. The plan was approved by the National Energy Policy Council on April, 2019.

The preparation of the power development plan of Thailand in the past only considered the importance of the specific supply of electricity to meet the overall electricity demand in the whole country without considering the distribution conditions of the electricity generation system or the management of fuel sources that are detailed by region, including the determination of

power plants for security in each area. In addition, the recent electricity consumption situation has changed from the forecast value of the original electricity demand for the preparation of the power development plan of Thailand, B.E.2558-2579 (PDP2015). Moreover, the PDP2015 plan has been implemented for a period of time, thus the Ministry of Energy introduced the PDP2015 plan to review and improve. In order to make the country's power development planning consistent with the changing electricity demand as a result of economic growth and changes in power generation technologies that are expected to occur in the future. Including reflecting the government's policy and the national strategic plan for 20 years with consideration of the development of power generation to suit the electricity demand and production potential in each region. In addition, it also considers the link between investment in electricity production, the stability of the power transmission system for the management of the electrical system to achieve maximum value and the promotion of electric business to increase competition under supervision for maximum efficiency and maintain stability.

The preparation of the country's electricity demand forecast, the Office of the National Economic and Social Development Board (NESDB) has prepared an estimate of the long-term economic growth trend (GPD) between 2017 - 2037, with an average of 3.8% per year, the average population growth rate is -0.02% per year.

As for the forecast of electricity demand used in the PDP2018 plan during the year 2018 - 2037, it is found that the forecast value of net total electrical energy demand of the 3 Electricity Authorities' system and the net peak power in the year 2037 is approximately 367,458 million units and 53,997 MW respectively.

Year	PDP 2015		PDP 2018		Change	
	Maximum	Electric power	Maximum	Electric power	Maximum	Electric power
	power (MW)	(million units)	power (MW)	(million units)	power (MW)	(million units)
2018	32,429	212,515	29,969	203,203	-2,460	-9,312
2022	36,776	241,273	35,213	236,488	-1,563	-4,785
2027	41,693	273,440	41,079	277,302	-614	3,862
2032	46,296	303,856	47,303	320,761	1,007	16,905
2037	-	-	53,997	367,458	-	-

Source: Energy Policy and Planning Office, Ministry of Energy

The Power Development Plan of Thailand, B.E. 2561 - 2580 (PDP2018) will have a power generation capacity the 3 Electricity Authority systems at the end of the year 2037, a total of 77,211 MW, which consists of current electricity generating capacity at the end of 2017, equal to 46,090 MW, which is the production capacity of the new power plant totaling 56,431 MW. Also, the discharge of the old power plant that expired during the year 2018 - 2037 in the amount of 25,310 MW.

Power generation during 2018 - 2037

-	Power generation as of December 2017	46,090	megawatts
-	New power generation capacity during 2018 - 2037	56,431	megawatts
-	Power generation that was discharged from the system during 2018 - 2037	(25,310)	megawatts
-	Total electricity production at the end of 2037	77,211	megawatts

New power generation capacity during 2018 - 2037 equals to 56,431 megawatts, separated by type of power plants as follows:

Renewable energy power plant	20,766	megawatts
Hydroelectric Power Plant	500	megawatts
Cogeneration power plant	2,112	megawatts
Combined heat power plant	13,156	megawatts
Thermal power plant	12,113	megawatts
Coal / lignite power plant	1,740	megawatts
Purchase foreign electricity	5,857	megawatts
New / replacement power plant	8,300	megawatts
Energy Conservation Measures	4,000	megawatts
Total	56,431	megawatts

Source: PDP2018, Energy Policy and Planning Office, Ministry of Energy

The PDP2018 plan consists of 4 main parts:

1. Power plants in accordance with the government's promotion policy: Promote electricity production from renewable energy, such as community waste and civil state biomass power plant at 3 southern border provinces, etc.
2. Fossil fuel power plants, consisting of EGAT power plants, large private power producers (IPP), small private power producers (SPP), and purchasing power from abroad, by (1) allocating the main power plant for regional security, divided into 7 regions, namely, North, Northeast, East, West, Central, Southern and Metropolitan (2) allocate the main power plant as necessary and sufficient to maintain the stability of the regional power system. However, EGAT is also responsible for maintaining the stability of the electrical system.
3. Renewable power plants under the Alternative Energy Development Plan (AEDP), consisting of biomass, biogas, solar energy, solar energy floating with hydroelectric power plants and other renewable energy, with an annual purchase target according to the electricity production policy from renewable energy and purchase at a price not exceeding Grid Parity in order to maintain the retail price of electricity not to rise.
4. Energy conservation policy under the energy conservation plan that can prove confidence with quality and can compete with prices not exceeding Grid Parity.

Renewable energy policy according to the Alternative Energy Development Plan (AEDP)

- 1) Power plants under the government's promotion policy

The promoting the production of electricity from renewable energy of the government sector focuses on solving social problems, including community garbage problems. Also, the promotion of electricity production from biomass and biogas in the special 3 southern border provinces, etc. This is the integration of collaboration between government, community and private sectors for responding to the goal of creating local growth, which affects stability, income distribution and job creation in the area and the use of local resources for maximum benefit. The operation has the following objectives:

- Create an integrated system and participation, covering both the government, community and private sectors, resulting in stability, distribution of income and employment to communities in the area
- Create economic growth and create wealth for the community
- Strengthen the country's energy security
- Promote the use of local resources to the fullest benefit
- Decentralization from central to local / regional
- Create a community in the area to have ownership and maintain the power-transmission system.

By setting the target to promote renewable energy according to the potential of the area, which considers data from the Department of Alternative Energy Development and Energy Conservation, with a total target of 520 MW, consisting of

- Waste power plant with a capacity 400 MW
- Public state biomass power plant in the 3 southern border provinces area, totaling 120 MW

2) New renewable power plants and energy conservation measures

Renewable power plants will consider procurement of electricity from renewable energy to be in line with the remaining renewable energy potential of the country and to support the changing behavior of electricity users, including the change of disruptive technology in electrical energy that will occur. Also, still comply with the COP21 agreement, consisting of biomass, biogas, solar energy, solar energy floating together with hydroelectric power plants and other renewable energy, with the goal of purchasing to maintain the retail price of electricity not to rise. Moreover, there is also consideration of energy conservation measures in the future that will be reliable and has a cost that can compete with renewable energy power plants as well.

(Unit: MW)

Renewable Energy / Energy Conservation	Contract Manufacturing Capacity	Reliable Manufacturing Capacity
Solar Energy *	10,000	4,250
Biomass	3,376	2,296
Biogas,	546	325
Solar energy floating together with hydroelectric power plants	2,725	1,158
Wind power	1,485	189
Industrial waste	44	26
Electrical energy conservation measures	-	4,000
Total as of 2037	18,176	12,244

Remark: * 1. There will be a 100 megawatt solar project per (Public sector solar) year for 10 years.

2. Should supply renewable energy on the basis of competition that does not exceed the wholesale rate (Grid Parity).

Energy conservation policy according to the Energy Conservation Plan (EEP)

Implementing the energy conservation plan to consider the allocation of power in the PDP plan, by considering as one type of electricity production and consider only the conservation of electrical energy that can prove confidence and can compete on price not more than Grid Parity only. There are about 4,000 megawatts of energy conservation potential, divided into 3 strategies, consisting of compulsory, support and promotion. This can be summarized as follows;

Measures/ Project	Saving (MW)
(1) Compulsory strategy	3,745
- Improve or adjust machines / equipment	2,746
- Project to study energy efficiency standards of factories (Factory Energy Code: FEC)	44
- Measures to enforce energy standards for buildings (Building Energy Code: BEC)	800
- Expansion project for measures to reduce electricity consumption and energy efficiency	425

Measures/ Project	Saving (MW)
(2) Support strategy	256
- Combined heat energy (Combined Heat and Power)	226
- Financial measures	30
(3) Promotion strategy	-
- Energy Management	-
- Study project to prove the effect of measures to reduce electricity consumption and energy efficiency	-
- Pilot project for proving results of measures to reduce electricity consumption and energy efficiency	-
- Database system development and management with Big Data	-
- Energy Awareness	-
- Energy personnel development potential	-
Total	4,001

Source: PDP2018, Energy Policy and Planning Office, Ministry of Energy

Overview of the business

- **Manufacturing, supplying and selling of electrical equipment**

The growth trend of the company's business. That is directly related to the expansion of the country's power transmission and distribution system, which depends on the amount of electricity demand and the amount of electricity produced in Thailand. Including government policies for the development and expansion of the country of electricity system. The various agencies associated, such as the Electricity Generating Authority of Thailand and the Office of Energy Policy and Planning. Ministry of Energy, will forecast future demand for electricity in Thailand. And the framework of the power development plan. For information on investment planning, development projects. To support the growing demand for electricity in the future. Based on the plans to develop and expand electrical systems in the PDP 2018 (B.E.2561-2580), has 3 agencies include such as Electricity Generating Authority of Thailand, Metropolitan Electricity Authority and Provincial Electricity Authority with plans for investment, construction, development of transmission lines and the power stations. Plan to upgrade and expand the distribution system. Including the plan to change the electrical wiring of underground power lines in Bangkok area and in major cities in the provinces. In addition, there are plans to develop electrical systems to support the establishment of two special economic zones for 10 Thai border areas and plan to develop the submarine cable system to the area of Koh Samui, Surat Thani to enhance the stability of the electrical system and the power transmission system project to increase water cost for Bhumibol Dam, including the electrical system development project under the master plan for the development of smart grid network in Thailand (Smart Grid), with a total investment of over billions bath. That demonstrates the continued importance of the government in investment in power transmission and distribution systems. As a result, the trend of electrical equipment business in Thailand is likely to continue for many years, according to such policies.

In addition to the development of transmission and distribution systems. Equipment business for power system also has the opportunity to grow from Transportation and Infrastructure Development Project. Public transport in the metropolitan area includes metro construction projects in Bangkok and vicinities. The government has a plan underway No. 12 of National Economic and Social Development Plan (B.E.2560-2564).

- Manufacturing, supplying and distributing equipment for renewable energy systems**

The growth trend of the equipment business for the Company's renewable energy systems. There is a direct relationship with the promotion of renewable energy investment from the government sector. According to the Energy Regulatory Commission (ERC) by Mr. Verapol Jirapraditkun, spokesman for the ERC, disclosed information that the ERC will stop buying electricity from renewable energy for a period of 8 years from 2019 to 2026 according to the PDP2018 plan. Due to the need to consider the availability of the transmission line system of the Electricity Generating Authority of Thailand Including accelerating the operation of a power purchase license that is still in the system which has not yet been commercialized. However, according to the PDP2018 plan, the plan to buy electricity from the 400 MW of waste power plant group and 120 MW of civil state biomass power plants in the three southern border provinces group. In addition, in the PDP2018 plan, it is also possible to install solar roof systems for the factory or the business itself or to invest in solar rooftop systems and freely sell electricity to the private sector. Also, a plan to purchase additional electricity from renewable energy in the future for power plants from biomass, biogas, solar energy, solar energy floating with hydroelectric power plants but accepting the purchase of electricity at a price not exceeding Grid Parity, which has not yet determined when to buy.

In addition, the Board of Investment (BOI) has announced policies to support investment in order to implement production to be more efficiency in 2017 according to the Board of Investment (BOI) announcement 9/2017. Renewable energy or reduce the impact on the environment. By offering tax incentives to eligible beneficiaries in accordance with regulations such as industrial groups, warehouses and large buildings. The roof of the factory can be equipped with solar panels. And the electricity produced is used in the plant itself, to reduce the electricity consumption from the electricity. At present, there are many industrial plants and warehouses that are interested to joining in the project.

From the said policy, the equipment business for renewable energy systems will be greatly expanded. Therefore, from the promotion and support of the government's renewable energy business will result in the tendency of the equipment business for renewable energy systems to continue to grow in the future, with the government being the leader and supporting investment.

In addition, in the year 2019, Gunkul Engineering Public Company Limited ("the Company") foresaw the growing demand of Residential Solar Rooftop market, causing the Company to establish a new company under the GRoof brand to do Residential Solar Rooftop. There are packages for those who interested in choosing to install from 2 kilowatts or more, both On-grid and Hybrid models with battery systems installed for those interested in saving energy or want to install electricity generation systems from alternative energy. Moreover, with the reduced investment in solar energy systems and an increased understanding of the Solar Rooftop system, the Company foresaw that the Residential Solar Rooftop market is a good market with high growth opportunities under the GRoof brand. Currently, the Company is developing the Plat Form to expand the alternative energy business, which is expected to have more growth opportunities in the future.

- Manufacturing and distribution of electricity from renewable energy**

Trends in the production and distribution of electricity from renewable energy in Thailand

The overview of the use of renewable energy for Thai electricity generation has a stable trend. Because the government has announced to stop buying electricity from renewable energy for 8 years due to the reason of the unavailability of the transmission line potential. In addition, there are still many projects that have not yet been commercialized; however, the government sector still supports the production of electricity from renewable energy

according to the PDP 2018 plan, which still has to determine the proportion of electricity purchases by each type of technology. In the first period, it will be mainly purchased from the community power plant group, by encouraging the community to have income from electricity production and sell to Electricity Authority, such as community waste power plants and Civil state biomass power plant in the 3 southern border provinces. However, the purchase price of the electricity must not be higher than the current average wholesale price in order not to affect the structure of the domestic electricity price. In addition, the government seeks to push and promote the use of renewable energy in more than one technology to combine in the production of electricity (Hybrid), such as the production of electricity from solar floating energy with combined with wind turbines, etc., including the use of energy storage technology in order to be able to use excess electricity for other periods.

Trends in the production and distribution of electricity from renewable energy in Thailand. There is a tendency in the same direction as the equipment business for renewable energy. That will rely heavily on government investment. As a rule, electricity from renewable energy. The cost of electricity generation is higher than that other types of power generation (except for nuclear power plants), causing the slow payback and low returns of the investment in the production and distribution of commercial electricity with renewable energy especially solar power. Therefore, the majority of the electricity generated from renewable energy in the past. That is characterized by the production of wastes such as waste husk or bagasse at a lower cost. And produced with very low power to be used within the relevant industry. That is not commercially available for sale at all. However, with the current government support, even with the change in the purchase rate of the Adder system, to the former Feed in Tarriff as well. The electricity generated by renewable energy continues to power generators and businesses. Interested in investing in renewable energy. The purpose is to invest in production for distribution to government entities, which are targeted to generate electricity from renewable energy.

For the business of producing and distributing solar electricity, Considering from Thailand Electricity Development Plan; PDP2018, it was found that Thailand's electricity production target will generate 55% of electricity from solar energy (Public Solar Energy Project, totaling 100 megawatts per year for a period of 10 years, totaling 10,000 megawatts from power generation from renewable energy and energy conservation measures, totalling 18,176 megawatts) Thailand is also a country with high potential for generating electricity from solar energy. Because Thailand is close with the center of formulas. Therefore, most areas in the country are continuously sunlight throughout the year. Based on such factors, the manufacturing business. And the distribution of electricity from solar power in Thailand is likely to continue to grow in the future.

According to the PDP2018 plan, the government sector has plans to be able to accept the purchase of electricity according to the government's policy, divided into 3 parts:

1. Purchase electricity from neighboring countries by purchasing 9,000 megawatts from the Lao People's Democratic Republic. Purchase from the Republic of the Union of Myanmar and Cambodia, without specifying the amount of purchase
2. Purchase electricity from renewable energy by purchasing electricity according to the government promotion policy, totaling 520 MW and purchase electricity according to the new renewable energy plan and energy conservation plan, totaling 18,176 MW

The energy conservation in electricity according to the Energy Conservation Plan (EEP) consists of compulsory, support and promotion sectors totaling 4,000 MW.

Trends in the production and distribution of electricity from renewable energy in Vietnam.

The company is also interested in renewable energy businesses in Vietnam, on focusing on solar energy and wind energy. This is a renewable power plant that, the Company expertise in development and construction. The currently, Vietnamese government estimates that the country's energy consumption will increase to 234.6 terawatts in 2020 and increase to 506 terawatts within 2030. That plans to have a capacity of 850 Megawatts of solar power plants in 2020 and 4,000 Megawatts and 12,000 Megawatts in 2030.

Currently, the Company has invested in Doan Son Thuy Investment JSC (DST), a company that operates solar power plants on the ground, DST has sold commercial electricity or COD of the 50 MWp Phong Dien II solar project on December 18, 2020.

- **Business of construction of renewable energy power plants**

The government encourages the generation of electricity from renewable energy. Including the potential of Thailand to generate electricity. There are both local and international companies who are interested in investing in renewable energy. The construction of a renewable power plant of the company, will grow up and increase the number of renewable power plants and as mentioned on above. The electricity production from renewable energy in Thailand is still able to grow a lot in the future. In addition, the Company has the potential in the construction of renewable energy power plants in a comprehensive EPC (Engineering, Procurement and Construction) type and has a continuous business development plan both domestic and abroad.

17.3.2 Competition

- **Businesses of manufacturing, supplying and selling equipment for electrical system and renewable energy system**

The Company's main clients are government, state enterprises and private companies. In general, customers will set criteria for qualifications of the operators who attend project biddings as well as consider the potential and experience of each bidder in supplying equipment for projects. The Company's management estimates that there are 8-10 operators considered as bidding competitors, some of them have assorted product categories. However, no operators have competitively full-range products as the Company and its subsidiaries. Being supplier and distributor of a wide variety of products, the Company therefore has these operators as its business partners.

Furthermore, electrical system is one of the country's main infrastructures. The government thus recognizes the importance of continual investment every year. As a result, the total market value of the business has been growing steadily in line with the government's investment policy. In the meantime, there are a few new operators entering the business because they must rely on funding and the ability to supply products that meet customers' requirements both in terms of quality and quantity. The competition in this business is therefore not severe.

The Company's group is renowned for product quality and variety. Being in business for over 30 years has contributed to the Company's expertise in procuring quality products from various trade partners both locally and abroad. The Company's manufacturing plants enable it to provide quality products under better cost control and thus outperform other operators who do not own manufacturing plants with flexibility of stocks that can be readily supplied to customers. The Group also seeks to fulfil varying needs of customers by focusing on product quality and constant research and development. Products manufactured by the Group's plants are not only listed with the Ministry of Industry and certified for industrial standards, thereby making the Group to have good relationships and win the trust of customers who have given the Group all-time patronage.

As for the competition in the Residential Solar Rooftop market, since the Solar Rooftop system has been able to produce electricity for up to 25 years, most buyers are looking for companies that have long experience in the Solar Rooftop system and have high stability and can provide services like One-Stop-Service has made the Company believe that the competition can still be carried out efficiently.

- **Business of producing and selling electricity**

For the electricity production and distribution business from solar energy, at present, the investment in private commercial solar power projects will focus on electricity production for own use within the company or industry, due to the government sector still does not have a policy to buy electricity at this time. However, the PDP2018 plan allows for the investment and installation of a solar power generation system for free use within the business itself, but controlled by government agencies. As a result, in the future, industrial groups and businesses that use a lot of electricity have invested more in installing solar roof top systems which is also received investment promotion from the Board of Investment (BOI), resulting in a payback of the project halfway faster than before. It is an incentive for entrepreneurs to invest more in such systems. The Department of Alternative Energy Development and Efficiency (DEDE) has assigned Silpakorn University to study the potential of Thai renewable energy. The evaluation of the potential of electricity from solar energy on the roof of a factory in Thailand has a total roof area of approximately 150 million square meters. It is found that in the case of using 100 watt solar panels per square meter, there will be 5,983 megawatts of electricity for the whole country, which still has a lot of potential.

At present, the Company has already distributed commercial electricity for the wind power plant project with a total capacity of 170 megawatts in the year 2018 by completing all projects, which results in higher revenue from the Company and plans to expand the investment in wind power plant projects abroad.

Currently, the company aims to expand its investment in other types of renewable energy plants. In addition, to electricity from solar and wind power. And with the potential of biomass in Thailand that, has the potential to generate electricity from biomass. The government plans to develop power generation (PDP 2018) with high demand for electricity from biomass. At present, the target of purchasing electricity from the biomass group to 3,376 megawatts, which is ranked second, followed by solar energy. Therefore, we focusing on a channel to expand the generation of renewable energy that, expected to grow higher. Currently, the purchase of electricity from biomass power plants has been modified from the existing form of Adder at 30 satang per unit to a form of Fit-in-Tariff and will have to bid for electricity discount price which the person who offers the cheapest discount will be considered as the winner of the auction. In the past, the auction of electricity price discounts was highly competitive. There are more than 80% of the discount price offered, resulting in the total FIT purchase price of less than 3 baht per unit. As a result, the payback of the biomass power plant will expand. However, the management of biomass power plants. That still depends on the raw materials entering the competing power plants in terms of price and quantity purchased in certain areas. Including transportation from raw materials to biomass power plants. So the company Therefore, we have studied and researched suitable energy crops. To create a planted area itself. To reduce the risk of reliance on raw materials from other sources. This has the advantage over competitors.

In addition, the company. There is a clear policy to invest in alternative energy in the internationally. To gain more power purchase agreements. Taking into account the return on investment and the stability of long-term income such as, investment in solar power in Japan, Malaysia and Vietnam and the company is confident that, the investment in renewable energy abroad. That will increase significantly over the next 3 years to

achieve the goal of owning offshore power plants of at least 400-500 Megawatts (MW) within 3 years. Currently, the Company has invested in solar power plants in Japan, totaling 4 projects, 207.03 MW which has already supplied commercial power for 2 projects, totaling 66 megawatts, and the Company has sold the remaining 2 projects to investors in the quarter 2020.

- **Business of construction of renewable energy power plants**

Currently, several construction companies have entered the bidding. The Group has the first experience in constructing of solar power plants in Thailand, so the Company has the power to negotiate with manufacturers of solar panels, wind turbines and other equipment used in power plants quite a lot. And the company also develops products and equipment used in renewable energy plants in the Group's own factories, thus giving the Company another competitive advantage in terms of cost of construction of renewable power plants. The problem of the contractor from abroad will have to hire the company. Subcontracting in Thailand has a higher cost. Endowed with the company can also provide various types of power plant construction services, such as BOI, Permit of Factory Operation (RorGor.4), Coordination with Electricity Authorities and related government sectors, etc. to owners of renewable power plants. This makes the owner of the power plant more convenient when using the service of the Company. As can be seen from the year 2020, the company has received more works for the construction of solar power plants installed on the roof for private customers.

- **Business of Private Power Purchase Agreement (Private PPA)**

At present, Industry, Department Store, Private Sector are more interesting to the purchase of solar panels installed on the roof. The company plans to expand its presence in the market. Moreover, with the experiences of solar panels installment on the roof. As well as the products selection using the power plants construction is standard quality, performance guaranteed of standard power plants, causing the Company to have an advantage over other competitors

As can be seen from the fact that the Company has already signed many power sale agreements with the private sector, in the year 2020 there are solar power plant projects that installed on the roof and on the ground for the self-use power generation group which the Company completed the construction and is in the process of construction for a total of 79,419.53 kilowatts and in the year 2021, the Company aims to invest more in the construction of power plants to sell to the private sector.

18 Risk Factors

18.1 Risk of dependence on government sector clients

Due to the government customers in particular, the government's electricity authority, such as the Provincial Electricity Authority (PEA), the Metropolitan Electricity Authority (MEA) and the Electricity Generating Authority of Thailand (EGAT), are the major customers of the Company and subsidiaries in the business of selling equipment for electrical systems and construction business that related to station work and high voltage transmission lines.

- **Business to selling equipment for electrical systems**

In the year 2019, the Company and its affiliated factories sold products to the electricity agencies as well as private agencies that located in Bangkok and in various areas throughout the country.

Revenue from the sale of products to this group of customers will depend on the budget for the development of production, capacity and supply of electricity from the government sector. If the government sector has changed the management team and changed the policy, the investment in the development of production capacity and supply of electricity or there is a delay in considering and approving the procurement of various projects may affect the revenue of the Company in the part that has to rely on this group of customers. In addition, the procurement processes of most government agencies will use the auction method, which will sometimes have many competitive bidders. Therefore, if the Company has not been selected in the bidding for the projects of such government agencies, this may cause the company to lose revenue from this customer group.

However, the major risks from the change of the investment policies in the development of power generation and transmission of government power still remain at a relatively low level. Due to the increasing demand for electric energy each year according to the expansion of the economy and domestic industry, the result is the government sector continues to provide budget support for the procurement of materials for use in the development of capacity expansion and the electrical power distribution system of the Electricity Authority continuously. In terms of bidding for various government projects, there will be a separate auction as a product group. As the characteristics of products that are diverse in the Group of the Company. It is also recognized for quality in accordance with ISO 9001 standards, environmental management system according to ISO 14001, ISO 17025 laboratory assessment standard, and occupational health and safety management system according to TIS18001 and BS OHSAS18001. Also, many products of the Company have been registered with the Ministry of Industry and have passed the certification test from both domestic and international testing institutions and received the Industrial Product Standards (TIS) license. This is a competitive advantage in various procurement projects of government agencies and state enterprises that have a policy to promote and support the selection of products that have been certified for quality systems and have been certified by the Ministry of Industry. Thus, the opportunity for the Company to be selected as the winner of the auction remains at a high level. In addition, the Company has experience in selling products to various power agencies for over 39 years, by maintaining the quality, standard of products, and continuous good service of the Company. Therefore, the Company is confident that it will continue to gain more trust in purchasing products from this group of customers in accordance with the plan to procure more quantities each year. However, in the year 2020, the Company has had more bidding for government projects as the Company has invested in Future Electrical Co., Ltd., which has a proven track record of auction which allows the Company to participate in bidding

for the project more than before. In addition, the company Also received a job in Bangkok Telecom with a value of 4,000 million baht, resulting in an accumulated amount of 8,500 million baht on hand.

However, the Company has a policy to reduce the risk of relying on one of the customers in each customer group by expanding new customer base and continuously providing new products. In order to create additional business opportunities as well as diversifying revenue from more diverse customer groups, while also increasing the company's potential by developing of products and equipment in electrical systems to be diverse and to meet the needs of customers, as well as participating in the product registration project with the network unit testing with the Electricity Authority Including increasing the internal testing standards of the company In accordance with international standards.

- **Business to procure and construct the power plant and transmission line**

Investment in electricity capacity development and supply is regarded as investment in basic public infrastructure that grows continually in the past few years and continually in the next 3 years. Due to the unbalance of electricity production and usage in each region of a country, for example in the southern region, the highest demand for electricity in the southern region in 2018 is 2,767 MW and as of 2037 is 5,264 MW, with an average growth rate of 3.3 percent while electricity production in 2018 is 3,876 MW. and as of 2037 is 8,638 MW. The main power generation capacity of the southern region comes from Chana Combined Cycle Power Plant, Series 1-2, production capacity of 1,476 MW and Khanom Combined Cycle Power Plant, production capacity of 930 MW. According to the plan, Chana Combined Cycle Power Plant, Series 1 and Krabi Power Plant Will be discharged from the system in 2034, total production capacity of 1,025 MW. At present, the power capacity of the southern region cannot support the force majeure that the largest power plant has emerging stopped working (N1). They need to rely on power from the central region through the transmission line that linking between the sectors. Although, an obviously construction plan of transmission line in other regions and has started to open an auction already in the past year. Also, there have more budgets in the auction of transmission line in this year and next year as well. In this slow down economic condition that has not yet recovered from World economic condition, might result in a necessary of capacity reservation and rapidity in expand a large high voltage transmission line type 230 - 500 Kva. In terms of the Company's station and transmission line construction, it is considered as a risk to rely on a government customer; in case that, the projects are not completed by the due date of the plan.

18.2 Risk of exchange rate fluctuation

As the nature of business of the group involves export and import from foreign countries, including invest in renewable energy in foreign countries. The Group might be affected by the fluctuation of exchange rates. It might have gains or losses on exchange rates. In order to reduce a fluctuation effect, the Company has the proceeding as follow:

- Entering a Forward contract in accordance with the terms of the loan for import-export.
- Make a balance between revenue and expense or debt which is a foreign currency to be natural hedge.
- Manage foreign currency deposit in accordance with the cash flow in each period of the Company's operations.

In addition, the Company has implemented the exchange rate policy to serve as a guideline for foreign exchange management of the Group to be effective and perform in the same direction.

The consideration to invest in solar power plant projects in Japan and Malaysia for the Company is a contract to purchase electricity at a fixed rate throughout the project life. The Company considers that revenue recognition in Yen or Ringgit currency and repayment of project loans in that same currency is considered as protection against exchange rate risk in the proportion of 85% and 80%, respectively of the investment of the project from using the same currency. In this regard, the risk for investment in shareholders' equity at the rate of 15% and 20%, respectively, will arise from the change of financial statements from Yen or Ringgit currency into Baht currency, which will result in affecting accounting records only, without

affecting any profits or losses from operations in any way. This is including the change of currency values in both currencies have little fluctuation in exchange rates, which has little effect on exchange rates.

18.3 Possible risks to the power generation and supply business

18.3.1 Risk of power generation performance

The ability to generate electricity of a solar power plant depends on 3 main parts, which are 1. solar intensity 2. efficiency of solar panels and 3. number of losses that occur in the electricity generation system. In order to prevent such risks, the Group uses solar panels from the top well-known companies which is regarded as one of the best manufacturers of quality solar panels recognized around the world.

Currently, the Company has successfully realized its potential and proficiency in solar farm construction, developed the engineering team and subcontractors as well as meticulously selected key equipment related to solar farm construction from manufacturers who have delivery capability, proper after-sale services and warranty. As a result, the Company can reduce risks from dependence on large contractors in power plant construction, thus being a big step forward in the greater enhancement of managerial competitiveness, cost controlling; as well as, increasing the efficiency of power plant construction even more than in the past. As can be seen from the 2020 performance, the Company was able to manage its solar power plants to be more efficient than the projected projections.

After the construction of the solar power plant was completed, the Company was entrusted by external customers and the shareholders' alliance who assigned the Company to take care of the power plant (Operation and Maintenance Agreement) after the electricity sold Commercially. This enables the Company to comprehensively control and monitor the capacity of power supply and efficiency of solar farm operations, thereby mitigating risks from guarantee of minimum supply quantity of each project.

For wind power plant, the Company has chosen high potential technology from the top well-known and experienced companies. Moreover, the Company has recorded wind speed in continuous space for 4 years; in order to consider a possibility of electricity production from wind power before investing. In addition, the Company has a maintenance contract with the turbine manufacturer to provide power plant management services including spare part service to prevent risks for a period of 10 years.

Also, in the year 2019 which is considered as a year that has an average wind speed rate better than 2018, resulting in the electricity efficiency of all 3 wind power plants that can produce more than 10% better than expected. This is due to the average wind speed is much better than usual, especially in the summer and rainy season, where the wind speed is usually quite soft, resulting in greatly increased power units produced.

18.3.2 Risk of power supply

The Group has signed a power purchase agreement with PEA for distribution of power at the amount specified in each contract. The contract is a Non-Firm type for reasons that in the generation of solar-base power, the amount of power generated each time cannot be specifically controlled. There are two groups of contracts: Adder and Feed-in-Tariff. According to the adder agreement, the PEA will purchase all electricity produced by quantities specified for each project. The contract is five years from the date of signing the contract and automatically continues for a period of five years. The PEA does not have the right to terminate the agreement. For FIT agreement, the contract term is 25 years at fixed price throughout the contract period. In case of the company comply with the conditions stated in the contract, it is considered that the Company

has no risk from the inability to generate and supply electrical power. In addition of being a partner with government department, the company will certainly receive a quite high payment.

For the solar power plant project that is installed on the roof to produce and sell to private customers, the Company is the investor and giving a maintenance service for the life of the contract (Private PPA). The Company will prevent the risk of the project yielding lower than expected. This may be due to reasons of light intensity or may be caused by such private customers who are not able to pay for electricity or purchase electricity according to the Company's goals. The Company will review the financial statements of those private clients in order to assess the growth potential of the financial and business status, whether they are able to continue to operate the business according to the project contract period of the solar energy production system that jointly signed. In addition, the Company will check the consistency of electricity usage among private customers by analyzing to design the installed capacity of the solar power generation system to be suitable and be used efficiently, without waste electricity from the system. This can be seen that the Company has a screening of customers and technical design before proceeding with the project. Therefore, the Company has a risk of loss in this type of project at a low level.

The Company has 2 solar power plant projects in Japan, which both projects have already sold electricity, with the electricity sales rate of both projects not affected by the price reduction.

The Vietnam project, which the Company has invested in last year, in which all 4 projects have already sold electricity and receive electricity bills of USD 0.0935 and 0.0709 as stipulated in the power purchase agreement.

For the solar power plant project in Malaysia, it is now able to operate the commercial power distribution since December 31, 2020.

18.4 Risk of economic and political factors

Since the beginning of 2020, domestic and foreign politics have been volatile, Thailand and countries around the world have faced the situation of COVID-19 which affects all sectors of the economy. As a result, many industries have been shut down, the population has become more unemployed due to the termination of employment, and the global impact has continued in a chain of business sectors.

However, GUNKUL Group has a wide variety of business operations and the management has prepared business plans in advance for both short term and long term. There is preparation in terms of personnel, business expansion, finance, thus enabling the Company to operate new businesses that are related to the existing business. Also, during the COVID-19 situation, technology has changed dramatically. Therefore, the Company takes this opportunity to operate business in technology, innovation and platform by focusing on working with partners who have expertise in each area such as AIS SCB10X. Because we believe that from now on, the Company's business will grow together with those who have experience in each business area, promoting mutual potential, allowing the Company to grow without limits in the 4 businesses that the Company has strategically placed. The Company also has a risk analysis team in the field of investment within the Company, whether it is a finance team, a legal team, a management team with expertise in each business area jointly selects the project for risk assessment before presenting to the Executive Committee to consider the suitability of the project according to the Company's policy. In addition, it was presented to the Risk Management Committee to consider a comprehensive risk analysis in each area before presenting it to the Board of Directors for approval to invest. Even though in 2020, it was a year that faced both economic and political problems, the Company is still able to operate according to the results set, including being able to invest successfully in both domestic and international projects, as can be seen from the performance in the past 2020.

In addition, the government's electric power policy has stipulated to increase the country's economic potential. In the long run, there will be an increase in power plant construction by the government and private sectors from all kinds of renewable energy, including promoting the utilization of science, technology, research and development and innovation by promoting the country's large investment projects such as clean energy, rail system, automotive, electricity, water management and waste management with important development plans. The Company has adopted the aforementioned guidelines to formulate the Company's business strategy for important development plans as follows:

1. Smart Grid network development plan (Smart Grid)

Smart grid network development is defined as one of the country's electric power development policies. Because it is a technology that has played a role in promoting the overall development of the electrical industry, including the development of the power development plan of Thailand with efficiency, with the aim of enabling the electrical system to be able to perform more tasks with less resources (Doing More with Less). Therefore, the Ministry of Energy has developed a master plan for the development of smart grid systems in Thailand B.E.2558 - 2579, which was approved by the National Energy Policy Council and the Cabinet on February 16, 2015 and March 17, 2015 respectively. The Master Plan for Smart Grid Network Development System of Thailand, B.E.2558-2579, divided into 4 phases, namely: the preparation period (B.E.2558-2579), short-term period (B.E.2560-2564), Medium-term period (B.E.2565-2574) and long-term period (B.E.2575-2579), to be an important mechanism to develop into a stable and sufficient electricity network system for production and being more environmentally friendly including effective management. The plan to drive the implementation of smart grid operations in Thailand in the short term in 2017-2021 is scheduled to be driven by divided into 3 pillars, which has a comprehensive mission that is the first priority for the country's energy, are called Energy Management System (EMS), Pricing and Incentive Design and Demand Response, Development of Microgrid Power Systems, Energy Storage System: ESS and Renewable Energy Forecast.

2. Policy on purchasing electricity from neighboring countries

The purchase of electricity from neighboring countries has been defined as another policy for the supply of electricity in the power development plan of Thailand, which is considered as an alternative way to supply electricity in the event that there is a limitation in the supply of electricity in the country. The purchase of electricity from neighboring countries can help reduce the burden on the construction of power plants in the country. Reducing the burden of supplying fuel in the country's electricity production and also enhancing good relations with neighboring countries through energy cooperation as well in purchasing electricity from neighboring countries. This is considered as reducing the burden of supplying fuel in the country's electricity production and also enhancing good relations with neighboring countries through energy cooperation as well in purchasing electricity from neighboring countries, which will consider on the principle of bilateral cooperation between the governments of both parties. It has been agreed in detail together on the Memorandum of Understanding on Energy Cooperation (MOU) between Thailand and neighboring countries. At present, Thailand has a memorandum of understanding on the cooperation in electric power with neighboring countries that are officially in force in 3 countries, with the following details:

1. Lao People's Democratic Republic, totaling 9,000 megawatts and not specified expiry date MOU
2. Republic of the Union of Myanmar, not specified quantity, valid until December 31, 2020.
3. Cambodia, not specified quantity and not specified the expiration date of MOU.

3. Renewable Power Plants under the Alternative Energy Development Plan (AEDP)

Renewable power plants will consider procurement of electricity from renewable energy to be in line with the remaining renewable energy potential of the country and to support the changing behavior of electricity users, including the change of disruptive technology in electrical energy that will occur. Also, still comply with the COP21 agreement, consisting of biomass, biogas, solar energy, solar energy floating together with hydroelectric power plants and other renewable energy, with the goal of purchasing to maintain the retail price of electricity not to rise. Moreover, there is also consideration of energy conservation measures in the future that will be reliable and has a cost that can compete with renewable energy power plants as well.

(Unit: MW)

Renewable Energy / Energy Conservation	Contract Manufacturing Capacity	Reliable Manufacturing Capacity
Solar Energy ¹⁾	10,000	4,250
Biomass	3,376	2,296
Biogas,	546	326
Solar energy floating together with hydroelectric power plants	2,725	1,158
Wind power	1,485	189
Industrial waste	44	26
Electrical energy conservation measures	-	4,000
Total as of 2037	18,176	12,244

Remark: ¹⁾ There will be a 100-megawatt solar project per (Public sector solar) year for 10 years.

The new power generation capacity during 2018-2037 is 56,431 MW, with renewable energy plants as follows:

4. Energy conservation in electricity according to the Energy Conservation Plan (EEP)

Implementing the energy conservation plan to consider the allocation of power in the PDP plan, by considering as one type of electricity production and consider only the conservation of electrical energy that can prove confidence and can compete on price not more than Grid Parity only. There are about 4,000 megawatts of energy conservation potential, divided into 3 strategies, consisting of compulsory, support and promotion.

5. Thailand Greenhouse Gas Reduction Policy (EEP)

Thailand has realized the importance of collaborating to solve global climate change by joining the global community to try to resolve the situation seriously. Thailand ratified to join the State Party under the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol (KP) in 1994 and 2002, respectively.

In addition, according to the announcement of the Energy Regulatory Commission (ERC), there is a plan to space the purchase of electricity from renewable energy for a period of 8 years. Such factors are considered to be a risk to the business of renewable energy. As a result, the expansion and investment in such businesses have slowed and have to wait for the announcement to buy electricity from renewable energy from the government. As well as the National Energy Policy Council announcing that in the future, the purchase price of electricity from renewable energy must not affect the average wholesale price, which can be expected that the purchase of electricity in the future will cause the purchase price to be lower than before and may result in a slow return. However, the Company continuously monitors the government's policy, adjusts according to the economic direction and seeks new business models that consistently provide good returns.

All above is a main risk due to the economic and political factors that, led to the government's policy setting in the purchase of electricity from renewable energy. This is a major risk in the affected business sector, affecting and influencing are the company's strategy and policy. Next to the field of distribution and production of electrical equipment. The construction of power plants, transmission lines and power stations. Electricity production and distribution including the maintenance of power plants. Which needs to be adjusted, according to government's policies and measures of the Energy Regulatory Commission. At present, the Company has established a strategy in accordance with the government's policy and has continuously monitored the work to keep up with the changing situation at all times.

18.5 Risk from the policy amendment

As for the investment in Japan, due to the fact that there are people who have been granted a license to develop electricity from renewable energy but have not been able to sell a large number of commercial electricity. Therefore, the Japanese government has drafted a law to amend the Electricity Business Act and related laws to revoke the license for projects with low commercial power capacity, such as those that have not yet signed an agreement to connect to electricity within the specified date and time. It also requires entrepreneurs to reserve money for demolition projects in order to reserve for demolition after the project is completed by the draft law, when approved, will come into effect from April 1, 2022. In addition, over the past year, the Japanese government has required solar power plant operators of 30 megawatts or more to be subject to the Environmental Impact Assessment Act. As a result, entrepreneurs have to spend more time and difficulty in developing projects.

In order to reduce the risk of delays in the project development process and the risk of the power purchase agreement being canceled or the power purchase rate changed, the Company has passed a resolution approving the sale of 2 projects that have not yet signed a contract to connect to the Electricity Authority in order to reduce the risk in the projects that have already been commercialized.

Therefore, in the overall management of investing in Japan, Malaysia and Vietnam at present, the Company has not been affected by any changes in any way.

18.6 Risk from natural disasters

Due to, Japan is located on the boundary of the Ring of Fire, it causes frequent natural disasters such as earthquakes. An earthquake in the sea can also cause a tsunami. And there are also seasonal typhoons that, make it necessary for Japan to manage the potential impact of these natural disasters.

The Company manages the risk of natural disasters by do the insurances. The value of the insurance is based on the study from an insurance consulting company in Japan, a specialist in insurance to ensure that coverage is reasonable with the damage that happen.

For Malaysia, there may be a risk of lightning strikes because there are statistics that show the frequent lightning events in the area which may affect the power generation system. This is considered as a risk of natural disasters that cannot be controlled.

The Company has studied the location of the power plant to various factors that may affect lightning events and have the expert to design a lightning protection system, including other protection devices to prevent lightning strikes on the project.

In addition, the company manages the risk from natural disasters by taking out insurance covering all risks by providing such insurance covering lightning damage as well and the insurance coverage is reasonable for the damage that may occur.

18.7 Risk from the project opening is delayed than planned

The opening of the solar power project depends on many factors, such as the implementation of the relevant licenses, the construction of the power plant, the provision of funding, the preparation of all relevant contracts in accordance with the standard of the total funding source, the results of the test of the power plant during the pre-sale of commercial electricity sales. If the project cannot be carried out according to the standards of the company and related parties, it will cause the commercial operation of the project to be delayed or resulting in the company having to use funds from the company to invest more from what had been expected.

Risk management for the project that has started construction, the Company has closely monitored the construction progress by receiving a report from the contractor every week and organizing a meeting at the construction area to see the actual situation of the project and listen to comments from the contractor every month. As a result, the Company can understand the problem and plan to solve it from the initial stage; however, in the event of force majeure, the Company will focus on the stability of operations throughout the 20 years of electricity distribution in the future.

For the project under development, the company has been monitoring the progress of the project development periodically. The contractor will consult with the bank as a source of funds to ensure that the company receives a loan from the bank.

In order to manage the risk and motivate the project developer to achieve their target, the company has signed to provide support until the electricity distribution. The profit of the developer of the power plant project will be based on the success of the project. The developers will overview the development of the project in four areas:

1. The procurement of a contract for the construction of a solar power plant with expertise and through the evaluation and selection process to meet the criteria that the Company and the bank has specified
2. In case of foreign investment, the Company will provide personnel of that country. Which is an expert in the control and maintenance of the power plant after the commercial electricity has been completed.
3. The management of the power plant construction project and requesting various permits to be completed in accordance with the schedule and in accordance with the period specified in the target of commercial electricity sales.
4. The overall project management and control in order to keep the cost according to the investment budget and finish in accordance with the specified time frame.

Therefore, it can be said that the Company has implemented risk management in project management with closely monitoring progress and let the project developer be the follower of the details in another step so that the project can be done well, for example solar power plant projects in Japan and in Vietnam. The Company has managed to sell electricity as planned.

18.8 Risk of dependence on a complete contractor (EPC Contractor)

Due to the construction of solar power plants, that requires expertise in technology. Experience in construction ability to supply materials and operational personnel all processes need to be coordinated, so the company hires a complete contractor to effectively control the work. And the contractors have the flexibility to accomplish their goals.

However, hiring a complete contractor risks of the project. If the contractor is unable to proceed. Therefore, the Company has managed the risk from the selection of the contractor who must have experience in constructing solar power plants in accordance with the standards that set by the bank. The contract that the Company is able to claim compensation in the value that covers damage. The conditions for claiming compensation are in accordance with industry standards, including the contractor having to introduce a new contractor and deliver the work smoothly in the event that the contractor is unable to complete the construction of the power plant until the commercial operation has been completed.

18.9 Risk of Limited Power Purchase (Curtailment)

Electricity purchase limits enable the Company to sell electricity in a lower quantity, which affects the revenue generated from electricity sales. The policies on electricity purchase limits in each country are different. For Japan, the electricity purchase limit policy can be divided into three main policies which are unlimited power purchase limits, power purchase limits at 360 hours / year, and power purchase limits at 30 days / year. In this regard, the project of the Company is the project with the least power limit, 30 days / year only.

As for the restrictions on the amount of electricity purchased in Vietnam, it is limited only when the amount of electricity generated in the system exceeds the demand that it may cause harm to the system, the power authority will limit the amount of power supplied at any given time and remove the limitation on the power supply when it is safe. This is a risk on the power purchase agreement that is enforced by the electricity authority with all investors in Vietnam; therefore, the Company hired experts to study the power receiving capacity in the system at the project to be connected to reduce this risk.

18.10 Risk in IT Security and Cyber Security Threats

Information technology system is a part of business operation but the digital transformation affected the risk in security of the information technology system of the company and the increment of the company. Both by the complexity of the information technology system and employees' abilities. That must be developed to keep up with the changes that occur as well as the shortcomings of information technology systems that may allow malicious users to access information in the system. From various technological threats Security and monitoring system, if there is not enough or incomplete May cause serious damage especially towards important data or systems, various cyber threats, such as harassment or network attacks (DDoS Attacks), malicious programs (Malware / Virus) causing business disruption, lost income, reputation, etc.

Risk management practices

1. Comply with information technology policy and create information technology awareness (IT Awareness) for employees at all levels.
2. Providing and developing information security tools to cover information and work systems to all important parts of the company.
3. Maintain the security in the information technology system within the company and subsidiaries. To be in accordance with relevant laws and regulations as well as providing regular backup, testing of backup data to support emergency situations.
4. Increase information security measures, such as setting access rights to important information in the system according to the level of users.
5. Establish measures to prevent leakage of important information. As well as creating an understanding of employees in the prevention and prudence of data transmission that is at risk of data leakage.
6. The Company has audited and evaluated the adequacy of the policy and internal control system, information technology system by the internal audit department and the auditor annually. In addition, the Company plans to test the information system risk assessment by examining the vulnerabilities of the host computer and network equipment. (Vulnerability Assessment) and having Penetration Test by independent agencies in 2020 to ensure the security of the computer network.

18.11 Risk of the Covid-19 situation

Due to the situation of the novel coronavirus epidemic or COVID-19 affecting various businesses both in Thailand and abroad, however, the Company's main business is the distribution of electrical equipment. generating electricity from renewable energy and construction contractors; therefore, this does not affect the Company's operations much. The Company has set up a task force to manage and issue various measures to cope with such situations in order to minimize the impact on employees, related persons and the Company, such as preparing an emergency plan, contingency plans, promoting the use of technology to reduce epidemic risks, communicate within the organization to provide knowledge on how to deal with situations, establish measures for employees to work at home, establishing a sub-office to distribute the number of employees to spacing, provide insurance for employees; as well as, there is no policy to reduce wages or reduce staff salaries to allow all employees to overcome this crisis together.

19 Capital Structure and Shareholders

19.1 Capital

1) Common Stock

As of December 31, 2020, the Company had registered capital of THB 2,220,632,743.50 and had paid-up capital of THB 2,220,632,743.50 divided into 8,882,530,974 shares at par value of THB 0.25.

2) Treasury shares

At the Board of Directors' meeting of the Company held on 10 April 2018, the Board approved the Share Repurchase Program (Treasury stock) for financial management purpose. The maximum amount for the share repurchase is not exceeding Baht 1,000 million. Number of shares repurchase is not exceeding 300 million shares at the par value of Baht 0.25 per share which is equal to 4.04% of total paid-up capital. The repurchase period will be started from 24 April 2018 to 22 October 2018. The shares purchased may be resold after 6 months from the date of purchase but must not exceed 3 years from such completion.

As at 22 October 2018, the Company has repurchased the shares under the program totaling 99.04 million units at a total cost of Baht 304.67 million is presented as a separate category within equity and recognized as a deduction from equity in the consolidated financial statements with an equivalent amount had been appropriated from retained earnings to treasury shares reserve.

3) Bill of Exchange

As of December 31, 2020, the Group's outstanding debt from bill of exchange totaling THB 720 million with several financial institutions by a duration between 3-6 months.

4) Bond

As of December 31, 2020, the Company has outstanding balances from issuing senior bond with unsecured total THB 5,967.7 Million. The redemption schedules are in April 2021, July 2022, April 2023 and April 2025.

19.2 Shareholders

Top ten major shareholders of the Company as of January 27, 2021, the latest closing date of share registration book is as the following.

Gunkul Engineering Public Company Limited			27 January 2021
No.	Shareholder Name	Share (s)	Percentage (%)
1	Dhumrongpiyawut Family Group		
1.1	Gunkul Group Company Limited	4,432,631,280	49.903
1.2	Mr. Gunkul Dhumrongpiyawut	311,511,270	3.507
1.3	Miss Naruechon Dhumrongpiyawut	431,193	0.005
Total Number of Shares Holding by Dhumrongpiyawut Family Group		4,744,573,743	53.415

No.	Shareholder Name	Share (s)	Percentage (%)
2	Thai NVDR Company Limited	385,923,301	4.345
3	Siam Commercial Bank Public Company Limited	278,880,000	3.140
4	UOB KAY HIAN (HONG KONG) LIMITED - Client Account	154,026,303	1.734
5	CPYI CLT A/C 0090029-1001	110,577,940	1.245
6	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	106,408,342	1.198
7	Gunkul Engineering Public Co., Ltd.	99,043,700	1.115
8	Mr. Prakin Sricharoen	74,939,633	0.844
9	Mr. Wichai Wangprechacharn	65,339,919	0.736
10	MORGAN STANLEY & CO. INTERNATIONAL PLC	60,000,000	0.675
Total		6,079,712,881	68.446

Gunkul Group Company Limited

27 January 2021

No.	Shareholder Name	Share (s)	Percentage (%)
1	Dhumrongpiyawut Family Group		
1.1	Mr. Gunkul Dhumrongpiyawut	466,000	42.364
1.2	Miss Naruechon Dhumrongpiyawut	211,000	19.182
1.3	Miss Sopacha Dhumrongpiyawut	210,000	19.091
1.4	Master Arpakorn Dhumrongpiyawut	210,000	19.091
Total Number of Shares Holding by Dhumrongpiyawut Family Group		1,097,000	99.727
2	Mr. Chaloepon Sricharoen	3,000	0.273
Total		1,100,000	100.000

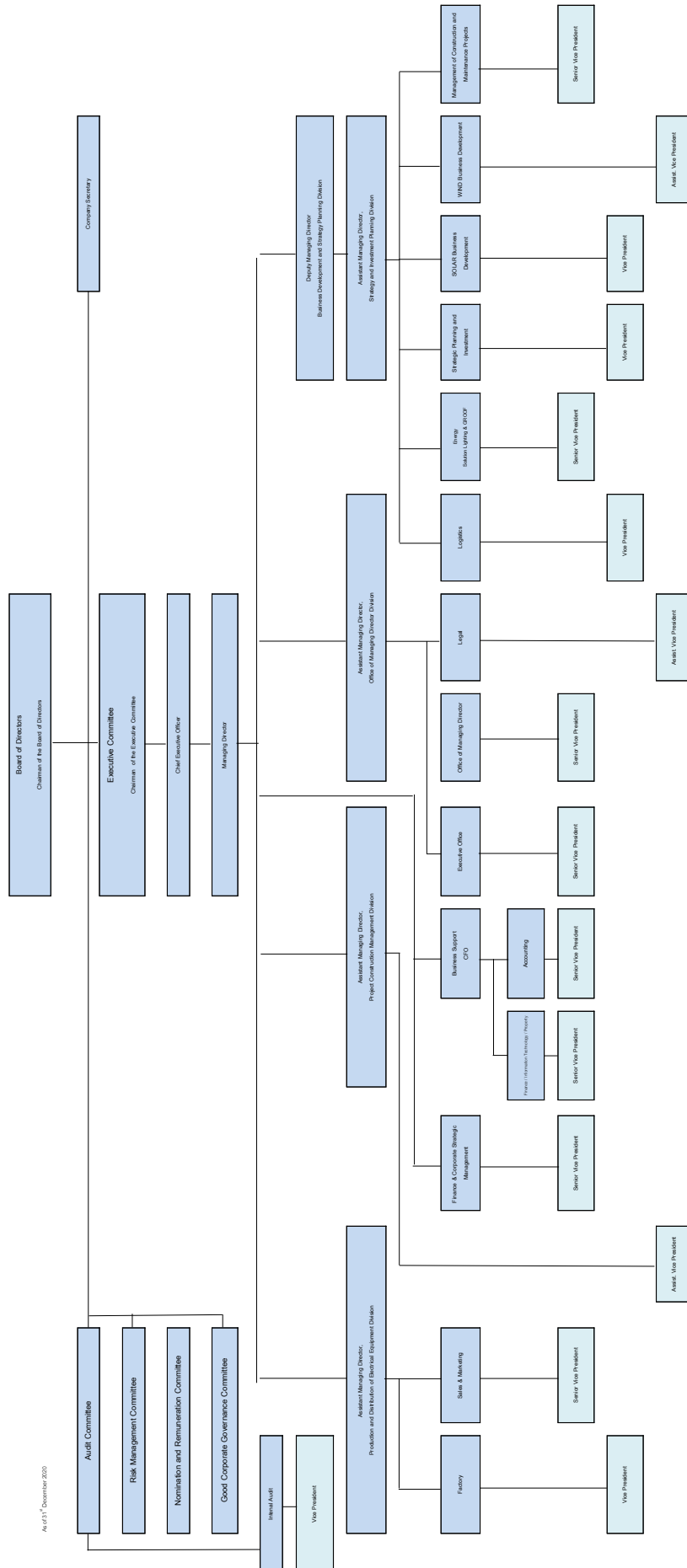
Gunkul Group Company Limited is the holding company with paid-up capital of 110,000,000.00 baht as of January 27, 2021. Major shareholder is Dhumrongpiyawut family with 99.727% stake in Gunkul Group.

19.3 Dividend Payment Policy

The Company has dividend payout ratio of at least 40% of net profit of the Company only (unconsolidated basis) in which net profit is after deducting corporate tax, legal reserve and other reserves. However, the Company may pay dividend less than mentioned above if necessity i.e. more working capital required, aggressive expansion plan, or else. The board resolution on dividend payment is needed to propose to shareholders' meeting for approval, except interim dividend in which board can go ahead and report to shareholders later.

The Company's subsidiaries also has dividend payout ratio of at least 40% of net profit after deducting corporate tax, legal reserve and other reserves. There are another four factors, cash flow analysis, financial status, liquidity and expansion plan, taking into account on how much dividend to pay.

20 Management Structure



The Company's management structure comprises of board of directors, subcommittees and executives in which board of directors comes from independent directors, non-executive directors and executive directors, which there are 45.45 percent of the independent directors and 54.55 percent of the non-executive director, of the entire Board of Directors.

20.1 Board of Directors

As of December 31, 2020, board of directors comprised of 11 persons as follows;

1.	Dr. Gunkul Dhumrongpiyawut ¹⁾	Chairman of the Board of Directors (Non-Executive Director)
2.	Dr. Chongrak Rarueysong	Independent Director Chairman of the Audit Committee ³⁾ Chairman of the Good Corporate Governance Committee ³⁾ Member of the Good Corporate Governance Committee ³⁾
3.	Assoc. Prof. Dr. Panarat Panmanee ²⁾	Independent Director Member of the Audit Committee
4.	Gen. Tarnchaiyan Srisuwan	Independent Director
5.	Mr. Tarakorn Angpubate ¹⁾	Independent Director Member of the Audit Committee ⁴⁾ Chairman of the Risk Management Committee
6.	Mr. Kris Chantanotoke	Independent Director
7.	Miss Sopacha Dhumrongpiyawut	Director / Chairman of the Executive Committee / Member of the Risk Management Committee / Chief Executive Officer
8.	Dr. Somboon Aueatchasai	Director and Secretary of the Board of Directors Executive Director / Managing Director
9.	Miss Naruechon Dhumrongpiyawut	Director / Executive Director
10.	Mrs. Areewan Chaloeindan	Director / Executive Director
11.	Mr. Chaloepon Sricharoen	Director / Executive Director
12.	Miss Chantira Jongjamareeseethong	Company Secretary

¹⁾ Non-Executive Directors and/or Independent Directors who having experience in work related to the Company's business and the Subsidiary.

²⁾ Independent Director who graduated in Accounting

³⁾ Appointed to the position Chairman of the Audit Committee and Member of the Good Corporate Governance Committee on December 14, 2020.

⁴⁾ Appointed to the position Member of the Audit Committee on December 14, 2020.

Authorized Directors

Authorized director who can sign documents that will have impact to the Company is Mr. Gunkul Dhumrongpiyawut or Miss Sopacha Dhumrongpiyawut or Miss Naruechon Dhumrongpiyawut gives signature together with another signature from Mr. Somboon Aueatchasai or Mrs. Areewan Chaloeindan or Mr. Chaloepon Sricharoen.

Or Mrs. Areewan Chaloeindan, Mr. Chaloepon Sricharoen and Mr. Somboon Aueatchasai all sign their names.

Scope of Authority and Responsibility of Board of Directors

(Cited by "Board of Directors Charter": Revision Date on 1st March 2021)

The Board of Directors has the following authority and responsibility:

- 1) To perform the duty in accordance with the laws, objectives, regulations of the company and resolution of the board of directors as well as the resolution of the meeting of shareholders with responsibility, care and integrity as a prudent person who will undertake his business under the same conditions for the maximum benefits of the company.
- 2) To determine vision, mission, strategy, business direction, policy, target, direction of the operating plan and budget of the company, to supervise, oversee, monitor and examine compliance with the policy, plan and budget provided and to assess the performance of the management consistently.
- 3) To determine the charter and major policy of the company, such as Major business policy (business ethics and good corporate governance), Charter of the board of directors and charter of the subcommittee, Policy, authority, duty and responsibility of the chairman of the board of directors of the company and chief executive officer and managing director, Policy, measure on transaction made with unrelated company/person, measure on transaction made with related company/person and table of authority, Financial policy, Financing policy, Fund management policy, Risk management policy, Policy on examination and internal control of the company, Anti-corruption policy and related policy and Other policy related to corporate governance of the company.
- 4) Decision on the following investments, such as Approval/decision on the budget, Approval/decision on the investment project of the company and Supervision of the project in accordance with the plan arranged.
- 5) To supervise, oversee and monitor the operation of the company, To ensure that the target is achieved or exceeded in accordance with the strategy of the company provided, To determine the corrective measure if there is any problem or difficulty to accomplish or exceed the target provided, To determine measure and practice on good corporate governance to manage sustainability, social responsibility and anti-corruption, including other related measures and practices, To comply with anti-corruption measure and other related measure and to take responsibility on implementation of anti-corruption measure and other related measures.
- 6) To prepare general information report and financial report of the company to report and disclose to shareholders and stakeholders or general investors correctly, completely, timely and fairly and in accordance with the laws provided.
- 7) To review whether the financial reporting system, internal control system and risk management system of the company is adequate and suitable or not to ensure confidence in correctness, completeness and reliability of information and to reduce risk of fraud and to prevent any illegal act.
- 8) To acknowledge the key audit report of the audit committee and the subcommittee, including the internal control division, the auditor and consultants of the company and to determine the improvement and corrective measure if the defect found is significant and to manage and handle the related transaction in accordance with the criteria provided under the laws
- 9) To appoint the person with qualifications and without possession of character forbidden by related laws to become the director of the company in case of vacancy of directorship by other reason except expiry of the term.
- 10) To appoint the subcommittee and its chairman such as the audit committee, the risk management committee, the Nomination and Remuneration Committee, the good corporate governance committee, the executive board or the other subcommittee and to appoint the secretary of the board of directors and the secretary of the company to support the duty performed by the board of directors.
- 11) To determine remuneration and to appoint the senior executive of the company and to arrange the process to develop the executive of the company through the succession plan.

- 12) To appoint any director or directors or any person to undertake any act for the board of directors of the company while such assignment shall not assign the assignee to approve the transaction the such person or the person with possible conflict of interest or possible conflict of business interest in any nature with the company or the subsidiary company.

However, for the transaction that the director or the person with possible conflict of interest or conflict of business interest in any nature with the company or the subsidiary company, the director of the company who has the conflict of interest in such matter is not allowed to vote on such matter unless such following matters have been approved by the meeting of shareholders.

1. The matter that the laws and the regulations of the company have required the resolution of the meeting of shareholders.
2. The transaction that the director of the company has the conflict of interest and is indicated by the laws or the requirements of the Stock Exchange that it is required to be approved by the meeting of shareholders.
- 13) To arrange the annual performance of the board of directors, each individual director, every subcommittee and the chief executive officers of the organization. In addition, such assessment will be used to undertake the development and improvement and to be used as data for determination of the policy for continuous development of the organization.
- 14) To review the policy related to good corporate governance and charter of the board of directors, vision, mission or strategy of the company annually.
- 15) To prepare the activity report of the board of directors for disclosure in the annual report of the company while such report will be signed by the chairman of the board of directors of the company.
 1. Overall opinion or comment that the board of directors has learned from the duty performed in accordance with the charter.
 2. Other transactions that the board of directors has agreed that the shareholders and the general investors should learn within the scope of authority, duty and responsibility assigned by the shareholders.
 3. Number of meetings of the board of directors and attendance to the meetings of the directors of each director, including remuneration received by each director.
- 16) To perform the duty of the board of directors, the independent opinion may be sought from the other independent professional consultant when it is necessary at the expenses of the company.

Role, Authority, Duty and Responsibility of the Chairman of BOD

(Cited by "Role, Authority, Duty and Responsibility of the Chairman, Chief Executive Officer and Managing Director": Revision Date on 1st March 2021)

- 1) The Chairman of the board of directors and the Chief executive officer (CEO) are required to be different persons.
- 2) To call for a meeting of the board of directors of the company and the meeting of shareholders and to chair the meeting of the board of directors of the company and the meeting of shareholders in compliance with the regulations of the company.
- 3) To cast a decisive vote if the votes are on par in the meeting of the board of directors of the company.
- 4) To take a role to control the meeting efficiently in accordance with rules and regulations of the company and to support and provide an opportunity to the directors of the company to express their opinion independently.
- 5) To encourage and support the board of directors of the company to perform its duties at full capacity within the scope of authority, duty and responsibility and in accordance with the good corporate governance principles.
- 6) To take responsibility as a leader of the board of directors of the company to supervise, monitor and look after the management of the board of directors of the company and other sub-committee to achieve the objectives and plan provided.

- 7) To supervise the policy and guidelines on strategic work of the management and to provide recommendations and support to the business undertaken by the management.
- 8) To be a leader and role model on business conduct and ethics of the company and to promote, supervise and monitor the management with respect to sustainable principle, social responsibility and to comply with the anti-corruption measures and guidelines.

20.2 Executives

As of 31st December 2020, there were 17 executives as follows:

Name	List
1. Ms. Sopacha Dhumrongpiyawut	- Chief Executive Officer
2. Dr. Somboon Aueatchasai	- Managing Director / Acting Chief Financial Officer
3. Dr. Phongsakorn Damnoen	- Deputy Managing Director, Business Development and Strategic Planning
4. Ms. Naruechon Dhumrongpiyawut	- Assistant Managing Director, Strategic Planning and Investment
5. Mrs. Areewan Chaloemdan	- Assistant Managing Director, Production and Distribution of Electrical Equipment
6. Mr. Chaisiri Wattanachannarong	- Assistant Managing Director, Project Construction Management
7. Mr. Theerapab Punyasahkon	- Assistant Managing Director, Office of Managing Director
8. Mrs. Somluk Kanuenghet	- Secretary of the Nomination and Remuneration Committee - Senior Vice President, Executive Office
9. Mr. Thamrong Chankraithong	- Senior Vice President, Sales & Marketing
10. Dr. Phairot Phanukan	- Senior Vice President, Innovation & Operating Maintenance
11. Mr. Thitipong Techaratanayuenyong	- Secretary of the Risk Management Committee - Senior Vice President, Finance & Corporate Strategic Management
12. Mrs. Nattawan Wongchan	- Senior Vice President, Business Support (Finance / Information Technology / Property)
13. Ms. Suttirat Tangnorakul	- Senior Vice President, Business Support (Accounting)
14. Mr. Chaloempon Sricharoen	- Vice President, Sales and Marketing
15. Mr. Janpon Ngamaroonchote	- Senior Vice President, Sales & Marketing: Energy Solution, Lighting, GRoof and Innovation
16. Miss Chantira Jongjamareeseethong	- Company Secretary and Secretary of the Good Corporate Governance Committee - Senior Vice President, Office of Managing Director
17. Mr. Tanetsiri Farkmitr	- Secretary of the Audit Committee - Vice President, Internal Audit

Role, Authority, Duty and Responsibility of the Chief Executive Officer (CEO)

(Cited by "Role, Authority, Duty and Responsibility of the Chairman, Chief Executive Officer and Managing Director": Revision Date on 1st March 2021)

The board of directors of the company has assigned the chief executive officer to be the leader in management and administration of the company within the scope and authority as follows;

- 1) To manage the business of the company, to supervise and control the overall operation in accordance with the objectives, rules, policies, regulations, requirements, orders, business strategies, targets and operating plans, financial targets, budgets and resolutions of the meeting of the board of directors of the company and/or resolutions of the meeting of shareholders.
- 2) To prepare and submit the business policy of the company, including plan and budget to the board of directors of the company for approval and to report the progress in accordance with the plan and budget approved by the board of directors of the company.
- 3) To undertake or determine the management authority to ensure that the operation is undertaken in accordance with the policies, plan and budget approved by the board of directors of the company efficiently and effectively based on the internal control concept systematically and consistent risk management.
- 4) To determine the organization structure, management method and to select, train employ and dismiss the employees and to determine the wage, salary, reward, bonus and welfare for the employees.
- 5) To direct, contact, command, undertake and sign in the juristic act, agreement, order, notice or any letter used to contact with other agencies or persons to ensure that the work of the company is accomplished efficiently and effectively.
- 6) To have authority to provide the authority to the substitute and/or assign the other person to undertake the specific work for him through substitution and/or assignment within the scope of authority in accordance with the power of attorney and/or in accordance with the regulations, requirements or orders made by the board of directors of the company or the company.
- 7) To be a leader and role model on business conduct and ethics of the company and to promote, supervise and monitor the management with respect to sustainable principle, social responsibility and to comply with the anti-corruption measures and guidelines.
- 8) To have the authority, duty and responsibility assigned or in accordance with the policy assigned by the board of directors of the company.

The assignment of authority, duty and responsibility to the chief executive officer is not the assignment or substitution to allow the chief executive officer or the assignee of the chief executive officer to approve any transaction that he or the person with the conflict of interest or with possible conflict of interest with the company or the subsidiary company (according to the definitions provided in the notification of the Securities and Exchange Commission) while the approval on such transaction is required to be proposed to the board of directors of the company and/or the meeting of shareholders (as applicable) to consider and make an approval on such transaction in accordance with the requirements of the company or related laws unless it is an approval on the transaction which is the regular business transaction of the company in accordance with the policies and criteria approved by the board of directors of the company.

Role, Authority, Duty and Responsibility of the Managing Director

(Cited by "Role, Authority, Duty and Responsibility of the Chairman, Chief Executive Officer and Managing Director": Revision Date on 1st March 2021)

The board of directors of the company has assigned the Managing Director to manage the company within the scope and authority as follows;

- 1) To supervise, control and monitor the business undertaken and/or the general management of the company.
- 2) To undertake or perform the work in accordance with the policies, plans and budgets approved by the board of directors of the company, the executive board and the other sub-committee.
- 3) To be the assignee of the company to undertake the business management of the company in accordance with the objectives, regulations, policies, rules, requirements, orders, resolutions of the meeting of shareholders and/or resolutions of the meeting of the board of directors of the company and/or the executive board and the other sub-committee for the interest of the company while such approval authority is the approval on regular business transaction within the amount not exceeding the amount specified by the board of directors of the company.

- 4) To monitor and assess the operating results of the company consistently to prevent risks from both internal and external factor.
- 5) To have authority to undertake any transaction and to represent the company before the other people in the business related and beneficial to the company.
- 6) To have authority to assign a substitute and/or assign any person or persons to undertake any act as deemed suitable while such substitution and/or assignment shall be within the scope of authority in accordance with the power of attorney made by the company and/or in accordance with regulations, requirements or orders of the director and/or the executive board while the company is able to change, cancel or amend such authority.
- 7) To have authority to issue orders, regulations, notifications, memorandum to ensure that the work is performed in accordance with the policies and interest of the company and to maintain discipline or order of work in the organization.
- 8) To approve the appointment of any advisor necessary for the operation of the company.
- 9) To undertake any work to support the operation of the company within the policies and authority provided by the board of directors of the company.
- 10) To be a leader and role model on business conduct and ethics of the company and to promote, supervise and monitor the management with respect to sustainable principle, social responsibility and to comply with the anti-corruption measures and guidelines.
- 11) To perform any other task assigned by the board of directors of the company and/or the sub-committee.

The assignment of authority, duty and responsibility to the managing director is not the assignment or substitution to allow the managing director or the assignee of the managing director to approve any transaction that he or the person with the conflict of interest or with possible conflict of interest with the company or the subsidiary company (according to the definitions provided in the notification of the Securities and Exchange Commission) while the approval on such transaction is required to be proposed to the board of directors of the company and/or the meeting of shareholders (as applicable) to consider and make an approval on such transaction in accordance with the requirements of the company or related laws unless it is an approval on the transaction which is the regular business transaction of the company in accordance with the policies and criteria approved by the board of directors of the company.

In addition, in order for the company to receive maximum benefits in the event that the Chief Executive Officer and the Managing Director is able to devote time for performing duties as the Chief Executive Officer and Managing Director effectively. Therefore, the Company has set a policy to prohibit the Chief Executive Office and the Managing Director to hold positions as Chief Executive Officer or Managing Director or hold any other positions with similar characteristics in other juristic persons with the same condition, except for participation in subsidiaries or associated company; as well as, being a member of the public and private sector organizations that are set up for mutual benefits.

Succession Plan and Talent Management Policy

(Cited by "Policy: Succession Plan and Talent Management": Revision Date on 1st March 2021)

1. Regulations and criteria on succession plan

The criteria and regulations of the company on recruitment of personnel are arranged to undertake the key executive management of the company appropriately and transparently to ensure that the executives of the company have qualifications, skills, experience and professional competence through the Nomination and Remuneration Committee and/or the committee appointed to recruit/select and arrange the succession plan in accordance with the level of the employees as follows.

1.1. Managing director and Chief executive officer

To recruit/select and arrange the succession plan while the Nomination and Remuneration Committee will prepare the succession plan in the level of Managing director and Chief executive officer for presentation to the board of directors of the Company for consideration in order to recruit and select the executives of the Company, the Nomination and Remuneration Committee will monitor the succession plan when the executive posts in the level of the Chief executive officer /Managing director are vacant or the person in the such post is unable to perform his duty. The Company will have a system for management at a similar level or a second level to act in the position until the recruitment and selection of qualified persons according to the criteria that specified by the Company which must be a person with a vision, knowledge, experience and able to link various departments of the organization for strategic success, whereby the Nomination and Remuneration Committee will consider the nomination and propose to the Board of Directors to consider and approve the appointment of suitable persons to replace the positions.

Primary qualifications of the Chief Executive Officer and the Managing Director

1. Education at least a bachelor's degree and have experience in management in the position of division director or above.
2. Having knowledge, competence, skills, experience in company management and business experience consistent with the Company's business, also having specialized expertise that is beneficial to the Company's business and is in line with the Company's business strategy without gender discrimination, age, race, etc.
3. Be smart and able to connect different areas of the organization to pursue strategic success while laying a foundation for rapid change.
4. Having leadership, wide vision, morality and ethics, as well as having a positive attitude towards the organization, able to devote sufficient time that is beneficial to the Company's business operations.
5. Have a transparent work record, must not be blacklisted by any organization, including the Securities and Exchange Commission, or have ever been convicted of a criminal offense, and have no prohibited characteristics under the law

1.2. Executive level from the Assistant Vice President level to the Deputy Managing Director level

If the executive level from the assistant vice president level to the deputy managing director level is vacant or the person in such post is unable to perform the duty, the company will propose the person selected to be the successor to the executive committee and/or the Human Resource Committee appointed. The succession plan of the executive level of the Company is as follows.

- 1) To analyze the business operation of the company in terms of policy, investment plan and expansion plan.
- 2) To assess the human resource availability in congruent with the strategy of the company, both short-term and long-term.
- 3) To determine the human resource availability through development of human resource or recruitment of personnel to replace the leaving employees.
- 4) To arrange the recruitment plan and employee training and development plan in advance of retirement or early resignation of the employees.
- 5) To determine the qualifications and competencies including desirable knowledge, skill, personality and attitude of the employee in such post and to prepare the individual; development plan.
- 6) To select, assess performance and potential of the employees to ensure suitability.
- 7) To employ the test and assess the personnel to determine the potential of the employees.
- 8) To identify the successor through assessment and analysis of performance and potential of the employees with advance notice to the employees for acceptance and learning the job and to determine the spare successor.

- 9) To develop and assess the employees anticipated to be the successor to ensure development and performance as expected. If the anticipation has failed, follow the procedures.
 - To select and plan the new successor or
 - To develop the spare successor (if any) or
 - To recruit and select the persons outside the organization

When the successor has complete qualifications to assume the job with higher responsibility and there is vacancy or new post, he will obtain the promotion and acting post in accordance with the policy of the Company on job structure, criteria on adjustment of daily worker to monthly worker, promotion, higher post or approval the chief executive officer and the managing director.

2. Regulations and criteria on talent management

“Talent person” means the employee with special capability, performance, skill/capacity and outstanding qualification recruited and selected from employees in the organization and recruited from outside.

Criteria on selection of talent employees from employees in the organization is based on high performance - KPIs/PIs and high competency considered from performance in the past three years while the assessment grade is required to be Good - Excellent and the core competency of the organization is required to be at least B only in accordance with the following core competency: Analysis/assessment of problem, Communication, Focus on customer services, Follow-up and Teamwork/cooperation provided.

In addition, the other qualifications required for the talent employees from recruitment and selection in the organization and new recruitment are Leadership, Responsibility, Creativity and Principle and transparent management.

Development of talent persons

When the talent employees have been recruited and selected in accordance with the qualifications jointly determined by each division/line, background, training and performance records shall be prepared to promote the talent persons for better talent, efficiency of such person and the organization based on the model and criteria on development of talent persons like development of general personnel in the organization as follows.

1. Training Need Survey to determine the need of each unit and the individual need suitable to each job.
2. On the Job Training to determine the need of the individual undertaking the duties of the unit and to determine the measurement process whether in terms of written test or practice.
3. Off the Job Training whether it is the special training or the simulated model and case study.

When the post is available and the qualifications have satisfied the post with greater responsibility, the promotion will be made to an acting post in accordance with the policy of the company on job/position structure, criteria on adjustment from daily worker to monthly worker, promotion, promotion to a new post or approval from the chief executive officer and managing director.

In this regard, the Managing Director is responsible for reporting the operating results in accordance with the succession plan to the Board of Directors on a periodic basis at least once a year.

20.3 Authorization for Credit Limit

(Cited by "Policy: Transaction measures with the related and non-related persons and table of approval authority": Revision Date on 1st March 2021)

The policy of "Transaction measures with the related and non-related persons and table of approval authority" is prepared to serve as an operational framework and guideline regarding the approval authority in the organization in order to manage fairly and transparently and prevent conflicts of interest. It indicates 2 types of the authority which are the transaction with the related and non-related persons, so that the internal management shall be transparent under the clear operational framework.

- (1) Transaction measures with the non-related persons
- (2) Transaction measures with the related persons

Transaction Measures with the Non-related Persons

The Board of Directors indicates "The Table of Approval Authority of Transaction Measures with Non-related Persons" with regard to the asset purchasing/selling/transferring (gain or disposal), purchasing of product/material and service to conduct the regular business, making an agreement of trade obligation and making a loan/guarantee contract which causes the financial obligation with the non-related person, to use as a corporate framework.

Transaction measures with the related persons

In case of a transaction with a person which may cause the conflict of interest, the Board of Directors has set up the policy to ensure the transparency and justice equally for all shareholders based on the following principles;

- The transaction shall gain the approval from the Directors and Executives with the careful, honest and transparent consideration, by which the interested person does not participate in the decision.
- The transaction is conducted with consideration of the Company's benefits like the transaction with the outsider.
- The Company establishes the monitoring and following-up system to ensure that the transaction is in compliance with the process.
- The transaction information is disclosed completely and correctly in the proper time.

The Company's policy on the transaction categorizes the transactions as follows;

- The regular business and regular business promotion between the Company and its subsidiaries / affiliates and Directors, Executives or the related person which gains the approval in principles from the Board of Directors shall be conducted by the Management, if the transaction has the trade agreement in the manner that the respectable person would agree with his counterpart in the same situation with the trade bargain leverage not influenced by the fact that he is the Director, Executive or the related person. The Board of Directors indicates "The Table of Approval Authority of Transaction Measures with the related persons" to use as a corporate framework.

The Company shall make the transaction summary report to propose in the meeting of the Audit Committee and the meeting of the Board of Directors every quarter.

- Other transactions aside from the above-mentioned regular business and regular business promotion such as the short-term rent or lease of immovable property, transaction in relation to the asset or service (for example the investment or sale of the financial investment in the business) or the offer or reception of the financial assistance.

The Company's policy specifies the approval authority in compliance with the principle of Stock Exchange of Thailand. The Board of Directors indicates "The Table of Approval Authority of Transaction Measures with the related persons" to use as a corporate framework. As the major transaction between the parties, Board of Directors decides that the policy must be considered and approved by the Board of Directors prior to entering into the transaction.

The Company shall make the transaction summary report to propose in the meeting of the Audit Committee and the meeting of the Board of Directors every quarter.

The Board of Directors shall comply with the Securities and Exchange Act B.E. 2535, regulations, notifications, orders or requirements of Stock Exchange of Thailand. Additionally, it shall comply with regulations regarding the related transaction and the gain / disposal of the key assets of the Company or its subsidiaries / affiliates, so that the transaction does not bring about the conflict of interest and cause the utmost benefits for all shareholders. In this regard, the Company shall disclose the details of transactions in the annual information declaration (Form 56-1), the Company's annual report and the notes to financial statement which shall be audited by the Company's auditors.

20.4 Company Secretary

Board of directors' meeting (13/2008) dated on October 27, 2008 approved appointment of Miss Chantira Jongjamreeseethong as Company Secretary, effective since October 27, 2008. Such person has education, knowledge including graduated accounting, experience and responsibility to do secretary job with aim to make things done in line with rules & regulations and corporate governance.

Scope of Authority of Company Secretary

1. Being the secretary of the Board of Directors. To coordinate the meetings of the Board of Directors and the shareholders meeting of the company compliance with good corporate governance principles and regulatory compliance, company regulations, good practice and relevant laws such as the Securities and Exchange Act Public Limited Company Act, 1992.
2. To oversee the disclosure of information of the Company in compliance with the regulations of the Stock Exchange of Thailand, the Securities and Exchange Commission and other regulators associated.
3. Provide initial advice to the Board of Directors and corporate executives. To comply with the company regulations, Rules and Regulations of the Securities and Exchange Commission including the requirements of the Stock Exchange of Thailand. Including new regulatory compliance functions. Related to the company
4. Prepare and keep significant documents like director register, board of directors' meeting letter, board of directors' report, company's annual report, shareholders' meeting letter, shareholders' meeting report and conflict of interest report by directors and executives
5. Supervise board activities for the directors to perform their duties effectively and effectiveness also make the most benefit to the company.
6. Coordinate the compliance of the Board of Directors and shareholders meeting.
7. Perform other duties assigned by the Board of Directors.

In addition, with focus on corporate governance, the Company sent Miss Chantira Jongjamreeseethong to take Company Secretary Program (28/2008) and Effective Minute Taking-EMT Course (12/2008) held by Thai Institute of Directors (IOD) and other courses for supporting to the Board of Directors and also related courses to support good corporate governance continuously. In addition, in 2021 the Board of Directors has an additional in formulating processes and interim for evaluating the performance of the Company Secretary annually in order to be used as a guideline for continuous development.

20.5 Remuneration of Committee and Directors

20.5.1 Cash Remuneration

(1) Remuneration for Directors and Meeting

The Company has clear and transparent policy on remuneration for directors. Remuneration committee will consider and propose directors' remuneration to board of directors and then to shareholders' meeting for approval. Remuneration paid here is competitive compared to that with other listed companies in energy sector.

Policy: Remuneration Determination for all Committees

(Cited by "Policy: Determination on the Remuneration of All Committees": Revision Date on 1st March 2021)

"Remuneration determination policy for all committees" is prepared to serve as a framework and guideline in remuneration determination for each committee including senior executives. The remuneration determination criteria shall reflect the experience, duties and scope of role and responsibility of the committees. It shall be under the rate comparable to the prevailing practices of the same industry and/or the director remuneration survey, so that the rate and components of the remuneration can retain the required qualified committees.

Principles, consideration criteria and components of remuneration

1. Principles and consideration criteria

The Board of Directors assigns the Nomination and Remuneration Committee to propose the remuneration of all committees to the Board of Directors for their approval. Then, the proposal shall be considered in the shareholders' meeting for the approval under the following criteria;

- Role, scope, authority and responsibility of Board of Director and each committee.
- The collective and individual performance of the committees.
- The operational performance of the Company, based on the type and size of the Company's business.
- The remuneration survey, in comparison with other companies in the same industry.

2. Components of remuneration

In order to be in line with the responsibilities, duties and responsibilities of the directors, the composition of the remuneration for the directors has been determined which is divided into 2 parts as follows;

- Meeting attendance fee
- Quarterly remuneration

3. Remuneration Determination Process

The Board of Directors sets up the remuneration determination process to comply with the principle of good governance based on transparency and accountability. The consideration process is as follows;

- 1) The Nomination and Remuneration Committee considers and determine the remuneration in accordance with the principle.
- 2) The Nomination and Remuneration Committee proposes the remuneration rate to the Board of Directors for the approval.
- 3) The Board of Directors approves and proposes the remuneration rate to the shareholders' meeting for the approval.
- 4) The shareholders' meeting approves the remuneration rate.

Remuneration for the Board of Directors, sub-committee both the Executive Directors and Non-Executive Directors comprises of Remuneration Fee and Yearly Remuneration Fee which approved by the Board of Directors' Meeting No. 1/2020 held on 25th February 2020, and approved by the 2020 Annual General Meeting of Shareholders held on 21th April 2020, details are as follows:

(Unit : THB)

Remuneration

Position	Board of Directors	Audit Committee	Good Corporate Governance Committee	Risk Management	Nomination and Remuneration Committee	Management Committee
1. Chairman	25,000	25,000	20,000	20,000	20,000	7,500
2. Member	18,000	18,000	12,000	12,000	12,000	5,000
3. Secretary of Committee	6,000	6,000	6,000	6,000	6,000	-

Remark: Incase the independent directors have been appointed as Chairman of the Board, to be eligible for payment of meeting fee only one location in each of the top position.

Yearly Remuneration Fee

Position	Board of Directors	Audit Committee	Good Corporate Governance Committee	Risk Management	Nomination and Remuneration Committee	Management Committee
1. Chairman	750,000	300,000	100,000	100,000	100,000	500,000
2. Member	300,000	200,000	100,000	100,000	100,000	200,000
3. Secretary of Committee	50,000	50,000	25,000	25,000	25,000	-
4. Company Secretary	100,000	-	-	-	-	-

Remark: Incase the independent directors have been appointed as Chairman of the Board, to be eligible for payment of annual compensation only one location in each of the top position.

Remark: the maximum of the all compensation payment is set as follows:

1.	Chairman of the Board of Directors	Maximum Payment	THB	3,500,000
2.	Chief Executive Officer (CEO)	Maximum Payment	THB	2,500,000
3.	Chairman of any committee	Maximum Payment	THB	1,500,000
	(Except: Chairman of the Board of Director and CEO)			
4.	Managing Director	Maximum Payment	THB	1,000,000
5.	Executive Directors	Maximum Payment	THB	800,000
6.	Director of Any Committee	Maximum Payment	THB	400,000
	(Except: Executives Director)			

And if a director holds more than one position. To pay from the calculation of the sum of all types of compensation. Both meeting allowance the annual compensation and bonuses. That must not exceed the ceiling rate or the maximum amount of each of the highest positions for which the director is located. If the director has more than one position that pay only from the ceiling of the highest position.

The limit for all types of compensation and all positions, total amount shall not more than 18,000,000 baht

In 2020, The Board of Directors and sub-committees have scheduled meetings throughout the year, usually on a quarterly which an annual meeting schedules are announced to all directors in advance and might have a special meeting as necessary. The agenda setting clear and sent notice of the meeting and the agenda for the Board of Directors at least 7 days, and the meeting prior to the Board of Directors have the adequate information before the meeting. Chairman of the Board of Directors made responsible for allocating sufficient time to present the document and information management is an important issue for discussion by the quarterly meeting, almost directors attended the meeting, unless urgent business. Also in February 2019, the Board of Directors has held a meeting between non-executive directors, with an open agenda for opinions, suggestions which related to the control, management, risk management and other matters that relating to corporate governance both inside and outside the organization in order to ensure transparency, fairness, and international standards, and then summarize the important discussion points for the Chief Executive Officer and the Managing Director for further management recommendations.

For the year 2018, 2019 and 2020, the total remuneration for directors is THB 8,857,700.00, THB 9,480,100.00 and THB 10,153,800.00 respectively. Details of the remuneration and attendance of each director are summarized as follows:

Summary of Compensation, Number of Meetings and the Number of Attendance of Each Board/Committee

Directors' remuneration, both monetary and non-monetary, for the years 2019 and 2020 are as follows:
 1. Monetary Compensation : Totally 9,480,100.00 in 2019 and 10,153,800.00 in 2020
 2. Non-Monetary Compensation : in 2019 - None / In 2020 - None

Details of remuneration and attendance of each director, summarized as follows:-

No.	Name List	Starting Date Position	Total number of years in current tenure (December 31, 2020)						Date Resignation / Termination
			Board of Directors	Audit Committee	Risk Management Committee	Nomination and Remuneration Committee	Good Corporate Governance Committee	Executive Committee	
Directors and sub-committees									
1	Dr. Gunkul	Dhumrongpiyawut	August 10, 2009 ²⁾	11 years 5 months					
2	Dr. Chongrak	Rarueysong ¹⁾	July 3, 2015 ³⁾	5 years 6 months					
3	Associate Professor Dr. Panarat	Panmanee ¹⁾	April 20, 2018 / May 14, 2018 ⁽⁶⁾	2 years 8 months					
4	Gen. Tarnchaiyan	Srisuwan ¹⁾	April 18, 2019	1 years 9 months					
5	Mr. Tarakorn	Angrubate ¹⁾	April 20, 2018/ February 20, 2019 ⁷⁾	2 years 8 months		1 years 9 months			
6	Mr. Kris	Chantanotoke ¹⁾	November 6, 2019	1 years 2 months					
7	Mrs. Sopacha	Dhumrongpiyawut	August 10, 2009 ²⁾	11 years 5 months				11 years 5 months	
8	Dr. Somboon	Aueatthasai	June 9, 2010 ^{3)/} August 10, 2009 ⁽⁶⁾	10 years 7 months				11 years 5 months	
9	Mrs. Naruechon	Dhumrongpiyawut	August 10, 2009 ²⁾	11 years 5 months				11 years 5 months	
10	Mrs. Areewan	Chaloemdan	August 10, 2009 ²⁾	11 years 5 months				11 years 5 months	
11	Mr. Chaloepon	Sricharoen	August 10, 2009 ²⁾	11 years 5 months				11 years 5 months	
12	Mr. Somchai	Trairataniptom ¹⁾	June 22, 2015/ February 25, 2013 ⁽⁴⁾		5 years 6 months			7 years 10 months	
13	Mr. Thitipong	Techaratanayuenyong	12 November 2014						
14	Pol. Maj.Gen. Visit	Sukarasep ¹⁾	November 20, 2019			1 years 10 months			
15	Mr. Decha	Chooligorn ¹⁾	November 9, 2012			8 years 2 months			
16	Mr. Hathai	Uthai ¹⁾	November 12, 2015			5 years 2 months			
17	Mrs. Somluk	Kanueghet	August 10, 2009			11 years 5 months			
18	Mr. Phongthep	Thitapan ¹⁾	February 25, 2013						
Directors that resigned / completed their terms during the year 2019 that received compensation									
1	Dr. Djitt	Laowattana ¹⁾	August 18, 2014 ³⁾	6 years 5 months				13 December 2020	
Directors that resigned / completed their terms during the year 2019 that received compensation									
1	AVM Dr. Pian	Totaron ¹⁾	November 9, 2012		7 years 4 months			20 February 2019	
2	Dr. Phairot	Phanukan	April 18, 2019	1 years 7 months				3 November 2019	

¹⁾ Being an independent director / director who is not affiliated with or is an executive of any company.

²⁾ On August 10, 2009, GUNKUL transformed into a Public Company. The date was registered with the Department of Business Development for the first Board of Directors to be the Company's director.

³⁾ The date of being registered as director of the company shall be reported to the Department of Business Development.

⁴⁾ The Company pays annual compensation on a quarterly basis. The annual compensation for the 1st - 3rd quarter will be paid within the year. accounting period of that year.

⁵⁾ For the 4th quarter, payment will be made at the beginning of next year. The annual compensation that specified in the "Compensation" table is the annual compensation that recorded according to the accounting period of that year.

It is the meeting allowance and annual compensation that the executive committee receives from attending the meeting and holding the position of executive committee in 2018 and 2019.

The Executive Committee of 5 persons do not wish to receive meeting allowances.

⁶⁾ The date of holding a position of the Good Corporate Governance Committee and a position of the Risk Management Committee, respectively.

⁷⁾ The date of holding a position of the Board of Director and a position of the Chairman of Nomination and Remuneration or the Chairman of the Risk Management Committee, respectively.

⁸⁾ The date of holding a position of the Board of Director and a position of the Member of Audit Committee, respectively.

⁹⁾ The date of holding a position of the Board of Director, the Secretary of the Board and the Member of Executive Committee, respectively.

No.	Name List	Attendance of Board of Directors and Sub-Committee in Year 2019 and Year 2020													
		The number of months that Holding position		Board of Directors		Audit Committee		Risk Management Committee		The Nomination and Remuneration Committee		Good Corporate Governance Committee		Executive Committee 5)	
		2019 (Month)	2020 (Month)	2019 (7 Times)	2020 (9 Times)	2019 (6 Times)	2020 (5 Times)	2019 (5 Times)	2020 (6 Times)	2019 (2 Times)	2020 (2 Times)	2019 (5 Times)	2020 (6 Times)	2019 (45 Times)	2020 (29 Times)
Directors and sub-committees															
1	Dr. Gunkul Dhumrongpiyawut	12	12	6/7	9/9										
2	Dr. Chongrak Rarueysong ¹⁾	12	12	7/7	9/9	6/6	5/5					5/5	6/6		
3	Associate Professor Dr. Panarat Panmanee ¹⁾	12	12	7/7	9/9	6/6	5/5								
4	Gen. Tarnchaiyan Srisuwan ¹⁾	8	12	6/6	9/9										
5	Mr. Tarakorn Angpubate ¹⁾	12	12	6/7	9/9			4/4	6/6	1/1	2/2				
6	Mr. Kris Chantanotoke ¹⁾	2	12	0/2	9/9										
7	Ms. Sopacha Dhumrongpiyawut	12	12	7/7	9/9			5/5	6/6					45/45	29/29
8	Dr. Somboon Aueathasai	12	12	7/7	9/9									45/45	29/29
9	Ms. Naruechon Dhumrongpiyawut	12	12	7/7	8/9									45/45	29/29
10	Mrs. Areewan Chaloezman	12	12	7/7	9/9									45/45	29/29
11	Mr. Chaloezman Sricharoen	12	12	7/7	9/9									45/45	29/29
12	Mr. Somchai Trairatanapirom ¹⁾	12	12					5/5	6/6			5/5	6/6		
13	Mr. Thitipong Techaratanayuenyong	12	12					5/5	6/6						
14	Pol. Maj.Gen. Visit Sukarasep ¹⁾	10	12							1/1	-				
15	Mr. Decha Chooligorn ¹⁾	12	12							2/2	2/2				
16	Mr. Hathai Uthai ¹⁾	12	12							2/2	2/2				
17	Mrs. Somluk Kanuenghet	12	12							2/2	2/2				
18	Mr. Phongthep Thitapan ¹⁾	12	12									5/5	6/6		
Directors that resigned / completed their terms during the year															
1	Dr. Djitt Laowattana ¹⁾	12	11 monts 13 days	6/7	8/8	5/5	5/5								
Directors that resigned / completed their terms during the year															
1	AVM.Dr. Pian Totarong ¹⁾	1	-		-			1/1							
2	Dr. Phairot Phanukan	7	-	3/3	-										

(2) **Remuneration for Management Executive**

In 2019, the Company had 17 executives, 5 were executives and directors and 12 were executives only. The Company paid compensation to the management of the Company as shown in the table.

In 2020, the Company had 17 executives, 5 were executives and directors and 12 were executives only. The Company paid compensation to the management of the company as follows:

(Unit : THB)

Remuneration	Executives and Directors				Executive Only			
	Year 2019		Year 2020		Year 2019		Year 2020	
	No. of persons	Remuneration	No. of persons	Remuneration	No. of persons	Remuneration	persons	Remuneration
Total salary	5	25,223,700.00	5	37,080,000.00	11	27,626,576.66	12	38,773,600.00
Total bonus	5	27,392,930.00	5	28,316,100.00	11	16,997,993.87	12	21,170,837.69
Total	5	52,616,630.00	5	65,396,100.00	11	44,624,570.53	12	59,944,437.69

20.5.2 Non-cash remuneration

- None -

20.6 Personnel

- Total employees of the Company and subsidiaries as of 31st December 2020. The total number of employees is 964 persons, classified by type and employee level, as of 2016, 2017, 2018, 2019 and 2020 details are as follow;

Total Employees		Number of Employees				
		2016	2017	2018	2019	2020
Total Employees		709	728	796	844	964
	Full time	583	598	667	716	854
	Daily	126	130	129	128	110
Total Employees by Category						
	Permanent	599	611	663	718	791
	Contracted	110	117	133	126	173
Total Employees by Gender						
	Male	433	448	509	538	603
	Female	276	280	287	306	361
Total Employees by Others						
	Disabled	1	1	2	2	7
	Elderly	1	2	21	19	21
Total Employees by Rank						
	Management Executive	25	26	28	34	38
	Department Manager	56	53	57	60	65
	Chief / Specialists	78	75	97	88	114
	Primary -intermediate employees	312	345	376	421	476
	Operation employee	238	229	238	241	271
% Employee Turnover		2.41%	2.07%	2.28%	2.23%	1.39%

2. Employee remuneration

- In 2019, monetary compensation for employees of the Company and its subsidiaries. comprised of salary, bonus and provident fund with combined amount of THB 409,447,011.87 as details below:

Unit : Baht	Year 2018	Year 2019	Year 2020
Salary	273,089,643.41	293,830,006.33	364,541,075.70
Bonus	73,101,598.10	102,747,143.23	115,769,180.98
Provident Fund	12,136,192.47	12,869,862.31	16,702,738.33
Total	358,327,433.98	409,447,011.87	497,012,995.01

- As the policy of remuneration for employees, the company has a policy to pay compensation in accordance with the results of operations each year, also consider the performance evaluation capabilities (Competency) of individual employees and performance (KPIs) of each segment to be consistent with the results of operations for both the short and long term and also the provident fund has been set up since 2008 to provide long-term employee benefits.

3. Labor dispute over the past three years

No labor disputes to court

4. Personnel development policy

The Company has policy to develop staff with aim to support them to grow in the organization and require staff to work happily so they can create productivity which is good to company for sustainable growth.

The Company sets human resources development plan by using competency and KPIs as data to set training course to improve working skill. Followings are training courses provided to various levels of staff;

- Management Company wants management to clearly understand corporate management, vision, and strategy, so they can set up integrated corporate strategy for company resulting in competitive advantage by providing training courses on planning, strategy and management for top executives.
- Dept. Head Company wants to create skill on preliminary management and job responsibility so head of department can fulfill corporate strategic plan and use this skill to manage controlee. Training courses involve leadership, teamwork and basic management skill to head of department so they can apply to use with employees.
- Employee Company wants employees to have knowledge and understand their roles and responsibility so they can improve their performance. Training courses focus on operating skill and working environment like primary work, presentation suggestion and rules and regulations.

The company's policy of continuously development for employees' knowledge and capability is main mission of corporation to stand up for increasing their skill and to be professional in their jobs.

On management structure policy, the Company group has policy to promote on annual basis for capable employees in accordance with career path policy. In addition, the Company group also supports employees to participate in sustainable quality development like expressing opinions to develop work and having skill test.

For directors and top executives of the Company and the Group, The Committees and the Company continuously support them to participate training courses held by Thai Institute of Directors (IOD) and others to improve understanding of roles, responsibility and skill in management as being company directors and executives that continuously knowledge will be most useful for the company's improving.

**Dr. Gunkul Dhumrongpiyawut**

- Chairman of the Board of Directors (Non-Executive Director)

Date and month of appointment as Director

- 10th August 2009 (11 Years 5 months)

Age 66 Years

Educational Qualifications

- The Honorary Doctor of Engineering, Rajamangala University of Technology Thanyaburi in 2018
- The Honorary Doctor of Art, Rajamangala University of Technology Phra Nakhon in 2016
- Honorary Master of Engineering, Western University in 2010

Training History**Training in 2020 - 2021**

- Senior Justice Executive Course, Class 25, Judicial Training Institute (Studying)

Training Program

- Intermediate Certificate Courses - Good Governance for Medical Executives Class 8 (IGM8), The Medical Council together with King Prajadhipok's Institute
- Thai - Chinese Leadership Studies (TCL) Class 2 Huachiew Chalermprakiet University
- Rule of Law for Democracy Class 6 (RLD.6), College of the Constitutional Court
- Top Executives Program Class 15/2012, Capital Market Academy
- Director Certification Program (DCP) Class 111/2008, Thai Institute of Director (IOD)
- Director Accreditation Program (DAP) Class 70/2008, Thai Institute of Director (IOD)
- Managing Finance for Business Owners by Peter Ho
- Secrets to Doubling Your Sales, Productivity & Profits Program
- Anti-Corruption Training Course

Working Experience during the Past 5 Years**GUNKUL's Group**

• 2012 - Present	Gunkul Engineering PCL	Chairman of the Board of Directors
• 2009 - Present	Gunkul Engineering PCL	Director

Other Companies / Entities

• 2017 - Present	Group of Great Miracle Asset	Director
• 2000 - Present	Gunkul Engineering (2000) Co., Ltd.	Director
• 1996 - Present	Gunkul Marine Line Co., Ltd.	Director
• 1994 - Present	G.M. Supply and Construction Co., Ltd.	Director
• 1991 - Present	Gunkul Group Co., Ltd.	Director

Number of companies currently holding the position of a director

• Listed Company (s)	1	
	Gunkul Engineering PCL	Chairman of the Board of Directors (Non-Executive)
• Non-Listed Companies (s)	17	

Share Holding Percentage as at 31 December 2020

- 311,511,270 shares, representing 3.5070 percent of the issued and paid-up capital

Relationship between Management

- Spouse of Miss Sopacha Dhumrongpiyawut and Father of Miss Naruechon Dhumrongpiyawut



Dr. Chongrak Rarueysong

- Director (Independent Director)
- Chairman of the Audit Committee ¹⁾
- Member of the Good Corporate Governance Committee ¹⁾

Date and month of appointment as Director, Member of the Audit Committee and Member of the Good Corporate Governance Committee

- 3rd July 2015 (5 Years 6 months) / 3rd July 2015 (5 Years 6 months) / 3rd July 2015 (5 Years 6 months)

Age 67 Years

Educational Qualifications

- Ph.D., Economics, University of Illinois at Urbana - Champaign, U.S.A.
- Bachelor of Economics (Hons), Thammasat University

Training History

Training in 2020

- -

Training Program

- Seminar on "Business sustainability in the digital era "Know quickly ... Make use of" by EY Office Company Limited (Ernst & Young)
- Economic Statistics, United Nations (UN)
- Public Finance, International Monetary Fund (IMF)
- Securities Market, U.S. Securities and Exchange Commission (SEC)
- Directors Certification Program (DCP) 14/2002, Thai Institute of Director (IOD)
- Effective Audit Committee 4/2002, Thai Institute of Director (IOD)
- Japan Capital Market, Japan Securities Dealers Association (JSDA)

Working Experience during the Past 5 Years

GUNKUL's Group

• Dec 2020 - Present	Gunkul Engineering Public Company Limited	Director (Independent Director) / Chairman of the Audit Committee / Member of the Good Corporate Governance Committee
• 2015 - Present	Gunkul Engineering Public Company Limited	Director (Independent Director) / Member of the Audit Committee / Chairman of the Good Corporate Governance Committee

Other Companies / Entities

• 2020 - Present	Apple Cash Company Limited	Director
• 2018 - Present	Hatari Wireless Company Limited	Director
• 2016 - Present	Kingsford Holdings Public Company Limited	Chief Executive Group
• 2004 - 2014	KTBC Computer Services Company Limited	Director / Chairman of the Audit Committee
• 2002 - 2003	PTT Public Company Limited	Director / Member of the Audit Committee
• 2001 - 2007	Thai Bond Dealing Centre	Director
• 2001 - 2002	Petroleum Authority of Thailand	Director

Dr. Chongrak Rarueysong (cont.)

• 1998 - 2007	TRIS Corporation Limited	Director
• 1998 - 2007	Thailand Securities Institute	Director
• 1996 - 2012	Thai Securities Finance Company Limited	Director / Executive Director
• 1996 - 2012	Association of Securities Companies (Thailand)	President
• 1996 - 2012	Association of Securities Companies (Thailand)	President, Training Institute
• 1995 - 1996	Vachira Dhanadhun Securities Company Limited	Managing Director
• 1992 - 1995	The Stock Exchange of Thailand	Director of Research and Development
• 1991 - 1992	Research Office Dhana Siam Finance and Securities Public Company Limited	Assistant Vice President
• 1983 - 1991	Ministry of Finance	Senior Specialist Loan Policy Division and Fiscal & Tax Policy Division

Number of companies currently holding the position of a director

- Listed Company (s) 1
Gunkul Engineering PCL
Independent Director / Member of the Audit Committee
Chairman of the Good Corporate Governance Committee
- Non-Listed Companies (s) 2

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None

¹⁾ Appointed to the position Chairman of the Audit Committee and Member of the Good Corporate Governance Committee on December 14, 2020.



Associate Professor Dr. Panarat Panmanee

- Director (Independent Director)
- Member of the Audit Committee

Date and month of appointment as Director and Member of the Audit Committee

- 20th April 2018 (2 year 8 months) / 14th May 2018 (2 year 8 months)

Age 72 Years

Educational Qualifications

- Ph.D. in Management and Accounting, Keio University, Japan
- Master of Accountancy, Thammasat University
- Bachelor of Accountancy, Thammasat University

Training History

Training in 2020

- Professional Training in Accounting 20 hours per year and Others 20 hours per year, in accordance with the requirements of the Federation of Accounting Professions for certified auditors

Training Program

- Professional Training in Accounting and Others, in accordance with the requirements of the Federation of Accounting Professions for certified auditors, totaling 40 hours per year
- Top Executive Program in Commerce and Trade Class 10 (TEPCoT 10), Commerce Academy
- Directors Certification Program (DCP) 264/2018, Thai Institute of Director (IOD)

Working Experience during the Past 5 Years

GUNKUL's Group

• 2018 - Present	Gunkul Engineering PCL	Director (Independent Director)
• 2018 - Present	Gunkul Engineering PCL	Member of the Audit Committee

Other Companies / Entities

• 2020 - Present	Federation of Accounting Professions Royal Patronage	Advisor to the Technology Development and Professional Accounting Subcommittee
• 2018 - Present	PROEN Corp Public Company Limited	Director (Independent Director) / Member of the Audit Committee
• 2018 - 2020	Federation of Accounting Professions Royal Patronage	Consultant in Accounting Professional Education and Accounting Technology
• 2016 - 2019	University of the Thai Chamber of Commerce	Dean Faculty of Accounting
• 2009 - 2015	Rajamangala University of Technology Thanyaburi	Specialist PhD program, Faculty of Business Administration
• 2002 - 2007	Thammasat University	Deputy Dean for Academic Affairs Faculty of Commerce and Accountancy
• 1991 - 1999	KPMG Peat Marwick & Suthee Ltd.	Partner
• 1976 - 2009	Thammasat University	Professor, Faculty of Commerce and Accountancy

Number of companies currently holding the position of a director

• Listed Company (s)	2	
	Gunkul Engineering PCL	Independent Director / Member of the Audit Committee
	PROEN Corp Public Company Limited	Independent Director / Member of the Audit Committee
• Non-Listed Companies (s)	1	

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Gen. Tarnchaiyan Srisuwan

- Director (Independent Director)

Date and month of appointment as Director

- 18th April 2019 (1 year 9 months)

Age 62 Years

Educational Qualifications

- Master of Arts, Faculty of Political Science, Ramkhamhaeng University
- Army Staff School, United Kingdom
- Army Staff School, Thailand
- Chulachomklao Royal Military Academy
- Military School

Training History

Training in 2020

- -

Training Program

- Thai - Chinese Leadership Studies (TCL) Class 2, Huachiew Chalermprakiet University
- Director Accreditation Program (DAP 160/2019), Thai Institute of Directors: IOD
- National Defense Joint with Private Sector, National Defence College of Thailand
- Leader Program Class 23, Capital Market Academy

Working Experience during the Past 5 Years

GUNKUL's Group

- 2019 - Present Gunkul Engineering PCL Director (Independent Director)

Other Companies / Entities

- 2017 Royal Thai Armed Forces Headquarters Supreme Commander
- 2016 Royal Thai Armed Forces Headquarters Chief of Staff
- 2015 Royal Thai Armed Forces Headquarters Deputy Chief of Staff
- 2014 Royal Thai Armed Forces Headquarters Chief of Staff of the Supreme Commander
- 2012 Royal Thai Armed Forces Headquarters Military commander

Number of companies currently holding the position of a director

- Listed Company (s) 1
Gunkul Engineering PCL Independent Director
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Tarakorn Angpubate

- Director (Independent Director)
- Member of the Audit Committee ¹⁾
- Chairman of the Risk Management Committee

Date and month of appointment as Director and Member of the Risk Management Committee

- 20th April 2018 (2 years 8 months)/ 14th December 2020 (1 month)/ 20th November 2019 (1 year 11 months)

Age 56 Years

Educational Qualifications

- MBA, Finance and Marketing, Sasn Graduate Institute of Business Administration of Chulalongkorn University
- Bachelor's Degree in Engineering (Computer), Chulalongkorn University

Training History

Training in 2020

- -

Training Program

- The Executive Course (Class 24), Capital Market Academy, The Stock Exchange of Thailand
- Senior Finance Executive Program 2014, Institute of Personnel Development in Finance and Accounting, the Comptroller General's Department
- Senior Executive Administration Program Class 5, College of Justice Office of the Administrative Court
- National Defense Course (NDC) Class 55, The National Defence College of Thailand 2012
- Public Director Certification Program: PDI 9/2012, King Prajadhipok's Institute
- Director Certification Program (DCP 155/2012), Thai Institute of Directors: IOD
- Fast Track MD Program, Managing Director Training Urgent program at McDonald's Singapore Company and Hamburger University, Sydney, Australia

Working Experience during the Past 5 Years

GUNKUL's Group

• Dec 2020 - Present	Gunkul Engineering PCL	Member of the Audit Committee
• Nov 2019 - Present	Gunkul Engineering PCL	Chairman of the Risk Management Committee
• 2018 - Nov 2019	Gunkul Engineering PCL	Chairman of the Nomination and Remuneration Committee
• 2018 - Present	Gunkul Engineering PCL	Director (Independent Director)

Other Companies / Entities

• 2017 - Present	988 Plus Company Limited	Chief Executive Officer (CEO)
• 2019 - Aug 2020	Thai Agro Exchange Company Limited	Chairman of Executive Committee
• 2018 - Aug 2020	Thai Agro Exchange Company Limited	Director
• 2016 - 2017	Food Capitals Public Company Limited	Chief Executive Officer (CEO)
• 2013 - 2014	Government Housing Bank	Director
• 2012 - 2013	Islamic Bank of Thailand	Managing Director
• 2011 - 2014	Airports of Thailand PCL	Director

Number of companies currently holding the position of a director

- Listed Company (s) 1
Gunkul Engineering PCL Independent Director / Chairman of the Risk Management Committee
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- 900,039 shares, representing 0.0101 percent of the issued and paid-up capital

Relationship between Management

- None

¹⁾ Appointed to the position Member of the Audit Committee on December 14, 2020.



Mr. Kris Chantanotoke

- Director (Independent Director)

Date and month of appointment as Director

- 6th November 2019 (1 year 2 months)

Age 45 Years

Educational Qualifications

- Master of Business Administration, Assumption University
- Bachelor of Business Administration, Assumption University

Training History

Training in 2020

- Thailand Insurance Super Leadership Program, Class 1, OIC Advance Insurance Institute

Training Program

- OIC Advanced Insurance Institute, Class 6, Office of Insurance Commission
- Top Executive Program in Commerce and Trade (TEPCOT 7), Commerce Academy
- Capital Market Academy Leadership Program (CMA 15), Capital Market Academy
- Certificate of Corporate Governance Program For Entrepreneurs in the Capital Market, Thai Institute of Directors Association (IOD)
- Director Certification Program (DCP), Thai Institute of Directors Association (IOD)
- Financial Statements for Directors (FSD), Thai Institute of Directors Association (IOD)
- Six Sigma Black Belt, General Electric Company

Working Experience during the Past 5 Years

GUNKUL's Group

- Nov 2019 - Present Gunkul Engineering PCL Director (Independent Director)

Other Companies / Entities

- Jan 2021 - Present AIA Thailand Chief Executive Officer
- 2017 - Present AIA Thailand Chief Agency Officer
- 2015 - Present Talis Asset Management Company Limited Independent Director
- 2016 - 2017 Thai Life Insurance PCL Senior Executive Vice President
- 2015 - 2015 Thai Cardif Life Assurance PCL Managing Director
- 2012 - 2015 Krungsri Securities PCL Executive Vice President
- 2010 - 2014 Bank of Ayudhya PCL Director - Authorized Signatory

Number of companies currently holding the position of a director

- Listed Company (s) 1
Gunkul Engineering PCL Independent Director
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Miss Sopacha Dhumrongpiyawut

- Director with Authority to sign on behalf of the Company
- Chairman of the Executive Committee / Chief Executive Officer
- Member of Risk Management Committee

Date and month of appointment as Director, Executive Director and Member of the Risk Management Committee

- 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months)

Age 54 Years

Educational Qualifications

- Honorary Doctorate Degree in Philosophy Business Administration Program, Western University
- Bachelor of Nurse, Srinakharinwirot University

Training History

Training in 2020 - 2021

- New Gen Thai - Chinese Leadership Studies (NTCL), Thai - Chinese Leadership Institute - Huachiew Chalermprakiet University (Studying)

Training Program

- Rule of Law for Democracy Class 7 (RLD.7), College of the Constitutional Court
- The National Defence Course Class 60, National Defence College
- Advanced Security Management Program: ASMP Class 6/2015, The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King
- Top Executive Program Class 18/2014, Capital Market Academy
- Director Certification Program (DCP) Class 111/2008, Thai Institute of Director (IOD)
- Director Accreditation Program (DAP) Class 70/2008, Thai Institute of Director (IOD)
- Managing Finance for Business Owners by Peter Ho
- Secrets to Doubling Your Sales, Productivity & Profits
- Effective Senior Manager Course
- Role of Chairman Program Class 21/2009, Thai Institute of Director (IOD)
- Anti-Corruption Training Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2012 - Present	Gunkul Engineering PCL	Chief Executive Officer / Member of the Risk Management Committee Chairman of the Executive Committee
• 2008 - Present	Gunkul Engineering PCL	Director
• 2019 - Present	Gunkul Infinite Group Company Limited	Director
• 2019 - Present	Joint Venture GKE and GPD Company Limited	Director
• 2018 - Present	Future Electrical Control Company Limited	Director
• 2018 - Present	Solar Energy Society Company Limited	Director

Miss Sopacha Dhumrongpiyawut (Cont.)

• 2017 - Present	Gunkul Solar Power Company Limited	Director
• 2015 - Present	Korat Wind Energy Company Limited	Director
• 2014 - Present	Gunkul Solar Community Company Limited	Director
• 2013 - Present	NK Power Sola Company Limited	Director
• 2013 - Present	Siam Gunkul Solar Energy Company Limited	Director
• 2013 - Present	WHA Gunkul Green Solar Roof 1 Company Limited	Director
• 2013 - Present	WHA Gunkul Green Solar Roof 3 Company Limited	Director
• 2013 - Present	WHA Gunkul Green Solar Roof 6 Company Limited	Director
• 2013 - Present	WHA Gunkul Green Solar Roof 17 Company Limited	Director
• 2013 - Present	Gunkul Power Development Company Limited	Director
• 2013 - Present	Gunkul Training Center Company Limited	Director
• 2013 - Present	Gunkul Solar Roof 1 Company Limited	Director
• 2013 - Present	Gunkul Solar Power 1 Company Limited	Director
• 2013 - Present	Gunkul Solar Power 2 Company Limited	Director
• 2013 - Present	Gunkul Myanmar Central Power 1 Pte. Ltd.	Director
• 2010 - Present	G-Power Source Company Limited	Director
• 2009 - 2012	Gunkul Chubu Powergen Company Limited	Director
• 2008 - Present	G.K. Assembly Company Limited	Director
• 2000 - Present	G.K. Power Products Company Limited	Director
• 1998 - 2012	Gunkul Engineering PCL	Managing Director

Other Companies / Entities

• 2017 - Present	Gunkul Group Company Limited	Director
• 2017 - Present	Group of Great Miracle Asset	Director
• 2015 - Present	Happy Green 2558 Company Limited	Director
• 2015 - Present	Entity Sam Company Limited	Director
• 2015 - Present	Siam Future Company Limited	Director
• 2015 - Present	Tech-Green Company Limited	Director
• 2002 - Present	Gunkul Trading and Agency Company Limited	Director

Number of companies currently holding the position of a director

• Listed Company (s)	1	
	Gunkul Engineering PCL	Director / Executive Director
• Non-Listed Companies (s)	41	

Share Holding Percentage as at 31 December 2020

- none

Relationship between Management

- Spouse of Mr. Gunkul Dhumrongpiyawut



Dr. Somboon Aueatchasai

- Director with Authority to sign on behalf of the Company
- Executive Director
- Secretary to the Board of Directors
- Managing Director
- Acting Chief Financial Officer (CFO)

Date and month of appointment as Director, Executive Director and Secretary of the Boards of Directors

- 9th June 2010 (10 Years 7 months) / 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months)

Age 50 Years

Educational Qualifications

- Doctor's Degree, Industrial Business Administration, King Mongkut's Institute of Technology Ladkrabang, 2015
- Master Degree in Managerial Accounting, Thammasat University, 1997
- Diploma in Auditing, Thammasat University, 1994
- Bachelor Degree in Accounting, Rajamangala University of Technology Phra Nakhon, 1992
- Certificate Program in International Tax Law, Class 1, Thai Bar Association
- Diploma in Certified Internal Auditor, Class 1, Chulalongkorn University and the Institute of Internal Auditors of Thailand
- Tax Auditor Registration No. 1, Department of Revenue, Ministry of Finance
- Accounting and Business Administration Specialist List of State Enterprise Directors 2019 (No. 2) No. 46

Training History

Training in 2020 - 2021

- The National Defence Course, Class 63, National Defence College, National Defence Studies Institute (Studying)
- Senior Justice Executive Course, Class 24/2020, Judicial Training Institute

Training Program

- Thai - Chinese Leadership Studies (TCL), Class 2/2019, Huachiew Chalermprakiet University
- Thailand Insurance Leadership Program, Class 8/2019, Office of Insurance Commission
- Intermediate Certificate Courses - Good Governance for Medical Executives Class 6/2018 (IGM6), the Medical Council together with King Prajadhipok's Institute
- Top Executive Program in Commerce and Trade Class 10/2017 (TEPCoT 10), University of the Thai Chamber of Commerce
- Train the Trainer of Anti-Corruption Course
- Top Executive Program, Class 23/2016, Capital Market Academy, The Stock Exchange of Thailand
- Advanced Security Management Program: Class ASMP 7/2015, The Association National Defense College of Thailand under the Royal Patronage of His Majesty the King
- Capital Market Leader Program, Class 1/2014, The Securities and Exchange Commission
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 17/2013, King Prajadhipok's Institute
- Public Economics Management for Executives, Class 10/2012, King Prajadhipok's Institute
- Director Certification Program (DCP) Class 139/2011, Thai Institute of Director (IOD)
- Director Accreditation Program (DAP) Class 84/2010, Thai Institute of Director (IOD)

Dr. Somboon Aueatchasai (Cont.)

Special honor

- Outstanding Alumni (Doctoral degree), Administration and Management College, King Mongkut's Institute of Technology Ladkrabang
- Outstanding Alumni, Rajamangala University of Technology Phra Nakhon
- President of the Tax Auditors Association of Thailand
- President of the Alumni Association, Rajamangala University of Technology Phra Nakhon

Working Experience during the Past 5 Years

GUNKUL's Group

• 2010 - Present	Gunkul Engineering PCL	Director
• 2012 - Present	Gunkul Engineering PCL	Managing Director
• Oct 2020 - Present	Gunkul Engineering PCL	Acting Chief Financial Officer (CFO)
• 2020 - Present	Rangngern Solution Co., Ltd.	Director
• 2018 - Present	Future Electrical Control Company Limited	Director
• 2018 - Present	Solar Energy Society Company Limited	Director
• 2016 - Present	Gunkul Infinite Group Company Limited	Director
• 2015 - Present	Outgrow D Company Limited	Director
• 2015 - Present	Eco Thai Energy Company Limited	Director
• 2015 - Present	Infinite Alternative Energy Company Limited	Director
• 2015 - Present	Gio Bio Energy Company Limited	Director
• 2015 - Present	Korat Wind Energy Company Limited	Director
• 2015 - Present	Gunkul Energy Solution and Lighting Company Limited	Director
• 2014 - Present	Gunkul Solar Community Company Limited	Director
• 2013 - Present	NK Power Sola Company Limited	Director
• 2013 - Present	Gunkul Power Development Company Limited	Director
• 2013 - Present	Gunkul Training Center Company Limited	Director
• 2013 - Present	Gunkul Solar Roof 1 Company Limited	Director
• 2012 - Present	Wind Energy Development Company Limited	Director
• 2011 - Present	G-Power Source Company Limited	Director
• 2009 - Present	Gunkul Chubu Powergen Company Limited	Director
• 2010 - 2012	Gunkul Engineering PCL	Deputy Managing Director

Dr. Somboon Aueatchasai (Cont.)

Other Companies / Entities

• 2017 - Present	Federation of Accounting Professions	Committee on Taxation Committee
• Present	Tax Auditor Association of Thailand	President
• Present	Rajamangala University of Technology Phra Nakhon	President of the Alumni Association
• Present	Administration and Management College	Outstanding Alumni (Doctoral Degree)
	King Mongkut's Institute of Technology Ladkrabang	
• Present	Rajamangala University of Technology Phra Nakhon	Outstanding Alumni
• 2016 - 2018	National Legislative Assembly Committee	Advisor to the Sub Committee on Alternative Energy Education, (1(8)/2016)
• 2016 - Present	Rajamangala University of Technology Phra Nakhon	Highly Qualified Director of Business Administration Faculty and a Special Instructor, Faculty of Business Administration,
• 2015 - 2017	Renewable Energy and Energy Conservation	Advisor to the Sub-Committee on Propagation National Reform Steering Assembly
• 2015 - 2017	Renewable Energy and Energy Conservation	Specialist members of the Council of Propagation National Reform Steering Assembly
• 2014	Senate	Former Expert Senator of the Senate
• 2014 - Present	The Prachuapkhirikhan Juvenile and Family Court	Lay Judge
• 2014 - 2015	National Reform Council	Former Expert of the Member of the National Reform Council

Number of companies currently holding the position of a director

• Listed Company (s)	1	
	Gunkul Engineering PCL	Director / Secretary of the Board of Directors Executive Director / Managing Director
• Non-Listed Companies (s)	18	

Share Holding Percentage as at 31 December 2020

- 33,600,000 shares, representing 0.3783 percent of the issued and paid-up capital
- 4,076,799 shares, representing 0.0459 percent of the issued and paid-up capital (spouse)

Relationship between Management

- None



Miss Naruechon Dhumrongpiyawut

- Director with Authority to sign on behalf of the Company
- Executive Director
- Assistant Managing Director, Business Development and Strategic Planning

Date and month of appointment as Director and Executive Director

- 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months)

Age 37 Years

Educational Qualifications

- Master of Business Administration, Boston University U.S.A.
- Master of Management, Harvard University U.S.A.
- Bachelor of Engineering, Chulalongkorn University

Training History

Training in 2020

- Seminar on Energy Direction of Thailand after the Covid Crisis by Energy Commission, House of Representatives
- Seminar on Everlasting Battery Everlasting Battery by Bangchak Corporation PCL
- Seminar on 2020 Shell Forum: Energy Transition: COVID-19 and Beyond by Shell (Thailand) Co.,Ltd.
- Seminar on Business Models and Operations in Microgrid and Prosumer by Energy Policy and Planning Office
- Seminar on Business Models and Operations Energy storage system by Energy Policy and Planning Office
- REDeFINE TOMORROW - Global DeFi & Blockchain Virtual Summit by SCB 10X
- Design Thinking for Business Innovation by 8.5 ACADEMY
- Storytelling for Business Innovation by 8.5 ACADEMY
- Leadership Hack 101 by 8.5 ACADEMY

Training Program

- New Gen Thai - Chinese Leadership Studies (NTCL) Class 1/2019, Huachiew Chalermprakiet University
- Advanced Master of Management Program Class 3/2019, National Institute of Development Administration
- Corporate Innovation Summit 2019
- Exponential Manufacturing Singularity U Thailand Summit 2019
- Innovation Engineering for sustainable by Chulalongkorn Engineering Alumni
- Annual Energy Symposium 2019 on Thai Energy Plan under Disruptive Technology
- Thailand Energy Program for New Generation Executive Class 4, Thailand Energy Academy
- Financial Advisor License 2013, Investment Banking Club Association of Thai Securities Company
- Director Accreditation Program (DAP) 70/2008, Thai Institute of Director (IOD)
- Train the Trainer of Anti-Corruption Course

Miss Naruechon Dhumrongpiyawut (Cont.)

Working Experience during the Past 5 Years

GUNKUL's Group

• 2009 - Present	Gunkul Engineering PCL	Director / Executive Director
• 2016 - Present	Gunkul Engineering PCL	Assistant Managing Director, Business Development and Strategic Planning
• 2020 - Present	Gunkul B2P Company Limited	Director
• 2019 - Present	Gunkul Infinite Group Company Limited	Director
• 2018 - Present	Solar Energy Society Company Limited	Director
• 2017 - Present	BMP Solar Company Limited	Director
• 2016 - Present	Gunkul Engineering PCL	Senior Vice President, Logistics
• 2015 - Present	Outgrow D Company Limited	Director
• 2015 - Present	Eco Thai Energy Company Limited	Director
• 2015 - Present	Infinite Alternative Energy Company Limited	Director
• 2015 - Present	Rangngern Solution Company Limited	Director
• 2015 - Present	Gio Bio Energy Company Limited	Director
• 2014 - Present	Gunkul Energy Solution and Lighting Co., Ltd.	Director
• 2014 - Present	Gunkul Solar Community Company Limited	Director
• 2014 - Present	Greenovation Power Company Limited	Director
• 2013 - Present	Gunkul International Investment (Singapore) Pte. Ltd.	Director
• 2013 - Present	Gunkul Myanmar Central Power 1 Co., Ltd.	Director
• 2012 - Present	Wind Energy Development Company Limited	Director
• 2012 - 2017	Gunkul Engineering PCL	Senior Vice President, Strategic Planning and Investment

Other Companies / Entities

• 2019 - Present	Future Energy Corporation Company Limited	Director
• 2017 - Present	Great Miracle Asset Group	Director
• 2017 - Present	Gunkul Group Company Limited	Director
• 2015 - Present	Happy Green 2558 Company Limited	Director
• 2015 - Present	Entity Sam Company Limited	Director
• 2015 - Present	Siam Future Company Limited	Director
• 2015 - Present	Tech-Green Company Limited	Director
• 2012 - 2017	Kasikorn Securities PCL	Senior Associate
• 2011 - 2012	Finansa Securities Company Limited	Assistant Vice President
• 2010 - 2011	Kasikorn Securities PCL	Senior Associate
• 2004 - Present	Noppakun Company Limited	Director

Number of companies currently holding the position of a director

• Listed Company (s)	1	
	Gunkul Engineering PCL	Director / Executive Director
• Non-Listed Companies (s)	36	

Share Holding Percentage as at 31 December 2020

- 431,193 shares, representing 0.0049 percent of the issued and paid-up capital

Relationship between Management

- Daughter of Mr. Gunkul Dhumrongpiyawut



Mrs. Areewan Chaloeindan

- Director with Authority to sign on behalf of the Company
- Executive Director
- Assistant Managing Director, Production and Distribution of Electrical Equipment

Date and month of appointment as Director and Executive Director

- 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months)

Age 51 Years

Educational Qualifications

- Master of Industrial Business Administration, King Mongkut's University of Technology North Bangkok (Studying)
- Bachelor of Accounting, Dhurakij Bundit University

Training History

Training in 2020

- Improve skills as a Sale Engineer Course
- NEGOTIATE LIKE PRO Course

Training Program

- Budget Management for Senior Executives Class 6/2019, The Bureau of the Budget
- Leadership Succession Program (LSP) Class 9, Institute of Research & Development for Public Enterprises
- Public Administration Economy for Executives Course, Class 15, King Prajadhipok's Institute
- Implementation of Sufficiency Economy, Ministry of Industry TIS 99
- Superior Executive Program for Advanced Management Gen. 1 Rajamangala University of Technology Phra Nakhon
- Pioneering Leadership Training Program, Canaan Farmers School, Korea
- Director Accreditation Program (DAP) 70/2008, Thai Institute of Director (IOD)
- Effective Senior Manager Course
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2019 - Present	Gunkul Engineering PCL	Assistant Managing Director, Production and Distribution of Electrical Equipment
• 2010 - 2019	Gunkul Engineering PCL	Senior Vice President, Factory
• 2009 - Present	Gunkul Engineering PCL	Director / Executive Director
• 2009 - Present	G.K. Assembly Company Limited	Director
• 2009 - Present	G.K. Power Products Company Limited	Director

Number of companies currently holding the position of a director

- Listed Company (s) 1
Gunkul Engineering PCL Director / Executive Director
- Non-Listed Companies (s) 2

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Chaloepon Sricharoen

- Director with Authority to sign on behalf of the Company
- Executive Director
- Vice President, Sales and Marketing

Date and month of appointment as Director and Executive Director

- 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months)

Age 51 Years

Educational Qualifications

- Bachelor of Arts, Ramkhamhaeng University

Training History

Training in 2020

- Basic legal and contract courses for using in work and daily life
- Negotiate Like PRO
- Good Governance for Medical Executives Class 9 (IGM9), the Medical Council together with King Prajadhipok's Institute
- Rule of Law for Democracy (Class 8), College of the Constitutional Court

Training Program

- Advanced Security Management Program (ASMP) Class 10/2019 The Association National Defence College
- Leadership Succession Program (LPS), Class 8, The Institute of Research and Development for Public Enterprises (IRDP)
- Advanced Certificate Course in Public Administration and Law for Executives Gen.15 King Prajadhipok's Institute
- Cautions for Directors to Prevent Legal Risks, Responsibility of Directors according to Civil and Criminal Law, SET and SEC
- Advanced Security Management Program (ASMP) Class 10 The Association National Defense College
- Public Economics Management for Executives Class 12/2014, King Prajadhipok's Institute
- Director Accreditation Program (DAP) 70/2008, Thai Institute of Director (IOD)
- Effective Senior Manager
- Train the Trainer of Anti-Corruption
- Managing Finance for Business Owners by Peter Ho

Working Experience during the Past 5 Years

GUNKUL's Group

• 2009 - Present	Gunkul Engineering PCL	Director / Executive Director
• 2014 - Present	Gunkul Engineering PCL	Vice President, Sales and Marketing
• 2010 - Present	K.N.P. Supply Company Limited	Director
• 2007 - 2014	Gunkul Engineering PCL	Manager, Government Sales

Number of companies currently holding the position of a director

- Listed Company (s) 1
Gunkul Engineering PCL Director / Executive Director
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- Brother of Miss Sopacha Dhumrongpiyawut



Pol.Maj.Gen. Visit Sukarasep

- Chairman of the Nomination and Remuneration Committee (Independent Director)

Date and month of appointment as Member of the Nomination and Remuneration Committee

- 20th February 2019 (1 year 10 months)

Age 65 Years

Educational Qualifications

- Bachelor Degree in Public Administration, Royal Police Cadet Academy

Training History

Training in 2020

-

Training Program

- Certificate in Management for High Rank Police Course Class 28
- Certificate in Superintendent Course Class 31
- Certificate in Nomination Committee Best Practice Guideline
- Certificate in Director Accreditation Program (DAP) Class 78/2009, Thai Institute of Director (IOD)

Working Experience during the Past 5 Years

GUNKUL's Group

Nov 2019 - Present	Gunkul Engineering PCL	Chairman of the Nomination and Remuneration Committee
2012 - Apr 2018	Gunkul Engineering PCL	Chairman of the Nomination and Remuneration Committee
2009 - Apr 2018	Gunkul Engineering PCL	Member of the Audit Committee
2009 - Apr 2018	Gunkul Engineering PCL	Director (Independent Director)

Other Companies / Entities

2014 - 2015	Chumphon Provincial Police Station	Commander
2013 - 2014	Ranong Provincial Police Station	Commander
2012 - 2013	Royal Thai Police	Commander Administrative and Civil Affair Division
2006 - 2012	Royal Thai Police	Deputy Commander Administrative and Civil Affair Division
2005 - 2006	Royal Thai Police	Superintendent Administrative and Civil Affair Division
2000 - 2005	Royal Thai Police	Superintendent (Disciplinary Development)
		Disciplinary Division
1998 - 2000	Royal Thai Police	Deputy Superintendent (Penalty Solicitor)
		Disciplinary Division
1992 - 1994	Nongyasai District Provincial Police Station, Suphanburi Province	Chief of Police

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Decha Chooligorn

- Member of the Nomination and Remuneration Committee (Independent Committee)

Date and month of appointment as Member of the Nomination and Remuneration Committee

- 9th November 2012 (8 Years 2 months)

Age 58 Years

Educational Qualifications

- MBA Marketing and Finance, Case Western Reserve University, USA Year 1988
- Bachelor Degree of Economics, Thammasat University

Training History

Training in 2020

- -

Training Program

- Director Certification Program (DCP) 26/2003, Thai Institute of Director (IOD)
- Secrets to Doubling Your Sales, Productivity & Profits
- Key to Success in Organization Redesign
- Effective Managers Program
- Project Finance
- Nomination Committee Best Practice Guideline Course

Working Experience during the Past 5 Years

GUNKUL's Group

- 2012 - Present Gunkul Engineering PCL Member of the Nomination and Remuneration Committee

Other Companies / Entities

- 2012 - Present Diamond Security Guard Co., Ltd. Director
- 2005 - Present Integrated Management Consultant Co., Ltd. Managing Director
- 2003 - 2005 Thai Rung Union Car PCL Assistant Managing Director
- 2001 - 2003 Advance Power Supply PCL Deputy Managing Director

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) 2

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Hathai Uthai

- Member of the Nomination and Remuneration Committee (Independent Committee)

Date and month of appointment as a Member of the Nomination and Remuneration Committee

- 12th November 2015 (5 Years 2 months)

Age 66 Year

Educational Qualifications

- Management of Public and Private Program, National Institute of Development Administration
- Bachelor of Engineering (Mechanical), Khonkaen University
- Bachelor of Laws, Thammasat University

Training History

Training in 2020

- -

Training Program

- Certificate in Nomination Committee Best Practice Guideline Course

Working Experience during the Past 5 Years

GUNKUL's Group

- 2015 - Present Gunkul Engineering PCL Member of the Nomination and Remuneration Committee

Other Companies / Entities

- 2019 - Present Ministry of Industry Audit and Evaluation Committee
- 2017 - Present General Subcommittee, Ministry of Industry Expertise in Administration and Management
- 2014 - 2015 Thai Industrial Standards Institute Secretary-General
- 2013 - 2014 Ministry of Industry Inspector-General
- 2012 - 2013 Ministry of Industry Deputy Director of the Office of Industrial Economics
- 2008 - 2012 Ministry of Industry Deputy Secretary General, Thai Industrial Standards Institute

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Somchai Trairatanapirom

- Member of the Good Corporate Governance Committee (Independent Committee)¹⁾
- Member of the Risk Management Committee (Independent Committee)

Date and month of appointment as Director of the Good Corporate Governance Committee and the Risk Management Committee

- 25th February 2013 (7 Years 10 months) / 22th June 2015 (5 Years 6 months)

Age 60 Years

Educational Qualifications

- Doctor's Degree, Faculty of Monetary Economics, Gobe University, Japan (Governing Japanese Scholarship)
- Master Degree, Faculty of Economics (International Finance and Banking), Thammasart University
- Bachelor Degree, Faculty of Economics (Finance, Banking, Marketing), Thammasart University

Training History

Training in 2020

- Digital Marketing Course, Institute of Research and Development for Public Enterprises (IRDP)

Training Program

- Digital Transformation Course, Institute of Research and Development for Public Enterprises (IRDP)
- Certificate in Advanced Certificate Course in Public Administration and Public Law (PorRorMor 4)
- Certificate in the Program on Management of Technology, the Association for Overseas Technical Scholarship (Scholarship AOTS), Japan
- Certificate in Director Certification Program (DCP 118/2552), Thai Institute of Director (IOD)
- Certificate in Corporate Governance Public Sufficiency Management for Executive, Advanced Course No. 1, the Office of the Public Sector Development Commission

Working Experience during the Past 5 Years

GUNKUL's Group

• Dec 2020 - Present	Gunkul Engineering PCL	Chairman of the Good Corporate Governance Committee
• 2015 - Present	Gunkul Engineering PCL	Member of the Risk Management Committee
• 2013 - Dec 2020	Gunkul Engineering PCL	Member of the Good Corporate Governance Committee

Other Companies / Entities

• 2020 - Present	Institute of Research and Development for Public Enterprises (IRDP)	Expert in Evaluation Course Director, CEO-Leadership Succession Program (LSP)
• 2013 - 2020	Institute of Research and Development for Public Enterprises (IRDP)	Deputy Managing Director
• 2012 - Present	Thai Health Promotion Foundation	Sub-Committee, Appraisal of Good Corporate Governance
• 1998 - 2020	State Enterprise Policy Office Ministry of Finance	Team Leader/Specialist/Advisor Performance Appraisal of State Enterprises
• 2012 - 2013	Enterprises State Enterprise Policy Office Ministry of Finance	Advisor, Performance Controlling along with Appraisal System in quality of State
• 2011 - 2012	International Institute for Trade and Development (Public Organization)	Advisor, Competency Development in KPI and Appraisal Determination
• 2011 - 2012	National Innovation Agency (Public Organization)	Advisor in Risk Management and Internal Audit

Mr. Somchai Trairatanapirom (Cont.)

• 2011 - 2012	Public Debt Management Office Ministry of Finance	Advisor, Follow-up and Project Appraisal - Development Policy Loan 2012, Area 4 North-East of Thailand
• 2010 - 2012	The Institute for the Promotion of Teaching Science and Technology	Advisory, Risk Management and Internal Audit
• 2010 - 2012	Technology Development Agency (Public Organization)	Advisory, Follow-up and Performance Appraisal of GISTDA Informatics and Space
• 2010 - 2011	Office of The National Broadcasting and Telecommunications Commission (NBTC)	Team Leader, Performance Appraisal of the Nation Telecommunications Commission, 2012 - 2011
• 2010 - 2011	Petroleum Institute of Thailand (PTIP) Energy Policy and Planning office, Ministry of Energy	Advisory, Cost Analysis and NGV Price Determination
• 2009	Agricultural Research Development Agency (ARDA), Ministry of Public Health	Advisor, Competency Appraisal of Personal of Development Individual
• 2009 - 2012	Office of the Attorney General	Advisor, Project of Certificate Issuing and Annual Performance Appraisal for Governor
• 2008 - 2012	Comptroller General's Department (CGD)	Advisory, Performance Appraisal in Working Capital Budget
• 2008 - 2012	Ministry of Energy	Advisory, Performance Appraisal of Ministry of Energy
• 2008 - 2012	Tris Corporation Company Limited (TRIS)	Deputy Managing Director
• 2007 - 2012	The Stock Exchange of Thailand	Advisory, SET Award Project
• 2007 - 2011	Office of the National Anti-Corruption Commission	Subcommittee on Negotiating Agreements and Evaluation of the Annual Official Practice Certification
• 2007 - 2011	Office of the National Anti-Corruption Commission	Advisor to organize the Capacity Building Seminar
• 2007 - 2011	Office of the National Anti-Corruption Commission	Project Advisor to improve the assessment of efficiency and effectiveness
• 2003 - 2012	Office of the Public Sector Development Commission	Chief of the consulting team for the preparation of government official / provincial / public organization certification
• 2000 - 2012	The Institute for the Promotion of Teaching Science and Technology	Team Leader, Performance Evaluation Advisor
• 2000 - 2005	SEC and SET	Advisor to the Corporate Governance Rating Program
• 1999 - 2008	Tris Corporation Company Limited (TRIS)	Senior Vice President

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None

¹⁾ Appointed to the position Chairman of the Good Corporate Governance Committee on December 14, 2020.



Mr. Pongtep Thithapand

- Member of the Good Corporate Governance Committee (Independent Committee)

Date and month of appointment as Member of the Good Corporate Governance Committee

- 25th February 2013 (7 Years 10 months)

Age 62 Years

Educational Qualifications

- Master Degree of Public Administration, National Institute of Development Administration (NIDA)
- Bachelor Degree of Laws, Ramkhamhaeng University

Training History

Training in 2020

- -

Training Program

- Capital Market Academy Leadership Program 2017, Capital Market Academy
- Senior Justice Executive Course, Class 21/2017
- Senior Budget Administrator, Class 3/2016, Bureau of the Budget
- Certificate of "LEADERSHIP", RIPA International, London, England, 2012
- Degree in N.D.C. 54/2011, National Defense College
- Advanced Certificate Course in Public Administration and Public Law for Executives Class 8/2009, King Prajadhipok's Institute
- Directors Certification Program (DCP) 125/2552, Thai Institute of Director (IOD)
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives Class 6/2008, King Prajadhipok's Institute
- MOF Executive Program, Ministry of Finance, 2005

Working Experience during the Past 5 Years

GUNKUL's Group

- 2013 - Present Gunkul Engineering PCL Member of the Good Corporate Governance Committee

Other Companies / Entities

- 2019 - 2020 PTT Natural Gas Distribution Co., Ltd. Director
- 2015 - Present DOD Biotech Public Company Limited Director
- 2014 - 2017 Totel Industrial Services Co., Ltd. Director
- 2010 - 2015 PTT LNG Company Limited Director

Number of companies currently holding the position of a director

- Listed Company (s) 1
DOD Biotech Public Company Limited Director
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Dr. Phongsakorn Damnoen

- Deputy Managing Director, Business Development & Strategic Planning

Age 43 Years

Educational Qualifications

- Ph.D. in Renewable Energy, Naresuan University
- Master Degree in Electrical Engineering, Hannover University, Germany
- Bachelor Degree (Eng.) in Telecommunication, Rajamangala University of Technology

Training History

Training in 2020

- -

Training Program

- Thai - Chinese Leadership Studies (TCL3) Class 3/2019, Huachiew Chalermprakiet University
- Top Executive Program in Commerce and Trade Class 12 (TEPCoT 12), University of the Thai Chamber of Commerce
- Ultra Wealth, Class 4 (UW4), The Ultra Wealth Group Company Limited
- Senior Executives in Industrial Business Development and Investment Class 4/2017, Institute of Business and Industrial Development
- Leadership Succession Program (LSP) 6/2016, Institute of Research and Development for Public Enterprises (IRDP)
- Director Certification Program (DCP) 149/2011, Thai Institute of Director (IOD)
- Anti-Corruption Training Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2019 - Present	Joint Venture GKE & GPD Co., Ltd.	Director
• 2018 - Present	Solar Energy Society Co., Ltd.	Director
• 2017 - Present	BMP Solar Co., Ltd.	Director
• 2017 - Present	Gunkul Solar Power Co., Ltd.	Director
• 2016 - Present	Gunkul Infinite Group Co., Ltd.	Director
• 2016 - Present	Gunkul Engineering PCL	Deputy Managing Director, Business Development & Strategic Planning

Dr.Phongsakorn Damnoen (Cont.)

• 2015 - Present	ECO Thai Energy Co., Ltd.	Director
• 2015 - Present	Rangngern Solution Co., Ltd.	Director
• 2015 - Present	Gio Bio Energy Co., Ltd.	Director
• 2015 - Present	Gunkul Solar Power 1 Co., Ltd.	Director
• 2015 - Present	Bright Green Power Co., Ltd.	Director
• 2015 - Present	Korat Wind Energy Co., Ltd.	Director
• 2015 - Present	Outgrow D Co., Ltd.	Director
• 2014 - Present	Greenovation Power Co., Ltd.	Director
• 2014 - 2015	Gunkul Engineering PCL	Assistant Managing Director Business Development & Strategic Planning
• 2013 - Present	Siam Gunkul Solar Energy Co., Ltd.	Director
• 2013 - Present	NK Power Sola Co., Ltd.	Director
• 2013 - Present	Gunkul Myanmar Central Power 1 Pte. Ltd.	Director
• 2012 - Present	Wind Energy Development Co., Ltd.	Director
• 2010 - 2014	Gunkul Engineering PCL	Senior Vice President, Business Development and Special Project
• 2010 - 2012	G-Power Source Co., Ltd.	Director
• 2009 - Present	Gunkul Chubu Powergen Co., Ltd.	Director

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) 19

Share Holding Percentage as at 31 December 2020

- 38,174,073 shares, representing 0.4298 percent of the issued and paid-up capital
- 336,000 shares, representing 0.0038 percent of the issued and paid-up capital (spouse)

Relationship between Management

- None



Mr. Chaisiri Wattanacharnnarong

- Assistant Managing Director, Project Construction Management

Age 45 Years

Educational Qualifications

- Master Degree of Engineer, Construction Engineering and Management King Mongkut's University of Technology Thonburi
- Bachelor Degree of Engineer, Civil Engineering, Srinakharinwirot University
- Civil Engineering Professional License, Associate Engineering

Training History

Training in 2020

- Curriculum of the Metropolitan Development training course for top executive, Class 5/2020, Institute of Metropolitan Development, Navamindradhiraj University
- Advanced Certificate Course in Public Economics Management for Executives, Class 19/2020, King Prajadhipok's Institute

Training Program

- Negotiate Like PRO Course
- Certificate in Director Accreditation Program, Class 159/2019, Thai Institute of Directors: IOD
- Certificate in Leadership Succession Program (LSP), Class 10, Institute of Research and Development for Public Enterprises
- Certificate in Public Administration and Law for Executives Program, Class 19, King Prajadhipok's Institute

Working Experience during the Past 5 Years

GUNKUL's Group

• 2018 - Present	Gunkul Engineering PCL	Assistant Managing Director, Project Construction Management
• 2017 - 2018	Gunkul Engineering PCL	Senior Vice President, Project Construction Management
• 2013 - Present	Future Electrical Control Co., Ltd.	Director

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Theerapab Punyasakhon

- Assistant Managing Director, Office of Managing Director

Age 47 Years

Educational Qualifications

- LLM, 1999, University of Illinois at Urbana-Champaign
- LLB, 1995, Thammasat University
- Admitted to the Thai Bar Association
- Admitted to Law Society of Thailand

Training History

Training in 2020

- Thailand HR Day 2020 Course (Online)

Training in 2020

- Exclusive Talk with Singapore International Arbitration Centre (SIAC)

Working Experience during the Past 5 Years

GUNKUL's Group

• Oct 2019 - Present	Gunkul Engineering PCL	Assistant Managing Director, Office of Managing Director
• 2019 - Present	Gunkul Infinite Group Co., Ltd.	Director

Other Companies / Entities

• 2011 - 2019	Baker McKenzie	Partner

Number of companies currently holding the position of a director

• Listed Company (s)	None
• Non-Listed Companies (s)	1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mrs. Somluk Kanuenghet

- Member of the Nomination and Remuneration Committee
- Secretary of the Nomination and Remuneration Committee
- Senior Vice President, Executive Office

Date and month of appointment as a Director and Secretary of the Nomination and Remuneration Committee

- 10th August 2009 (11 Years 5 months) / 10th August 2009 (11 Years 5 months)

Age 55 Year

Educational Qualifications

- Bachelor Degree of Arts, Srinakharinwirot University

Training History

Training in 2020

- Negotiate Like PRO Course
- TDPG 2.0 Practical Project of Personal Data Protection Course, Class 3
- Thailand HR Day 2020 Course (Physical)

Training Program

- Fundamentals of Business Sustainability, Class 2
- Capital Market Research Forum Course No. 5/2562
- Business Management Program for Sustainable Development in 2019
- Sustainability Reporting Workshop : GRI Standards
- Business and Human Rights Course
- Employee Benefits Assessment Program in accordance with Accounting Standard No. 19
- Effective Senior Manager Course
- Performance Appraisal by Balance Score Card Course
- Career Planning & Development & Succession Planning Course
- Salary Administration for Line Manager Course
- Effective Techniques for Job Analysis & Job Description Course
- Effective Techniques for Job Evaluation & Salary Survey Course
- Nomination Committee Best Practice Guideline Course
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2017 - Present	Gunkul Training Center Co., Ltd.	Director
• 2016 - Present	Gunkul Engineering PCL	Senior Vice President, Executive Office
• 2016 - Present	G.K. Power Product Co., Ltd.	Director
• 2016 - Present	G.K. Assembly Co., Ltd	Director
• 2009 - Present	Gunkul Engineering PCL	Member of the Nomination and Remuneration Committee
• 2009 - Present	Gunkul Engineering PCL	Secretary of the Nomination and Remuneration Committee

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) 3

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Thamrong Chankraithong

- Senior Vice President, Sales and Marketing

Age 49 Year

Educational Qualifications

- Master Degree in Information Technology, King Mongkut's Institute of Technology Ladkrabang
- Bachelor Degree in Applied Physics, King Mongkut's Institute of Technology Ladkrabang

Training History

Training in 2020

- Basic juristic acts and contracts for using in work and daily life, Corporate Culture Course
- Corporate Culture Course

Training Program

- Budget Management for Executives Intermediate Class 2, The Bureau of the Budget
- Director Certification Program (DCP) 149/2011, Thai Institute of Director (IOD)
- Secrets to Doubling Your Sales, Productivity & Profits course
- Substation & Transmission Line & Building Base Concept course
- Stringing Equipment, by TEMA, Italy
- Meter Training Program, by General Electric Co., USA
- Meter Testing Equipment, by ZERA Electric, Germany
- Energy Conservation for Factory
- Business Opportunities in Marketing Energy Efficiency
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2011 - Present	K.N.P. Supply Company Limited	Director
• 2010 - Present	Gunkul Engineering PCL	Senior Vice President, Sales and Marketing

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Dr. Phairot Phanukan

- Senior Vice President, Innovation & Operating Maintenance

Age 54 Years

Educational Qualifications

- PhD in Renewable Energy, Naresuan University
- Master Degree of Business Administration (MBA), Huachiew Chalermprakiet University
- Bachelor Degree of Engineering, King Mongkut's Institute of Technology Ladkrabang

Training History

Training in 2020

- Negotiate Like PRO Course
- Renewable Energy Integration with Energy Storage Course
- Finance and Fiscal Management Program for Senior Executive (FME)

Training Program

- Certificate in Director Accreditation Program, Class 159/2019, Thai Institute of Directors: IOD
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2019 - Present	Gunkul Engineering PCL	Senior Vice President, Novation & Maintenance
• 2015 - 2018	Gunkul Engineering PCL	Senior Vice President, Project Management and Operating & Maintenance
• April 2019 - Nov. 2019	Gunkul Engineering PCL	Director

Other Companies / Entities

• 2010 - 2014	Schneider (Thailand) Limited	Senior Manager-Renewable Energies, Solution Center

Number of companies currently holding the position of a director

• Listed Company (s)	None
• Non-Listed Companies (s)	None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Thitipong Techaratanayuenyong

- Member of the Risk Management Committee
- Secretary of the Risk Management Committee
- Senior Vice President, Finance & Corporate Strategic Management

Date and month of appointment as Member and Secretary of the Risk Management Committee

- 12th November 2014 (6 Years 2 months) / 12th November 2014 (6 Years 2 months)

Age 45 Years

Educational Qualifications

- Master Degree of Business Administration (MBA), Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Bachelor Degree of Economics (Major in International Economics), Chulalongkorn University
- Bachelor Degree of Engineering (Major in Civil & Environmental Engineering), Chulalongkorn University

Training History

Training in 2020

- Public Economic Management for High Executives Program" by King Prajadhipok's Institute, Class 18
- Negotiation Like PRO Course

Training Program

- Strategic CFO in Capital Markets Program by Stock Exchange of Thailand, Class 1
- Business Leader Program by Dr. Noel M. Tichy from University of Michigan (Ross School of Business)
- International Financial Reporting Standards (IFRS) No.9
- International Financial Reporting Standards (IFRS) No.15-16
- Good & Smart Team Management Program
- Bond Regulatory Updates 2018 by ThaiBMA
- Supervision Psychology and Job Coaching Course
- Global Business Leader Development Course
- Building Relationships and Team Leading courses
- Sustainable Teamwork Curriculum
- Train the Trainer of Anti-Corruption Course

Mr. Thitipong Techaratanayuenyong (Cont.)

Working Experience during the Past 5 Years

GUNKUL's Group

• 2019 - Present	Gunkul Engineering PCL	Senior Vice President, Finance & Corporate Strategic Management
• 2014 - 2019	Gunkul Engineering PCL	Member of the Risk Management Committee / Secretary of the Risk Management Committee
• 2014 - 2019	Gunkul Engineering PCL	Senior Vice President, Financial Management and Controlling Foreign Affairs / Chief Financial Officer

Other Companies / Entities

• 2008 - 2013	Charoen Pokphand Foods PCL	Assistant Vice President, Office of Chief Financial Officer

Number of companies currently holding the position of a director

• Listed Company (s)	None
• Non-Listed Companies (s)	None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mrs. Nattawan Wongchan

- Senior Vice President, Business Support (Finance, Information Technology, Property)

Age 52 Years

Educational Qualifications

- Master Degree of Business Administration, Kasetsart University
- Bachelor Degree of Finance and Banking, Major in Finance Ramkhumharng University
- Diploma Program in Taxation, University of the Thai Chamber of Commerce

Training History

Training in 2020

- Negotiate Like PRO Course

Training Program

- Leadership and Coaching Skills Course, Class 1
- Corporate Culture Course
- Driving Effective Cultural Course, Class 2
- Senior Executive Program and Organizational Change Course
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2016 - Present	Gunkul Engineering PCL	Senior Vice President, Business Support, (Finance, Information Technology, Property)
• 2014 - 2016	Gunkul Engineering PCL	Assistant Vice President, Business Support

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Miss Suttirat Tangnorakul

- Senior Vice President, Business Support (Accounting)

Age 47 Years

Educational Qualifications

- Master Degree of Business Administration, Major in Accounting, Ramkhamhaeng University
- Bachelor Degree of Business Administration, Major in Accounting, Ramkhamhaeng University

Training History

Training in 2020

- The 9 Essential Skills for People Management Course
- The difference that the Revenue Department often examines between PND 50 vs Phor Por, Clause 65 Twi, Clause 65 Tri
- Hangouts Meet Course (Online Meeting)
- Important Cases course that tax assessment officials often examine with testimony (Tor 6)
- The financial reporting standard no. 9, 13, 15, 16 and a conceptual framework for financial reports (new)
- Update tax law year 2020

Training Program

- Accounting Standard Update 2019
- Tax Law Update 2019
- Follow up to the financial reporting standard no. 15 (Revenue from Contracts with Customers)
- Negotiate Like PRO Course
- Transfer Pricing 2019 Course, transfer pricing between related companies
- Tax Advisor Region 1 Course, Revenue Code, Gen. 5 (2018)
- Mini MBA I Taxation (Major in General Business), School of Tax
- Financial Model 1 - Fundamentals of Finance, Class 2
- Modern Accountants Program Class 13, Faculty of Commerce and Accountancy, Chulalongkorn University
- Specialist Tax Law Practice Course 2015
- Train the Trainer of Anti-Corruption Course, 2018
- Tax Advisor Project, Class 5

Working Experience during the Past 5 Years

GUNKUL's Group

• 2019 - Present	Gunkul Engineering PCL	Senior Vice President, Business Support (Accounting)
• 2017 - Present	Gunkul Training Center Co., Ltd.	Director
• 2016 - 2017	Gunkul Engineering PCL	Assistant Vice President, Business Support (Accounting)

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) 1

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Janpon Ngamaroonchote

- Senior Vice President, Sales & Marketing-Energy Solution, Lighting Groof and Innovation

Age 37 Years

Educational Qualifications

- Master Degree of MBA, Major in General, Suffolk University, Boston U.S.A.
- Bachelor of Science, Major in Statistics, Kasetsart University

Training History

Training in 2020

- Negotiate Like PRO Course
- Smart Building Data Analytics Course

Training Program

- Leadership and Coaching Skills Course, Class 1
- Driving Effective Cultural Course, Class 2
- Senior Executive Program and Organizational Change Course
- Thai Energy Plan under the Disruptive Technology Program
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2020 - Present	Gunkul B2P Co., Ltd.	Director
• 2019 - Present	Future Energy Corporation Co., Ltd.	Director
• 2019 - Present	Gunkul Engineering PCL	Senior Vice President, Sales & Marketing-Energy Solution, Lighting and Groof
• 2015 - Present	Gunkul International (Mauritius)	Director
• 2014 - Present	Greenovation Power Co., Ltd.	Director
• 2014 - Present	Gunkul Engineering PCL	Vice President, Strategic Planning and Investment
• 2013 - Present	Solar Energy Society Co., Ltd.	Director
• 2013 - Present	NK Power Solar Co., Ltd.	Director
• 2010 - 2013	Gunkul Engineering PCL	Manager, Office of Managing Director

Number of companies currently holding the position of a director

- List Company (s) None
- Non-Listed Company (s) 6

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Miss Chantira Jongjamareeseethong

- Company Secretary
- Secretary of the Good Corporate Governance Committee
- Senior Vice President, Office of Managing Director

Date and month of appointment as Company Secretary and Secretary of the Good Corporate Governance Committee

- 10th August 2009 (11 Years 5 months) / 25th February 2013 (7 Years 10 month)

Age 53 Years

Educational Qualifications

- Master Degree of Business Administration, Major in Accounting, Ramkhamhaeng University
- Bachelor Degree of Business Administration, Major in Accounting, Siam University
- Bachelor Degree of Arts, Major in Linguistics, Thammasart University

Training History

Training in 2020

- Negotiate Like PRO Course
- The difference that the Revenue Department often examines between PND 50 vs Phor Por, Clause 65 Twi, Clause 65 Tri

Training Program

- Follow up to the financial reporting standard no. 15 (Revenue from Contracts with Customers)
- Leadership and Coaching Skills Course, Class 1
- Corporate Culture Program
- Driving Effective Cultural Course, Class 2
- Senior Executive Program and Organizational Change Course
- Negotiate Like PRO Course
- Withholding Tax and Update Tax Law 2019 Course
- Accounting for Financial Instruments
- The Updated Land and Buildings Tax Act
- Company Secretary Program, 28/2008, Thai Institute of Director (IOD)
- Effective Minute Taking (EMT), 12/2008, Thai Institute of Director (IOD)
- Japanese Certificate Level 3
- Train the Trainer of Anti-Corruption Course, 2018

Working Experience during the Past 5 Years

GUNKUL's Group

• 2016 - Present	Gunkul Engineering PCL	Senior Vice President, Office of Managing Director
• 2013 - Present	Gunkul Engineering PCL	Secretary of the Good Corporate Governance Committee
• 2009 - Present	Gunkul Engineering PCL	Company Secretary

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None



Mr. Tanetsiri Farkmitr

- Secretary of the Audit Committee
- Vice President, Internal Audit

Date and month of appointment as Secretary of the Audit Committee

- 20th October 2016 (4 Years 2 months)

Age 44 Years

Educational Qualifications

- Master Degree of Accounting, Thammasat University
- Bachelor Degree of Accounting, Thammasat University
- Certified Public Accountant, CPA (Thailand)

Training History

Training in 2020

- Performance Assessment Criteria (KPIs) Course
- Professional presentation skills Course
- Negotiate Like PRO Course
- The difference that the Revenue Department often examines between PND 50 vs Phor Por, Clause 65 Twi, Clause 65 Tri

Training Program

- Auditor Challenges with AI and Block Chain Technology Course
- Leadership and Coaching Skills Course, Class 1
- Corporate Culture Program
- Driving Effective Cultural Course, Class 2
- Senior Executive Program and Organizational Change Course
- Preparation Course for IT Examination No. 2/2019
- Negotiate Like PRO Course
- Train the Trainer of Anti-Corruption Course

Working Experience during the Past 5 Years

GUNKUL's Group

• 2019 - Present	Gunkul Engineering PCL	Vice President, Internal Audit
• 2016 - Present	Gunkul Engineering PCL	Secretary of the Audit Committee
• 2016 - 2019	Gunkul Engineering PCL	Assistant Vice Director, Internal Audit

Other Companies / Entities

• 2015 - 2016	Tipco Asphalt PCL	Group Manager, Internal Audit,
• 2014 - 2015	Banpu PCL	Manager, Technology and Information Systems Internal Audit

Number of companies currently holding the position of a director

- Listed Company (s) None
- Non-Listed Companies (s) None

Share Holding Percentage as at 31 December 2020

- None

Relationship between Management

- None

21.2 Details Position Titles of Directors in Subsidiary Companies

	Name	Subsidiary Companies (Direct and Indirect)																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		G.K. Assembly Co., Ltd.	G.K. Power Products Co., Ltd.	K.N.P. Supply Co., Ltd.	Wind Energy Development Co., Ltd.	Greenovation Power Co., Ltd.	Korat Wind Energy Co., Ltd.	NK Power Sola Co., Ltd.	Gunkul Solar Power 1 Co., Ltd.	Gunkul Solar Power 2 Co., Ltd.	Gunkul Solar Power 3 Co., Ltd. ¹⁾	Gunkul Solar Power 4 Co., Ltd. ¹⁾	Gunkul Solar Power 5 Co., Ltd. ¹⁾	Bright Green Co., Ltd.	Siam Gunkul Solar Energy Co., Ltd.	Solar Energy Society Co., Ltd.	Gunkul Solar Roof 1 Co., Ltd.	Gunkul Training Center Co., Ltd.	Gunkul Solar Community Co., Ltd.	Gunkul Power Development Co., Ltd.	Gunkul Energy Solution and Lighting Co., Ltd.	Infinite Alternative Energy Co., Ltd.	Rang Ngern Solution Co., Ltd.	Go Bio Energy Co., Ltd.	Outgrow A Co., Ltd. ²⁾	Outgrow B Co., Ltd. ¹⁾	Outgrow D Co., Ltd.	Outgrow E Co., Ltd. ¹⁾	Outgrow Wood Supply A Co., Ltd. ¹⁾
1.	Ms. Sopacha Dhumrongpiyawut																												
2.	Dr. Somboon Aueatchasai																												
3.	Dr. Phongsakorn Damnoen																												
4.	Ms. Naruechon Dhumrongpiyawut																												
5.	Mrs. Areewan Chaloezman																												
6.	Mr. Chaloezman Srichaloe																												
7.	Mrs. Somluk Kanuenghet																												
8.	Mr. Thamrong Chankraithong																												
9.	Mr. Janpon Ngamaroonchote																												
10.	Ms. Vijitra Saengpredekorn																												
11.	Ms. Suttirat Tangnorakul																												
12.	Mr. Tridti Boonyayone																												
13.	Mr. Chaisiri Wattanachannarong																												
14.	Mr. Theerapab Punyasakhon																												
15.	Ms. Warinthip Rosarpitak																												

	Name	Subsidiary Companies (Direct and Indirect)																											
		29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
		Outgrow Wood Supply B Co., Ltd. ¹⁾	Eco Thai Energy Co., Ltd.	Gunkul Infinite Group Co., Ltd.	BMP Solar Co., Ltd.	Gunkul Solar Power Co., Ltd.	Gunkul Solar Power 6 Co., Ltd. ¹⁾	Future Electrical Control Co., Ltd.	GKE & GPD Joint Venture Co., Ltd.	Future Energy Corporation Co., Ltd.	GPD & TEECL Joint Venture Co., Ltd.	FEC & PPB Joint Venture Co., Ltd. ³⁾	Gunkul B2B Co., Ltd.	Gunkul International (Mauritius)	Gunkul International Investment (Singapore) Pte. Ltd.	Gunkul Myanmar Central Power 1 Co., Ltd.	Senda Okura GD Dalchi Godo Kaisha	Kimitsu Mega Solar Godo Kaisha	Future Asset Management Kabushiki Kaisha	Singapore An Yang Pte. Ltd.	Singapore Yun Yang Pte. Ltd.	Tri Viet Hoa Binh Joint Stock Company	Tri Viet Tay Ninh Joint Stock Company	Bach Khoa A Chau Hoa Binh Joint Stock Company	Bach Khoa A Chau Tay Ninh Joint Stock Company	Gunkul Engineering (Myanmar) Company Limited	Dean Son Thuy Investment Joint Stock Company	INT Energy Pte. Ltd.	Tan Chau Nang Luong Joint Stock Company
1.	Ms. Sopacha Dhumrongpiyawut																												
2.	Dr. Somboon Aueatchasai																												
3.	Dr. Phongsakorn Damnoen																												
4.	Ms. Naruechon Dhumrongpiyawut																												
5.	Mrs. Areewan Chaloezman																												
6.	Mr. Chaloezman Srichaloe																												
7.	Mrs. Somluk Kanuenghet																												
8.	Mr. Thamrong Chankraithong																												
9.	Mr. Janpon Ngamaroonchote																												
10.	Ms. Vijitra Saengpredekorn																												
11.	Ms. Suttirat Tangnorakul																												
12.	Mr. Tridti Boonyayone																												
13.	Mr. Chaisiri Wattanachannarong																												
14.	Mr. Theerapab Punyasakhon																												
15.	Ms. Warinthip Rosarpitak																												

Remarks: | Director

¹⁾ Registration of liquidation in 2018

²⁾ Registration of liquidation in 2019

³⁾ Registration of liquidation in 2021

21.3 Details Position Titles of Directors and Managements of Gunkul Engineering Public Company Limited

Name	Company	Subsidiary Companies (Direct and Indirect)																											
	Gunkul Engineering Public Company Limited	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		K.N.P. Supply Co., Ltd.	Wind Energy Development Co., Ltd.	Greenovation Power Co., Ltd.	Korat Wind Energy Co., Ltd.	NK Power Sola Co., Ltd.	Gunkul Solar Power 1 Co., Ltd.	Gunkul Solar Power 2 Co., Ltd.	Gunkul Solar Power 3 Co., Ltd. ⁽¹⁾	Gunkul Solar Power 4 Co., Ltd. ⁽¹⁾	Gunkul Solar Power 5 Co., Ltd. ⁽¹⁾	Bright Green Co., Ltd.	Siam Gunkul Solar Energy Co., Ltd.	Solar Energy Society Co., Ltd.	Gunkul Solar Roof 1 Co., Ltd.	Gunkul Training Center Co., Ltd.	Gunkul Solar Community Co., Ltd.	Gunkul Power Development Co., Ltd.	Gunkul Energy Solution and Lighting Co., Ltd.	Infinite Alternative Energy Co., Ltd.	Rang Nigm Solution Co., Ltd.	Glo Bio Energy Co., Ltd.	Outgrow A Co., Ltd. ⁽²⁾	Outgrow B Co., Ltd. ⁽¹⁾	Outgrow D Co., Ltd.	Outgrow E Co., Ltd. ⁽¹⁾	Outgrow Wood Supply A Co., Ltd. ⁽¹⁾	Outgrow Wood Supply B Co., Ltd. ⁽¹⁾	Eco Thai Energy Co., Ltd.
1. Dr. Gunkul Dhumrongpiyawut	1) 2)																												
2. Dr. Chongrak Rarueysong	2) 3) 4) 5) 6) 7)																												
3. Associate Professor Dr. Panarat Panmanee	2) 3) 5)																												
4. Gen. Tarnchaiyan Srisuwan	2) 3)																												
5. Mr. Tarakorn Angpubate	2) 3) 5) 6) 7)																												
6. Mr. Kris Chantanotoke	2) 3)																												
7. Ms. Sopacha Dhumrongpiyawut	2) 7) 8) 9) 10) 15)	2)	2)				2)	2)	2)	2)	2)	2)	2)		2)	2)	2)	2)	2)	2)									
8. Dr. Somboon Aueatchasai	2) 9) 10) 11) 16)				2)		2)	2)							2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)
9. Ms. Naruechon Dhumrongpiyawut	2) 9) 10)				2)	2)													2)		2)	2)	2)	2)	2)	2)	2)	2)	2)
10. Mrs. Areewan Chaloeindan	2) 9) 10)	2)	2)																										
11. Mr. Chaloepon Srichaloe	2) 9) 10)			2)																									
12. Mr. Somchai Trairatanapirom	3) 7)																												
13. Pol. Maj. Gen Visit Sukarasep	3) 6) 7)																												
14. Mr. Decha Chooligorn	3) 7)																												
15. Mr. Hathai Uthai	3) 7)																												
16. Mr. Phongthep Thitapan	3) 7)																												
17. Dr. Phongsakorn Damnoen	10)				2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)						2)	2)	2)	2)	2)	2)	2)	2)
18. Mr. Chaisiri Wattanachannarong	10)																												
19. Mrs. Somluk Kanuenghet	7) 10) 14)	2)	2)															2)											
20. Mr. Thamrong Chankraithong	10)			2)																									
21. Mr. Thitipong Techaratanayuenyong	7) 10) 14)																												
22. Dr. Phairot Phanukan	10)																												
23. Mrs. Nattawan Wongchan	10)																												
24. Mr. Janpon Ngamaroonchote	10)					2)		2)								2)													
25. Ms. Chantira Jongjamareeseethong	10) 12) 14)																												
26. Ms. Vijitra Saengpredekorn	10)														2)									2)	2)	2)	2)	2)	2)
27. Ms. Suttirat Tangnorakul	10)																	2)											
28. Mr. Tanetsiri Farkmitr	10) 13)																												
29. Mr. Tridti Boonyayone	10)				2)																								
30. Mr. Theerapab Punyasakhon	10)																												
31. Ms. Warinthip Rosarpitak	10)													2)															

Remarks: 1) Chairman of the Board of Directors 2) Director 3) Independent Director 4) Chairman of the Audit Committee
5) Audit Committee 6) Chairman of the Other Sub-Committee 7) Other Sub-Committee 8) Chairman of Executive Committee
9) Executive Committee 10) Executive 11) Secretary of the Board of Directors 12) Company Secretary
13) Secretary of the Audit Committee 14) Secretary of the Other Sub-Committee 15) Chief Executive Officer 16) Acting Chief Financial Officer
⁽¹⁾ Registration of liquidation in 2018 ⁽²⁾ Registration of liquidation in 2019 ⁽³⁾ Registration of liquidation in 2020 ⁽⁴⁾ Registration of liquidation in 2021

21.3 Details Position Titles of Directors and Managements of Gunkul Engineering Public Company Limited (Cont.)

	Subsidiary Companies (Direct and Indirect)																											
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Name	Gunkul Infinite Group Co., Ltd.	BMP Solar Co., Ltd.	Gunkul Solar Power Co., Ltd.	Gunkul Solar Power 6 Co., Ltd. ⁽¹⁾	Future Electrical Control Co., Ltd.	GKE & GPD Joint Venture Co., Ltd.	Future Energy Corporation Co., Ltd.	GPD & TEECL Joint Venture Co., Ltd.	FEC & PPB Joint Venture Co., Ltd. ⁽²⁾	Gunkul B2B Co., Ltd.	Gunkul International (Mauritius)	Gunkul International Investment (Singapore) Pte. Ltd.	Gunkul Myanmar Central Power 1 Co., Ltd.	Serdai Okura GD Daiichi Godo Kaisha	Kimitsu Mega Solar Godo Kaisha	Future Asset Management Kabushiki Kaisha	Singapore An Yang Pte. Ltd.	Singapore Yun Yang Pte. Ltd.	Tri Viet Hoa Binh Joint Stock Company	Tri Viet Tay Ninh Joint Stock Company	Bach Khoa A Chau Hoa Binh Joint Stock Company	Bach Khoa A Chau Tay Ninh Joint Stock Company	Gunkul Engineering (Myanmar) Company Limited	Doan Son Thuy Investment Joint Stock Company	INT Energy Pte. Ltd.	Tan Chau Nang Luong Joint Stock Company	INT Energy Pte. Ltd.	Tan Chau Nang Luong Joint Stock Company
1. Dr. Gunkul Dhumrongpiyawut																												
2. Dr. Chongrak Rarueysong																												
3. Associate Professor Dr. Panarat Panmanee																												
4. Gen. Tarnchaiyan Srisuwan																												
5. Mr. Tarakorn Angpubate																												
6. Mr. Kris Chantanotoke																												
7. Ms. Sopacha Dhumrongpiyawut			2)	2)	2)		2)	2)		2)					2)										2)			
8. Dr. Somboon Aueatchasai	2)	2)	2)			2)					2)													2)				
9. Ms. Naruechon Dhumrongpiyawut	2)	2)	2)		2)			2)			2)		2)	2)					2)	2)								
10. Mrs. Areewan Chaloeand																												
11. Mr. Chaloepon Srichaloen																												
12. Mr. Somchai Trairatanapirom																												
13. Pol. Maj. Gen Visit Sukarasep																												
14. Mr. Decha Chooligorn																												
15. Mr. Hathai Uthai																												
16. Mr. Phongthep Thitapan																												
17. Dr. Phongsakorn Damnoen	2)	2)	2)	2)	2)	2)		2)							2)						2)	2)	2)	2)	2)	2)	2)	2)
18. Mr. Chaisiri Wattanachannarong						2)			2)	2)																		
19. Mrs. Somluk Kanuenghet																												
20. Mr. Thamrong Chankraithong																												
21. Mr. Thitipong Techaratanayuanyong																												
22. Dr. Phairot Phanukan																												
23. Mrs. Nattawan Wongchan																												
24. Mr. Janpon Ngamaroonchote								2)			2)	2)																
25. Ms. Chantira Jongjamareeseethong																												
26. Ms. Vijitra Saengpredekorn	2)		2)																									
27. Ms. Suttirat Tangnorakul																												
28. Mr. Tanetsiri Farkmitr																												
29. Mr. Tritdi Boonyayone																												
30. Mr. Theerapab Punyasakhon			2)																									
31. Ms. Warinthip Rosarpitak																					2)	2)	2)	2)		2)	2)	2)

Remarks: 1) Chairman of the Board of Directors 2) Director 3) Independent Director 4) Chairman of the Audit Committee
5) Audit Committee 6) Chairman of the Other Sub-Committee 7) Other Sub-Committee 8) Chairman of Executive Committee
9) Executive Committee 10) Executive 11) Secretary of the Board of Directors 12) Company Secretary
13) Secretary of the Audit Committee 14) Secretary of the Other Sub-Committee 15) Chief Executive Officer 16) Acting Chief Financial Officer

⁽¹⁾ Registration of liquidation in 2018 ⁽²⁾ Registration of liquidation in 2019 ⁽³⁾ Registration of liquidation in 2020 ⁽⁴⁾ Registration of liquidation in 2021

22 Corporate Governance

22.1 Good Corporate Governance Policy

(Citation to Good Corporate Governance Policy, Revised Version dated on March 1, 2021)

Our board of directors, sub-committees, corporate governance executive and employees of the organization adhere to the principles of good corporate governance. Therefore, it is a guideline for the operation of the Company in order to determine the quality management system by focusing on transparent disclosure, which will result to standardized performance. Boost productivity to build competitiveness and add value to the owner. These will satisfy the stakeholders. Stakeholders have set “Good Corporate Governance Policy” for the Board of Directors, sub-committees, executives, and employees have adopted the guidelines as follows:

1.	Accountability	Responsibility for Performance and can explain to the practice.
2.	Responsibility	The full realization of duty and efficiency.
3.	Equitable Treatment	Respect for rights, treatment of stakeholders honestly. And equitably also include opportunities for stakeholders to participate fairly.
4.	Transparency	Disclosure, operation is transparent and can be verifiable.
5.	Value Creation	Value Creation for short and long term, by improving and enhancing competitiveness.
6.	Ethics	Ethics and code of the conduct for operation business.

This corporate governance policy has been agreed and approved in writing and was last reviewed in the Board of Directors Meeting No. 1/2021 on February 24, 2021. For the purpose of preparation and policy matters of Good Corporate Governance to be use as a tracking policy, control and supervision of the delegates to administrative functions by managing the organization's resources, that is used effectively and effectively targeted. Including the maximize return to all stakeholders are fair. Although, the Board of Directors has regularly reviewed these policies and guidelines on a regular basis and the Company adheres to the principle of good and regular supervision.

The details of the Company's Good Corporate Governance Practices have conducted and prepared in accordance with good corporate governance principles for the listed companies with continuous improvement of the Stock Exchange of Thailand and the Company has continually reviewed and updated to ensure that they will compliance with good governance principles. The structure and guidelines of Good Corporate Governance are divided into 5 parts as follows:

Section 1 Shareholder Right

The Board of Directors attaches great importance to the rights of shareholders, without infringing upon or depriving the shareholders of their rights. Both of the shareholders who are major shareholders and minority shareholders, Thai shareholders or foreign shareholders, by the fundamental rights of shareholders including the right to trade and transfer the company's shares, the right to have access to adequate business information, the right to share of the profits of a business, the right to be treated fairly in shares buy back by the company, the right to elect and remove directors, the right to consider on remuneration of directors in all forms, the right to approve the appointment of independent auditor annually, and the right to attend and vote at a shareholder meeting in order to make decision on significant issues that may affect the company such as dividend allocation, amendment to the memorandum and/or articles, reduction or increase of capital, approve the special items, and so on, which are typically defined by state law.

In addition, the Board of Directors has set a policy to facilitate and promote the attendance of shareholders for supporting the shareholders of the Company. Including institutional of the investors and have exercised their basic rights to attend the meeting and exercise their right to vote at the shareholders' meeting as follows:

1) Pre-shareholder Meeting

- The opportunity for shareholders to send their opinions, questions or propose agenda items in advance of the shareholders' meeting. With clearly defined criteria by the information system of the Stock Exchange of Thailand. Also available on the company's website.
- Opportunity for shareholders to nominate persons to be elected as directors in advance of the shareholders' meeting. With clearly defined criteria by the information system of the Stock Exchange of Thailand. Also available on the company's website.
- Arrangement the meeting invitation and supporting documents to the shareholders at least 14-21 days (or any other time as required by the law) and announce the newspaper no less than 3 consecutive days for inform the date to appointment of the shareholders meeting according to the law. The meeting invitation and the supporting documents in both Thai and English versions had been published on the Company's website at least 30 days before meeting date.
- Identify important information in the meeting invitation, such as date, time, Place of the meeting. Agenda details. Be supporting documents with the Board of Directors' opinion Rules for vote counting on each agenda to be in accordance with the law. Proxy form as required by law list of independent directors, so that shareholders can choose to appoint a proxy to attend the meeting. Statement on how to appoint a proxy to attend the meeting and the voting in the shareholders meeting. A map of the meeting and place. Including the company's regulations about the meeting of shareholders and voting.

2) Action on Shareholders Meeting

- Fix date, time and place of meeting. Taking into account the convenience of the shareholders. And to provide personnel. And technology is adequate for the number of shareholders. Provide the bar code system and arrange for independent auditors to count the votes or check votes and disclose to the meeting also recorded in the minutes.
- The Chairman will explain the rules used in the meeting. Voting procedure to allocate the meeting time appropriately. Include an opportunity for all shareholders to ask. Provide comments and suggestions. Fully the Board of Directors Audit Committee, sub-committees, relevant executives, auditors, and / or legal counsel. And / or independent financial advisors and / or bank sponsors. (As the case if any) attended the shareholders' meeting to answer the questions in the meeting. Including senior executives, Company secretary, Secretary to Board of Directors attend to the meeting.
- In case the shareholders could not attend the meeting by themselves, the Company gives the shareholders the opportunity to appoint a proxy to the independent director or any person as the Attend the meeting instead.

3) After the Shareholders Meeting

- Disclosure of the resolutions of the shareholders 'meeting and the voting results by the date of the shareholders' meeting in next business day from shareholders' meeting. By the information system of the Stock Exchange of Thailand. Also available on the company's website.
- Do the minutes of the meeting shall be prepared with accurate and complete information stating the issues raised by the shareholders and the Board of Directors 'replies to such questions within 14 days from the date of the shareholders' meeting. And submit the minutes of the meeting to the relevant authorities within the time limit. Also disclose the minutes on the Company's website for shareholders and related parties to verification.

In 2020, the Company held general shareholders' meeting for the year 2020 dated on April 21, 2020, at Meeting Room of Gunkul Engineering Public Company Limited (Branch Office 1) No. 1038-1046 Nakornchaisri Rd, Nakornchaisri, Dusit, Bangkok 10300, with all directors of every committee, all senior executives, secretary of every committee and company secretary. Along with the authorized auditor, representatives from financial advisors, representatives from banks that provide financial support and representatives from legal counsel attended a total of 30 persons. In order to clarify details related to the meeting agenda and answer questions of shareholders. The Company had assigned Thailand Securities Depository Co., Ltd., which is the registrar of the Company, to deliver the invitation letter to the shareholders' meeting and supporting documents for each agenda together with the annual report, rules and regulations relating to the shareholders' meeting and voting, Proxy forms and information of independent directors who are proxy agents in order to facilitate shareholders in the event they are unable to attend the meeting in person, including forms for obtaining annual reports in the form of books and the location map of the meeting place which has been delivered to the shareholders in advance before the meeting. Also, the Company had publicized the invitation letter to the shareholders' meeting and supporting documents including annual reports and documents as mentioned above, the Company's website at www.gunkul.com in advance before the meeting. Therefore, the shareholders can access an information that related to the meeting of shareholders more conveniently and faster.

For registering and voting, the Company uses barcode system and provides revenue stamp for shareholders to send proxy to company with aim to make it fast and convenient to shareholders. In the meeting, the Company explains voting criteria before meeting starts and gives shareholders opportunity to express their opinions and raise questions in relation to the company and agenda.

Section 2 Equally Treatment among Shareholders

The Board has set policies and procedures in various matters. To ensure that all shareholders are treated and protected equally, they are equally protected including the information before the shareholders' meeting, the protection of the rights of minority shareholders Prevention of internal data usage and the prevention of Conflict of Interest, inter-transactions as well as internal controls and internal audits as follows:

1) Pre-meeting information and protection of minority shareholders' rights

- Prepare meeting invitation and meeting documents both in Thai and English by put on the agenda, and opinion of the Board of Directors in the notice of the meeting. And through the information system of the Stock Exchange of Thailand. Also available on the company's website advance at least 30 days before the date of the shareholders' meeting.
- Inform the shareholders of the procedures and rules used in the meeting. Both how to register a proxy and vote.
- Allow the shareholders to send the inquiries. Propose agenda and nominate candidates to be elected as directors in advance of the meeting date. With clearly defined criteria by the information system of the Stock Exchange of Thailand. Also available on the company's website.
- Conduct the shareholders' meeting, according to the agenda set forth in the invitation letter. Without adding unnecessary agenda items advance notice.
- Determine whether the shareholders who are directors or executives disclose information about their interests and related persons. And there is no right to vote on such stake.

2) Supervision of the use of inside information

The Company maintains proper use of inside information in accordance with good corporate governance by setting policies and procedures for the support to directors and executives to use internal information of the company. That is not publicly available for personal gain. Including securities trading as follows:

- Notify the Directors and Executives of the Company's reporting obligations and report changes in holding of the Company's securities. Both its spouse and its underage children. To the Office of the Securities and Exchange Commission ("SEC") under Section 59 and penalties under Section 275 of the Securities and Exchange Act BE 1992 (as amended) and submit a copy of this report to the Company Secretary on the same day that, the report is sent to the SEC. Also report to the Good Corporate Governance Committee and the Board of Directors meeting every quarter.
- Fix the directors, executives, employees of the Company and the Group are required to obtain material inside information which affects the price change. Do not trade the company's securities. Prior to the date on which the financial statements or internal information would be made available to the public.
 1. Group of independent directors: not less than 7 days or when receiving the documents for the Board of Directors Meeting Whichever comes first.
 2. Group of executive directors, executives, Employees related to the Company's financial information and the Group. To be aware of or possess internal information: Do not trade securities of the company. From the date of acknowledgment from the Company's financial statements until the date of disclosure of financial statements to the public through the information system of the Stock Exchange of Thailand. Due to obtaining financial information may cause a risk or cause the use of internal information of the Company.

After the information is publicly available by the Company, It is able to trade the Company's securities after past 24 hours then the person involved in such internal information must not disclose such information to others until information has been provided through, the information system of the Stock Exchange of Thailand.

- Directors, executives and employees of the Company and the Group are prohibited to use internal information of the Company that possible or likely to affect the price of the Company's securities which is not publicly available yet for using to buy or sell and offer for buy or offer to sell, or persuade others to buy or sell. The shares or other securities (if any) of the Company, either directly or indirectly. Also disclose such information to others. Whether or not they receive benefits.
- The Company has imposed significant disciplinary action on the part of the Company who seek the benefit of the Company's internal information. To use or disclose to do or may cause damage to the Company. The punishment should be punished according to the case, including warnings, probation and termination of employment as a result of dismissal, as the case may be, which has been approved by the Board of Directors.

3) Prevention of Conflict of Interest

- Define those who are involved or have an interest in the item considered, must notify to the Company that about relationship or stake in the list. In case of director, they must not participate in the decision. Including no authority to authorize of the transaction.
- For a transaction that causes a conflict of interest that is a trade agreement is not a general trading condition. That must be presented to the Board of Directors for approval. And must comply with the rules of the Capital Market Supervisory Board of The Securities. And Exchange Commission to The Stock Exchange of Thailand Or any other relevant regulatory authority.

4) Connected Transaction

- If there is a connected transaction, the Company shall comply with the law governing securities and exchange, also the regulations, notifications, orders or requirements of the Capital Market Supervisory Board. The Securities Commission and stock exchange. The Stock Exchange of Thailand or any other relevant regulatory authority. Including compliance with the disclosure requirements of the connected transaction of the Company. In accordance with accounting standards prescribed by the Federation of Accounting Professions.

- In the case, that the connected transactions are normal business transactions and normal business support transactions. With general trading conditions, include items to give or receive financial assistance. A listed company or a subsidiary provides financial assistance to a juristic person in which a listed company or a subsidiary is a shareholder. In proportion to their own interest in that, legal entity under the terms of trade in general or better. To comply with the operating framework approved by the Board of Directors.
- In case of connected transaction is other types of transactions are proposed to the Board of Directors for consideration. By compliance with the rules of the relevant regulatory bodies.

5) Internal control and Internal audit

- The Board of Directors, the Audit Committee and the management have a direct responsibility to provide and maintain an internal control system. It also conducts regular reviews of the effectiveness of the internal control system. To ensure reliable information and financial information system.
- The Company has appointed an internal audit unit. To be responsible for monitoring the performance of the company. To be effective by reporting the results directly to the Audit Committee.
- The Audit Committee has reviewed the appropriateness and adequacy of the internal control system at least once a year and proposed to the Board for consideration and comments in the Annual Report. And Annual Information Disclosure (Form 56-1)

Section 3 Stakeholders Role

The Board of Directors has priority to pay attention to the rights of all stakeholders in accordance with existing laws or agreements with the Company such as, shareholders, customers, trading partners, creditors, competitors, employees, society, communities and the public sectors. Each group as well as business practices under environmental quality standards. Anti-corruption Corruption, Non-infringement of intellectual property, not related to human rights abuses based on the principles of fairness and equality to have all personnel in the Company adhere to a guideline with a mechanisms to follow. There are channels to receive feedback or complaints by defined as a policy or practice. Detail as follows:

1) Rights of all stakeholders according to existing laws or agreements with the Company.

Shareholder	: The Company is committed to operate its business with honesty, transparency, morality and ethics by developing business to thrive to create a good return to shareholders and investors in a sustainable and sustainable manner.
Customer	: Company has responsibility to customers by maintaining quality and standard of goods and services as well as reacting to customers' need perfectly and completely to maximize customer satisfaction in the long run.
Partner	: Company treats trade partners fairly and in line with trade contract and has policy to create and develop relationship with trade partners continuously.
Creditor	: Company complies with contract condition and gives information to creditors as per request.
Competitor	: Company operates business along with fair competition and develops market to grow for mutual benefit of industry.
Employee	: Company treats employees equally, gives them proper compensations and creates quality working environment.
Society / Community/ And the environment	: Community and social environment including compliance with relevant laws and regulations. Moreover, the Company has also implemented Corporate Social Responsibility (CSR) for sustainable community development and society.
Government Sector	: The Company is engaged in the business of enhancing and advancing the country's progress by adhering to the relevant laws, rules and regulations.

2) **Communication channels with the Board of Directors in providing clues or complaints**

To make sure that the rights of the various stakeholders are protected. The Board of Directors has provided channels for stakeholders. All parties are encouraged to provide feedback, report clues or complaints about suspected or unlawful actions. Include inaccurate financial reporting or defective internal control system by the Company. That will investigate the facts and take steps to ensure fairness to all parties. The information of the clerk will be kept confidential to protect the notified.

The suggestions or clerk can communicate to the Board of Directors as follows:

Via the Audit Committee's e-mail : audit_committee@gunkul.com

Via the Company's website : www.gunkul.com, click at "complaint channel"

Via mail : Chairman of the Audit Committee
Gunkul Engineering Public Company Limited
1177 Pearl Bangkok Building Fl.8
Phahonyothin Road, Phayathai, Phayathai,
Bangkok 10400

Via complaint box : "Whistle Blowing and Corruption Complaint" box

(The box is set inside the Company : Only the Audit Committee and / or the Secretary of the Audit Committee can be able open the box.)

3) **Anti-corruption Policy and report clues or complaints**

(Refer to the Anti-Corruption Policy and a clue or complaint: Revised version dated on March 1, 2021)

The Board of Directors gives priority to anti-corruption. Therefore, the Company is required to prepare "Anti-corruption and clues or complaints Policy" as a guideline for the organization's operations in a transparent, sustainable and integral manner.

The Company and the Group have a policy of forbidding directors, executives, and employees from acting in connection with corrupt practices in various forms, either directly or indirectly whether as a recipient, contributor, or bribe to the person or organization concerned review policies and guidelines every year in order to be consistent with changing business, regulations, and legal requirements.

Board of Directors responsibilities of the organization's personnel are as follows.

1. **Board of Directors** has the duty and responsibility to formulate policies to oversee and support the anti-corruption process in the organization. To staff the company. Understand and recognize the importance of anti-corruption corruption by instilling culture and values.
2. **Audit Committees** has the duty and responsibility to supervise the implementation of Anti-Corruption measures by reviewing financial reporting and accounting systems, internal control system, internal audit system and risk management that related to Corruption Prevention Measures. Include the corroboration of corrupt practices in which the personnel of the organization are involved. Check the facts as they are informed and propose matters to the Board of Directors for acknowledgment or fix that problem.
3. **Good Corporate Governance Committee** has the duty and responsibility in the frame and review anti-corruption policy. And responsible for directing all personnel in all positions to adhere to the anti-corruption policy, strictly in accordance with the good corporate governance policy.
4. **Risk Management Committee** has the duty and responsibility to supervise and support the implementation of risk management and corruption management. Include risk assessments of operations across all sectors of the organization that to ensure adequate and appropriate review of policies and measures.

5. **Nomination and Remuneration Committee** has the duty and responsibility in the frame. Set on the guidelines for recruitment and consideration with transparency and fairness.
6. **Executive Board and Management** have the duty and responsibility to set up a system and measures to promote and support anti-corruption. To communicate to all employees and stakeholders. Including those with vested interests and provide assessment, review the suitability of systems and measures. To be consistent with changing business, regulations, and legal requirements.
7. **Internal Audit Executive** has the duty and responsibility to review the operation as accurately as possible in accordance with the code of conduct. Rule including the law and Regulator requirements. To ensure that there is adequate control over the risk of potential corruption. And report to the Audit Committee.
8. **Employees** have the duty and responsibility to follow and implement the code of conduct. Including the law and Regulator requirements. Also understands and recognizes the importance of anti-corruption.

The implementation guidelines, Terms of use, Acknowledgments or complaints in relation to the corruption, Corruption Reporting Channel, Protection and confidentiality and the process of receiving complaints, investigations and penalties, as well as the guidelines for the dissemination of anti-corruption corrupt policies, the Company has made a general acknowledgment, according to the documents referenced above, to express its intentions for committing to anti-corruption. The details of the full policy can be found at <http://www.gunkul.com/th/sustainability/charters>, with a conclusion as follows;

Practice Guidelines

The Company and the Group committed to creating an organizational culture that is anti-corruption by the Company's personnel and the Group must comply with the anti-corruption policy and business ethics without being involved in corruption, whether directly or indirectly. The Company and the Group have established an internal control system and an audit process in all aspects that take into account the risk of corruption, including assessing risks and determining adequate and appropriate risk management measures. As well as, encouraging employees at all levels to receive training and disseminate such policies to those who involved to create understanding. The personnel must not be ignored when seeing actions that are considered as corruption, including determining penalties if the Company's personnel And the Group has been involved in such actions.

Terms of Operation

Any action shall be taken in accordance with the guidelines set forth in the anti-corruption policy. Including a good corporate governance handbook, policies, rules, regulations, regulations, guidelines, practices, and other related work manuals. As well as, any other guidelines that the Company and the Group will set in the future by complying with all activities that related to the operations of the Company and the Group.

Whistle Blowing or Anti-Corruption Complaint

1. When the personnel finds the act of direct or indirect corruption in relation to the Company and its subsidiaries / affiliates, for example the reception or offer of bribery by the personnel in the organization to the governmental agency's official or private agency's official.
2. When the personnel finds the wrong-doing according to the regulation of the Company and its subsidiaries / affiliates which affects the internal control system to the extent that it can be hypothesized that the wrong-doing is a channel of corruption.
3. When the personal finds any action which ruin the Company and its subsidiaries / affiliates' benefits and reputation.
4. When the personal finds any action which contradicts the laws, morality or business ethic.

Reporting or Complaining Channels

Whistleblowers or complainants in actions that may cause suspicion of corrupt practices that occur with the Company. The clues can be reported via the assigned channels as follows:

Whistleblowers or complainants must provide details of the subject to report clues or complaints (Name or position of the complainant committing a crime time of committing an offense) with the name, address and contact number of the person who made the complaint. And send to the channels to receive channels one way.

- 1) Submit via the audit committee's e-mail : audit_committee@gunkul.com
- 2) Submit via the Company's website : www.gunkul.com, click at "complaint channel"
- 3) Submit via the postal mail to : Chairman of the Audit Committee
GUNKUL ENGINEERING PUBLIC CO., LTD.
1177 Pearl Bangkok Building Fl.8
Phahonyothin Road, Phayathai, Phayathai,
Bangkok 10400
- 4) Submit via : "Whistle Blowing and Corruption Complaint"
(The box is set inside the Company: Only the Audit Committee and / or the Secretary of the Audit Committee can be able open the box.)

Confidentiality Protection and Non-Disclosure Measure

To protect the right of the reporter / complainer or the notifier who provide the information with regard to corruption with the good will, the Company shall keep the information of the reporter / complainer confidential. Only the authorized person responsible for the complaint inspection can access the said information.

The authorized person receiving the complaints shall preserve the information, complaint and documentary evidence of the reporter / complainer as confidential. They shall not be disclosed to the non-authorized person, except in the case of the disclosure required by the law.

In case of the corruption report / complaint, the Company shall be in charge for protection of the reporter / complainer, witness and information provider of the investigation process, so that they would not be affected by any trouble or injustice arising from their notification, complaint, witness status or information provision.

If the reporter / complainer, information provider or personnel who rejects the corruption is the personnel of the Company and its subsidiaries / affiliates, the Company shall extend the fair protection to prevent the negative consequence from the personnel, such as demotion, penalty, etc. , although it would ruin the Company's business opportunity.

Process on Complaint Reception, Investigation and Penalty

The Company and the Group shall set up the process following the reception of the corruption report or complaint. They shall identify the group of involved persons, complaint reception process, investigation and penalty, as follows;

1. Group of involved persons
 - 1) Corruption Reporter / Complainer Person who reports the corruption or submits the complaint
 - 2) Complaint Receiver Persons who receive the report / complaint via the channels under item 9.
They shall include Chairman of the Audit Committee, the Audit Committee and Secretary of the Audit Committee
 - 3) Coordinator Person who preserves the information regarding the corruption report / complaint and the result of investigation. In this case, the person is the Secretary of the Audit Committee.
 - 4) Investigation Committee CEO shall set up the Investigation Committee to investigate the fact.

5)	Audit Committee	The Audit Committee of GUNKUL ENGINEERING PUBLIC CO., LTD.
6)	Chairman of the Board of Director	The Chairman of the Board of Director of GUNKUL ENGINEERING PUBLIC CO., LTD.
7)	CEO	CEO of GUNKUL ENGINEERING PUBLIC CO., LTD.
8)	Managing Director	The Managing Director of GUNKUL ENGINEERING PUBLIC CO., LTD.
9)	Human Resource Department	Discipline controller
10)	Secretary of the Audit Committee	Secretary of the Audit Committee of GUNKUL ENGINEERING PUBLIC CO., LTD.
11)	Secretary of the Company	Secretary of GUNKUL ENGINEERING PUBLIC CO., LTD.

2. Registration and Submission of Corruption Report / Complaint

- 1) The personnel receiving the corruption report / complaint shall submit the issue to the coordinator within 3 working days of the reception date of corruption report / complaint.
- 2) The coordinator submits the issue to the investigation Committee for the consideration or further investigation.

3. Investigation

- 1) After the consideration, if the Investigation Committee deems that; the corruption report / complaint
 - the corruption report / complaint is not significant, then the Committee shall submit the issue to the immediate supervisor of the reporting personnel for the further consideration of disciplinary penalty according to the Company's regulation.
 - the corruption report / complaint is not based on the fact or does not contradict the Company's benefits; the Committee shall record in the complaint registration and end the investigation.
- 2) After the consideration, if the Investigation Committee deems that the corruption or the conflict of interest really possibly occurred;
 - The Investigation Committee shall investigate and report the result to the Audit Committee and CEO for consideration and further proceeding according to the Company's regulation and / or the legal penalty.
- 3) If the corruption report / complaint concerns the corruption of the high-ranked executive
 - The Investigation Committee shall investigate and report the result directly to the Investigation Committee for the further proceeding.

4. Order and Penalty

- 1) If the reported person is really guilty, the Company shall order the penalty according to the Company's regulation and / or the legal proceeding.
- 2) After the investigation, if it is found that the corruption report / complaint is not done with the good intention and the reporting person is the personnel of the Company, the Company shall impose the disciplinary penalty according to the Company's regulation.

The investigation must be finalized within 30 days after the complaint was received from the coordinator. (If the investigation cannot be finalized within 30 days, the reason of the delay shall be notified to the coordinator.)

5. Notification of the Investigation Result to the Reporter / Complainer

- 1) The Investigation Committee submits the operational result to the coordinator.
- 2) The coordinator records the operational result in the registration and notifies the result to the reporter / complainer.
- 3) The coordinator reports the operational result and the following-up (if any) to the Investigation Committee, the Good Governance Committee and the Board of Directors for their acknowledgement. The report shall be proposed every quarter.

Dissemination of Anti-corruption Policies

To communicate the anti-corruption policy to all personnel in the organization, the Company shall;

- 1) Communicate the anti-corruption policy and other relevant policy via the channels, so that the personnel in the organization, relevant persons, and stakeholders can efficiently access to the policy.
- 2) Hold the anti-corruption policy training for the personnel of the organization and stakeholders once a year.
- 3) Encourage the employees to participate in the projects or activities held by the governmental or private sectors to affirm the determination of the Company and its subsidiaries / affiliates in compliance with the anti-corruption policy.

In the Board of Directors' meeting No.1/2021 held on February 24, 2021, the Secretary to the Audit Committee and the Audit Committee informed the meeting of the results of the complaint regarding corruption in 2020 by summarized as follows;

Channel of fraud complaints The follow-up of fraud complaints for the year 2018

Channel of fraud complaints	The follow-up of fraud complaints for the year 2018															
	2019												2020			
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB		
	15	31	15	28	15	31	15	30	15	31	15	30	15	31	15	28
Complaints via Email	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Complaints via website	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Complaints via letter.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Complaints through the complaint box																
- Pearl Bangkok Building Office	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
- Phichai Office	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
- GKA & GKP Office	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X : No complaints

✓ : Complaints

Section 4 Disclosure of information and transparency

The Board of Directors shall accurately, completely, timely, transparently disclose the important information in compliance with the laws and regulations of Stock Exchange of Thailand and the Securities and Exchange Commission. The information shall include the financial report, general information, and other information affecting the price of the stock and decision of the investors and stakeholders. This is to ensure that all stakeholders could equally access the information. The Company shall circulate the information via the website of Stock Exchange of Thailand and the Company's website.

1) Disclosure of information

The Board of Directors realizes the significance of the accurate, complete, true and reasonable financial report made in accordance with the prevailing accounting standard. Hence, the Board of Directors appoints the Audit Committee to review the financial report for its accuracy, comprehensiveness and reliability. And the Company is obliged to disclose the information in time in accordance with the requirement of the relevant supervising agency.

The Company is obliged to clarify the role of the Board of Directors and all committees, personal information of each committee, the number of meetings of all committees and their attendance, remuneration of the Directors and Executives, committee performance evaluation process and principle, individual committee's development and training, report of the selling, buying and holding of the Company's asset, the annual change of the individual stock possession of the Directors and Executive in accordance with the definition of the Securities and Exchange Commission, etc. The information shall be disclosed in the annual report and the annual information declaration (56-1 Form).

2) Communication channel with the Company's Secretary / Investor Relation

The Company Secretary / Investor Relation

Tel. No. (66) 2 242-5867, (66) 2 242-5868,

E-mail: ir@gunkul.com

Website: www.gunkul.com

In 2020, the Company disclosed information related to the Company through various channels to shareholders and investors to acknowledge accurately and completely, such as informing the Company's operating results and the Group of quarterly and annual Information on investment in various projects, revised policy including the preparation of financial reports and general information of the Company along with a report of the Board of Directors' responsibility for the financial report, along with the report of the Board of Directors and the auditor's report is included in the annual report to disclose matters in accordance with good corporate governance principles through the annual report and website of the Company etc.

In addition to disclosure in accordance with the requirements of the Securities and Exchange Commission and the Stock Exchange of Thailand, the Company has provided channels of communication to shareholders, investors, analysts both domestically and internationally. With Investor Relations will Communicate and publish information directly.

In 2020, The Company had held quarterly and annual performance reports to its shareholders, investors and analysts (Opportunity Day) for 4 times. There were 1 meeting with analysts; as well as, investors who wished to know the overall business operation of the Company at least 14 times, and giving the interview to reporters and other medias for 18 times, including published a press release every time that had the major investment or business activities.

In addition, information disclosure is done via company website www.gunkul.com both in Thai and English so all stakeholders can participate. If interested, you can contact investor relations department at telephone no. 0-2242-5876, 0-2242-5867 and 0-2242-5868 or e-mail ir@gunkul.com

Section 5 Responsibility of the Board of Directors

1. The Board of Directors

According to the charter of the Board of Directors, the composition of the Board of Directors is not less than 5 persons and not more than 12 persons, also not less than one third of directors must be independent directors. At least half of the directors must have a residence in the Kingdom of Thailand. The Board of Directors is appointed by the shareholders' meeting. The term of office is 3 years or from the Board of Directors' meeting, in accordance with the law. The term of office of the independent director who holds the position of director and member of the audit committee is not more than 9 years. The composition of the Board of Directors should be proportionate to the Company's directors with an expertise in various areas suitable for the business and having a balance of power within the Board. Including, they must not engage in a partnership or a director in other juristic persons with the same conditions and conduct business in competition with the business of the Company. In the case of an independent director, the qualifications required to be independent are as specified by the Company and must be equally beneficial to the interests of all shareholders and can also comment freely.

However, Features, Tenure, Scope of Authority and Responsibility including the number of times in the annual meeting of the Board of Directors must comply with the charter of the Board of Directors. The Company Secretary is also required to perform duties in accordance with the criteria set by the relevant regulatory authority.

On December 31, 2020, the Board of Directors consisted of 11 members, comprised of 5 executive directors, 6 non-executive directors who are not an independent director 1 person and 5 of them are independent directors. All of the above directors are knowledgeable, competent and have experience and expertise in the Company's business and have 3 Audit Committee members who are independent directors, with duties of balance in voting, considering various matters and reviewing the management of the management for the best benefit of the Company.

The Company has a policy to appointing separate president and managing director to different person aim to balance management authority and prevent unlimited power over other members. The board of directors will determine roles and responsibilities of each position and response to recruit and appoint the right person for the position.

2. Sub-Committees

The Board of Directors shall set up the committees to support and supervise the administration in accordance with the good governance. Details as follow:

2.1) The Audit Committee

According to the Charter of the Audit Committee, the composition of the Audit Committee shall be no less than 3 persons, selected by the independent directors in the Board of Directors. The Board of Directors will appoint the Audit Committee. The term of office is 3 years. The Audit Committee member must have sufficient knowledge and experience to serve as a member of the Audit Committee. Not being a director assigned by the Board of Directors, make decisions on the operations of the Company, subsidiaries, affiliated companies. Major Shareholders or the Company's controlling authority. And not being a director of the parent company, subsidiary of the same order of the listed companies. There must be at least 1 person that has sufficient knowledge and experience to be able to review the reliability of the financial statements.

However, Features, Tenure, Scope of Authority and Responsibility including the number of meetings in the annual meeting of the Audit Committee must comply with the charter of the Audit Committee and set the head of the internal audit to act as Secretary to the Audit Committee.

On December 31, 2020, the Audit Committee comprised of 3 independent directors, appointed by the Board of Directors, with 1 independent director that graduated in accounting and being a director who is a woman. The Company has a policy that the person holding the position of Chairman of the Audit Committee shall not be the Chairman of the Board of Directors.

2.2) Risk Management Committee

According to the charter of the Risk Management Committee, the composition of the Risk Management Committee is not less than 3 persons, and one half of the Board of Directors must not be the Company's management and will be appointed by the Board of Directors. The term of office is 3 years, which is selected by a number of directors and / or executives and / or experts. The Risk Management Committee must be knowledgeable in the business of the Company, knowledge and experience in risk management, investment management. This is a very important factor in the Company's business operation in order to achieve the objectives of the Company. The Risk Management Committee shall not be a director, an executive or an operator in the company which operates in the same manner as the Company.

However, Features, Tenure, Scope of Authority and Responsibility including the number of times in the annual meeting of the Risk Management Committee must comply with the charter of the Risk Management Committee.

On December 31, 2020, the Risk Management Committee consisted of 4 members, consisting of 2 non-executive directors and 2 executive directors. The Company has the policy to appoint the Chairman of the Risk Management Committee and not Chairman of the Board.

2.3) Nomination and Remuneration Committee

According to the charter of the Nomination and Remuneration Committee, the composition of the Nomination and Remuneration Committee must be no less than 3 persons and more than half of which shall not be the Company's management. The Board of Directors will appoint the Nomination and Remuneration Committee also the term of position is 3 years. This is selected from a number of directors and / or executives of the Company. And / or qualified The Nomination and Remuneration Committee must be a competent person. Personnel Management Have the skills, expertise and experience in relevant work.

However, Features, Tenure, Scope of Authority and Responsibility including the number of times in the annual meeting of the Nomination and Remuneration Committee must comply with the charter of the Nomination and Remuneration Committee.

On December 31, 2020, the Nomination and Remuneration Committee consisted of 4 members, consisting of 3 non-executive directors and 1 executive director. The policy is to nominate persons to serve as chairmen of the Nominating and Remuneration Committee. The return must not be the Chairman of the Board and must be an independent director.

2.4) Good Corporate Governance Committee

According to the charter of the Good Corporate Governance Committee, the composition of the Good Corporate Governance Committee must be no less than 3 persons and not be the management of the Company. The Board of Directors will appoint the Corporate Governance Committee. The term of office is 3 years, selected from a number of directors and / or management of the Company and / or qualified persons. Good Corporate Governance Committee members must be knowledgeable in Corporate Governance and use the knowledge as well as the experience of working as a good corporate governance committee to achieve the objectives of the Company. However, Features, Tenure, Scope of Authority and Responsibility including the number of time the annual meeting of the Good Corporate Governance Committee must comply with the charter of the Good Corporate Governance Committee.

On December 31, 2020, the Good Corporate Governance Committee consists of 3 non-executive directors. The Company has the policy of appointing a person holding the position of Chairman of the Good Corporate Governance Committee and not Chairman of the Board.

2.5) Executive Committee

According to the charter of the Executive Board, the composition of the Executive Committee shall not be less than 5 persons. The Board of Directors shall appoint the Executive Committee is select from a number of directors and / or executives of the Company and / or the qualified persons. Moreover, it must not be a member of the Audit Committee and the term of office is 3 years. The Executive Committee must be a person with knowledge, ability and experience that would be beneficial to the Company's business also to be honest and ethical in conducting business. It must not be a director, an executive or an entrepreneur in the same business as the Company unless the entity is a subsidiary, joint venture or joint venture of the Company. Also, Features, Tenure, Scope of Authority and Responsibility including the number of times in the annual meeting of the Good Corporate Governance Committee must comply with the charter of the Good Corporate Governance Committee.

On December 31, 2020, the Executive Committee has 5 members. The Company has the policy that the Chairman of the Board of Directors shall not be the Chairman of the Executive Committee in order to create a balance between management and good corporate governance.

3. Board Meetings

1) Board of Directors

The Board of Directors requires that at least 6 meetings, be held every quarter to consider the financial statements in accordance with the law. And may hold additional meetings as deemed appropriate by the Chairman. And there should be meetings between independent directors and auditors to discuss the issues about the management in the organization at least once a year. Also, non-executive directors must meet at least once a year, with no executive and management directors attending the meeting. To discuss the issues related to responsibilities and responsibilities, all directors are required to attend the Board of Directors' meetings unless than 75% of the annual meeting.

There should be unless than one quorum of the Board of Directors present at the meeting, so that the meeting can be opened. There must be at least 2 in 3 of the total number of directors attending the meeting. The Chairman of the Board serves as chairman of the meeting and if the chairman of the board is not present at the meeting or is unable to perform his duties. The Board of Directors selects one director to serve as the chairman of the meeting. All directors have the opportunity to discuss and express their opinions openly. In the event that directors of the Company, stakeholders are significantly involved in the subject matter under consideration. The director must leave the meeting during the consideration of the matter.

To vote by resolution of the Board of Directors' meeting, the votes should be counted as follows:

- (1) In the general case, the resolution of the Board of Directors is composed of majority votes. If the votes are the same, the chairman of the meeting shall have the casting vote.
- (2) In case of replacement of vacant seats. The resolution of the Board of Directors consists of votes of unless than 3 in 4 of the remaining directors.

The directors who have conflict of interest in the consideration must abstain from voting on such matters.

2) Audit Committee

The Board of Directors requires an Audit Committee meeting at least once a quarter. Additional meetings may be convened by the Chairman of the Audit Committee. At the meeting, there must be at least on half of the members of the Audit Committee attending the meeting to constitute a quorum. The Chairman of the Audit Committee chairs the meeting and if the Chairman of the Audit Committee is not present at the meeting or is unable to perform his duties. One of the members of the Audit Committee is to preside over the meeting. In the meeting of the Audit Committee with related agenda or other relevant agenda, the Company's auditor and the Company's internal auditor also top management in accounting must be participate for clarity, completeness, reliability for preparing the financial statements.

To vote, majority of the members of the Audit Committee who attend the meeting and cast their votes. One member of the Audit Committee has one vote. If the votes are the same, the chairman of the meeting shall have the casting vote. The Audit Committee with vested interests in the consideration will have to abstain from voting on that matter.

3) Risk Management Committee

The Board of Directors requires that, the Risk Management Committee meet at least 4 times a year, and held additional meetings as deemed appropriate, by the Chairman of the Risk Management Committee. At the meeting, at least on half of the members of the Risk Management Committee shall be present at the meeting. The Chairman of the Risk Management Committee chairs the meeting.

If the Chairman of the Risk Management Committee is not present at the meeting or is unable to perform the duties, the Risk Management Committee also selects one, Risk Management Committee to chair the meeting.

To vote the majority of the members of the Risk Management Committee attend the meeting and cast their votes. One Risk Management Committee member has one vote. If the votes are the same, the chairman of the meeting shall have the casting vote. The Risk Management Committee has a stake in the consideration will have to abstain from voting on that issue.

4) Nomination and Remuneration Committee

The Board of Directors requires at least 2 meetings a year of the Nomination and Remuneration Committee, and held additional meetings as deemed appropriate by the Chairman of the Nomination and Remuneration Committee. At the meeting, there must be at least on half of the members of the Nomination and Remuneration Committee to attend the meeting. The Chairman of the Nomination and Remuneration Committee chairs the meeting. If the Chairman of the Nominating and Remuneration Committee is not present at the meeting or is unable to perform

duties, the Nomination and Remuneration Committee selects one of the Nomination and Remuneration Committee members to chair the meeting.

To vote the majority of the members of the Nomination and Remuneration Committee attend the meeting and cast their votes. One member of the Nomination and Remuneration Committee has one vote.

If the votes are the same, the chairman of the meeting shall have the casting vote. The Nominating and Remuneration Committee with vested interests in the subject matter will have to abstain from voting on such matters, except for the consideration of remuneration for all committees.

5) Good Corporate Governance Committee

The Board of Directors requires a meeting of the Corporate Governance Committee at least 4 times a year. Additional meetings may be held as the Chairman of the Good Corporate Governance Committee deems appropriate. At the meeting, a good corporate governance committee member must attend not less than on half of the total number of the members of the Corporate Governance Committee to constitute a quorum. The Chairman of the Good Corporate Governance Committee presides over the meeting. If the Chairman of the Good Corporate Governance Committee is not present at the meeting or is unable to perform the duties, the Good Corporate Governance Committee selected one of the good corporate governance committees to chair the meeting.

To vote the majority vote of the members of the Good Corporate Governance Committee who attend the meeting and vote. One good Corporate Governance Committee member has one vote. If the votes are the same, the Chairman of the meeting shall have an additional vote as a casting vote. Good Corporate Governance Committee with vested interests in the subject matter will have to abstain from voting on such matter.

6) Executive Committee

The Board of Directors requires that, the Executive Board meetings must be held at least once a month. There must be executive director approval. In less than on half of the total number of the members, a quorum is convened although the Chairman of the Executive Committee shall preside over the meeting.

If the Chairman of the Executive Board is absent or unable to perform the duties, the Executive Director will select one of the Executive Directors to chair the meeting.

To vote, the majority of the Executive Directors who attend the meeting and cast their votes.

The one executive director has one vote. If the votes are the same, the chairman of the meeting shall have the casting vote. Executive Directors with vested interests in the subject matter will have to abstain from voting on that issue.

At the meeting of the committees, every committee has to clear agenda. The meeting documents are sufficient and submitted to the Board of Directors at least 7 days in advance, so that the Board of Directors has sufficient time to study the information before attending the meeting and may request additional information. Unless urgent need to maintain the rights or benefits of The Company will inform the meeting by other means and set the date faster.

The Company will schedule the meeting in advance every year to make an appointment with each director in advance. The minutes of the meeting were certified by the Board of Directors and authenticated by the Chairman of the Board and filing the original and digital document to facilitate the directors and related parties can check the reference. The Company shall disclose details of the number of meetings and the meeting's attendance for past year of the director that will be show in the annual report and annual registration statement.

In 2020, the Company held a meeting of shareholders and each committee. By the way, should be set the agenda to be clear. The meeting documents are sufficient and sent to the Board of Directors at least 7 days in advance, so that the Board of Directors has sufficient time to review the information before attending the meeting. Adding an agenda after the delivery of a document, only be possible on very justified grounds and must be approved by the Chairman of the Board. In summary, the number of meetings for the year 2020 is as follows:

Meeting type	Number of meetings
1) 2020 Annual General Meeting of Shareholders	1 Time
2) Extraordinary General Meeting of Shareholders	- Time
3) Board of Directors Meeting	9 Times
4) Meeting between non-executive directors and the auditor to discuss issues related to corporate governance	1 Time
5) Meeting during non-executive directors to discuss and exchange ideas about issues related to responsibilities and good corporate governance	1 Time
6) Audit Committee Meeting	5 Times
7) Risk Management Committee Meeting	6 Times
8) Nomination and Remuneration Committee Meeting	2 Times
9) Good Corporate Governance Committee Meeting	5 Times
10) Executive Board Meetings	29 Times

The details of the directors attending the meeting individually including the remuneration for each director are summarized in "Title 19 Management Structure" of this Annual Report.

4. Limitation of the number of the registered company in which the Director of the Company could serve as its director

To effectively execute the Board of Directors' performance, the policy is to limit the number of listed companies in which each director does not hold more than 5 directorship positions, and requires the executive directors to hold director positions in listed companies outside the group of companies not over 2 companies.

5. Determination of the remuneration

The "Compensation Policy of All Committees" policy is designed to provide a framework and guidelines for determining the remuneration of each committee. The compensation should be consistent with experience, obligations, scope of roles and responsibilities. (Accountability and Responsibility) The criteria are comparable to the level of performance in the same industry. To ensure that, the level and composition of the compensation is appropriate and sufficient to motivate and maintain the quality committee as desired.

Principles and consideration criteria

The Board of Directors assigns the Nomination and Remuneration Committee to propose the Remuneration of all committees to the Board of Directors for their approval. Then, the proposal shall be considered in the shareholders' meeting for the approval under the following criteria:

1. Role, scope, authority and responsibility of Board of Director and each committee.
2. The collective and individual performance of the committees.
3. The operational performance of the Company, based on the type and size of the Company's business.
4. The remuneration survey, in comparison with other companies in the same industry.

Components of remuneration

In order to be in accordance with the duties, responsibilities and performance of the committees; therefore, the composition of committees' remuneration are divided into 2 parts which are Meeting attendance fee and Quarterly remuneration.

Remuneration Determination Process

The Board of Directors sets up the remuneration determination process to comply with the principle of good governance based on transparency and accountability. The consideration process is as follows;

1. The Nomination and Remuneration Committee considers and determine the remuneration in accordance with the principle in item 4.
2. The Nomination and Remuneration Committee proposes the remuneration rate to the Board of Directors for the approval.
3. The Board of Directors approves and proposes the remuneration rate to the Shareholders' meeting for the approval.
4. The shareholders' meeting approves the remuneration rate.

The amount of remuneration in 2020 that the Company paid to directors and executives (Details as shown in the "Management Structure" section 19 of this Annual Report)

6. Performance evaluation of the Board of Directors Sub-committee and Chief Executive Officer (CEO) and Managing Director

All committees shall evaluate their own performance to be a guideline for development and improvement to expand the work of the committees to cover all aspects in compliance with the Company's business operation.

The Board of Directors shall evaluate the performance of the Chief Executive Officer (CEO) and Managing Director in comparison with the corporate goal and the individual competency. The evaluation shall be based on the qualitative factors such as leadership, strategy creation and implementation, planning, performance, relationship with the Directors, relationship with outside agency, administration, relationship with the personnel, succession, knowledge of product and service, as well as the individual qualification. The evaluation process and principle shall be annually considered by each set of committees.

1) Performance evaluation of the Board of Directors

The Board of Directors has the policy to determine the performance of the Board of Directors by self-assessment, collectively and individually, as follows;

- Self-evaluation of each set of Committee
To evaluate the collective performance of the whole Committee
- Self-evaluation of the individual Committee
To evaluate the individual performance of individual committee

2) Performance evaluation of the committee

The Board of Directors has the policy to set the committee to self-evaluate the performance by providing a group assessment. The purpose is to evaluate the work of the subcommittee in the overall of the faculty.

3) Performance evaluation of the Chief Executive Officer (CEO) and Managing Director

The Board of Directors has the policy for the Board of Directors to evaluate the performance of the Chief Executive Officer (CEO) and Managing Director.

4) Processes and criteria for evaluation

The procedures and criteria for the evaluation will be reviewed by every board each year. The process and criteria for the evaluation for the Chief Executive Officer (CEO) and Managing Director will be reviewed by the Board of Directors every year. In 2020 The Board of Directors and the Sub-committees determine the process and criteria for self-assessment and for the Chief Executive Officer (CEO) and Managing Director as detail below;

The Process of Self-Assessment and Performance Evaluation

The Board of Directors and Sub-committees determine the process of self-assessment and evaluation of performance of the Chief Executive Officer (CEO) and Managing Director is as follows:

Process of Self-Assessment of the Board of Directors and Sub-committees and the Chief Executive Officer (CEO) and Managing Director

1. The Board of Directors requires the self-evaluation form of the Board of Directors, both group and individual and there is a self-assessment form of self-evaluation by individual committees as a group appraisal. In addition, the form of performance appraisal of the Chief Executive Officer (CEO) which is the top management of the organization and Managing Director, which is set out once a year in order to be used as a framework for assessing duties that have been implemented in accordance with policies and / or best practices as well as used as a tool to review and improve operations during the past year.
2. The Board of Directors shall approve and review the performance evaluation form of their committee along with the performance evaluation form of the Chief Executive Officer (CEO) and Managing Director including the sub-committees to approve and review the self-evaluation form of their own in order to be accurate, complete, and in accordance with the rules prescribed by the regulatory agencies.
3. The Company Secretary submits the self-assessment form of the board of directors and the performance evaluation of the Chief Executive Officer (CEO) and Managing Director to the directors; as well as, the secretaries of the sub-committees submitting their self-assessment form within December of every year.
4. The Board of Directors conducts the self-assessment form of the Board of Directors and the performance evaluation form of the Chief Executive Officer (CEO) and Managing Director and return to the company secretary, including the committees of the sub-committees conduct self-assessment and return to the secretaries of the sub-committees within January of every year.
5. The Company Secretary / sub-committees secretaries summarizes the evaluation results and brings them into the agenda of the board of directors' meeting to analyze the evaluation results of the board, sub-committees and Chief Executive Officer (CEO) and Managing Director 's performance.
6. The Secretary to the Board of Directors / Secretaries to the Sub-Committees take additional analysis and comments from the Board of Directors to make a plan for improvement.

Criteria for Self-Assessment and Performance Evaluation

The criteria used in the performance appraisal of the Board of Directors, the sub-committees and the Chief Executive Officer (CEO) and Managing Director is as follows:

Self-Assessment form of the Board of Directors		Self-Assessment Form of the Audit Committee	
Number of items	Number of items	Evaluation content	Number of items
<u>Group</u>		<u>Group</u>	
1. Structure and Qualifications of the Board of Directors	15	1. Structure and Qualifications of the Audit Committee	5
2. Roles and Responsibilities of the Board of Directors	22	2. The Meeting of Audit Committee	6
3. Board of Directors' Meetings	9	3. Roles and responsibilities of the Audit Committee	9
4. The duties of the Board of Directors	7	4. Relationship with Management	4
5. Relationship with Management	5	5. Self-Development of the Audit Committee	4
6. Self-Development of Directors and Management Development	6		
Total	<u>64</u>	Total	<u>28</u>

Self-Assessment form of the Board of Directors		Self-Assessment Form of the Audit Committee	
Number of items	Number of items	Evaluation content	Number of items
<u>Individually</u>			
1. Structure and Qualifications of the Board of Directors	2		
2. Board of Directors' Meetings	4		
3. Roles and Responsibilities of the Board	5		
Total	<u>11</u>		
Self-Assessment form of the Risk Committee		Self-Assessment form of the Nomination and Remuneration Committee	
Evaluation content	Number of items	Evaluation content	Number of items
<u>Group</u>		<u>Group</u>	
1. Structure and Qualifications of the Risk Management Committee	7	1. Structure and Qualifications of the Nomination and Remuneration Committee	7
2. The Meeting of Risk Management Committee	6	2. The Meeting of Nominating and Remuneration Committee	6
3. Roles and Responsibilities of the Risk Management Committee	6	3. Roles and Responsibilities of the Nomination and Remuneration Committee	7
Total	<u>19</u>	Total	<u>20</u>
Self-assessment form of the Good Corporate Governance Committee		Self-assessment form of the Executive Committee	
Evaluation content	Number of items	Evaluation content	Number of items
<u>Group</u>		<u>Group</u>	
1. Structure and Qualifications of the Good Corporate Governance Committee	7	1. Structure and Qualifications of the Executive Committee	7
2. The Meeting of Good Corporate Governance Committee	6	2. The Meeting of Executive Committee	6
3. Roles and Responsibilities of the Good Corporate Governance Committee	5	3. Roles and Responsibilities of the Executive Committee	6
Total	<u>18</u>	Total	<u>19</u>
Assessment form of the Chief Executive Officer (CEO)		Assessment form of the Managing Director	
Evaluation content	Number of items	Evaluation content	Number of items
<u>Section 1: Progress of the Plan</u>	<u>Specify goals and status</u>	<u>Section 1: Progress of the Plan</u>	<u>Specify goals and status</u>
<u>Section 2: Performance Measurement</u>		<u>Section 2: Performance Measurement</u>	
2.1 Leadership	6	2.1 Leadership	6
2.2 Strategic Planning	6	2.2 Strategic Planning	6
2.3. Compliance Strategy	6	2.3. Compliance Strategy	6
2.4 Planning and Financial Performance	6	2.4 Planning and Financial Performance	6

Assessment form of the Chief Executive Officer (CEO)		Assessment form of the Managing Director	
Evaluation content	Number of items	Evaluation content	Number of items
2.5 Relationships with the Board	6	2.5 Relationships with the Board	6
2.6 External Relations	5	2.6 External Relations	5
2.7 Administration and relations with personnel	6	2.7 Administration and relations with personnel	6
2.8 Succession	3	2.8 Succession	3
2.9 Product and service knowledge	4	2.9 Product and service knowledge	4
2.10 Private feature	6	2.10 Private feature	6
Total	54	Total	54
Section 3: Development of the CEO Specify comment		Section 3: Development of Managing Director Specify comment	
3.1 The strengths that the CEO should maintain		3.1 The strengths that the MD should maintain	
2.3 Issues that the CEO should receive. Develop more in the next year..		3.2 Issues that the MD should receive Develop more in the next year.	

To allow the Board of Directors, the sub-committees and the Chief Executive Officer (CEO) and Managing Director compare the results of each topic or compare the results of each year. The scoring method is as follows: (Score 4 points or equal 100%)

0	=	Strongly disagree or no action on that issue
1	=	Disagree or take action on that matter a bit
2	=	Agree or take action on that matter fairly
3	=	Quite agree or have a good deal on it
4	=	Strongly agree or have a great deal about it

In 2020, the performance assessment results of the Board of Directors, both on a group basis and individually, all sub-committees, namely the Audit Committee, the Risk Management Committee, the Nomination and Remuneration Committee, the Good Corporate Governance Committee and the Executive Committee, including the performance assessment of the Chief Executive Officer (CEO) and Managing Director are in very good criteria.

7. Development of Directors and Executives of the Company

The Company has a policy to encourage all directors and executives to be trained to increase their knowledge under the good corporate governance. The training can be done within the company or training from outside institutions. The directors / audit committee must attend courses related to the Duties of the Company's Director / Audit Committee.

8. Orientation of new directors and support for training

The Company is aware of the importance of the duties of the new director. The new directors are required. All you have to join "Orientation for new entrants" as required by the Company. The Company will provide information and lectures on the Company's business. Including other relevant information for the directors who have been appointed to the position of the Company are acknowledged. There are important contents, including the roles and responsibilities of all committees. Holding and trading securities of directors Report of Directors' Benefits Meeting management Information Disclosure. Contact with compensation management and the benefits to directors and sub-committees, Power grid and general information of the company including the Charter of the Audit Committee, Charter of the Internal Audit Department, Scope of Authority and Responsibilities of the Internal Audit Department and inter-measure measures etc.

9. Report of the Board of Directors

9.1 The board of directors of the company is responsible for the consolidated financial statements of the company and its subsidiary companies and financial information disclosed in the annual report. Such financial report is prepared in accordance with generally accepted accounting principles in Thailand while the accounting policy is appropriately selected and complied in a consistent manner and the audit committee and the auditor will jointly and regularly review the accounting policy complied to ensure suitability.

The chairman of the board of directors of the company shall disclose the following information in the annual report and the annual information sheet.

9.2 Responsible for the Company's major information disclosure. The information affects stock prices or important to investment decisions, or affect the benefits of shareholders.

9.3 Responsible for the disclosure of charter of all committees and policies of the Company.

9.4 Responsible for disclosing the following items in the annual report and the annual report.

1. Process and criteria on performance assessment of the board of directors of the company as a whole basis or an individual basis.
2. Number of the meetings arranged and number of attendance to the meeting of each director.
3. Remuneration of each director.
4. Information on development and training of the directors of the Company on an individual basis during the year.
5. Report on sale and purchase and holding of securities of the company and changes in holding during the year of the directors of the company and the executives in accordance with the definition of the Office of Securities and Exchange Commission on an individual basis.

9.5 To be responsible for reporting any other items that the Board of Directors deems appropriate to the shareholders and general investors, subject to the scope of authority and responsibility assigned by the shareholders.

The Board of Directors is of the opinion that, financial reports of the company. And its subsidiaries as on December 31, 2019 are accurate, complete and reliable.

10. The supervision of operation of the subsidiaries / affiliates

According to the Company's regulations, the nomination and election of the Director of the subsidiaries / affiliates requires the approval of the Board of Directors. The appointed Director of the subsidiaries / affiliates shall operate the business for the utmost benefits of the subsidiaries / affiliates. The Company requires the appointed Director to obtain the approval from the Board of Directors prior to the vote casting of the important agenda which normally requires the approval of the Board of Directors, if the Company considers such agenda by itself. The appointment of the Directors to operate the business, as a representative of the Company, in the subsidiaries / affiliates shall be according to the share-holding proportion of the Company.

In case of the subsidiaries, the Company shall supervise the appointed Director to set up the regulations for the related transactions, the gain or disposal of asset or any important transactions of the subsidiaries, so that the transactions would be accurately carried out. The regulations shall be based on the same principles of the Company with regard to the similar transactions and information disclosure. The appointed Director shall supervise the information and accounting records of the subsidiaries to ensure their accountability. The financial information of the subsidiaries shall be delivered to make the collective financial statement of the Company in time.

11. Supervision and risk management policy

The Board of Directors realizes the significance of the risk management. It is directly obliged to manage the risk of the organization to support the effective operation of the Management until it achieves the organizational goals. As the organization may face the business uncertainty affecting the Company's objectives/goals, the Board of Directors determines the relevant risk management policy and framework in all aspects to cover all risk factors.

The Board of Directors has set the risk management policy and framework in all aspects and covers the risk factors of the business by setting guidelines within the company. This is based on the chance of occurrence and the severity of the impact, risk reduction, regular reporting and monitoring and evaluation processes, including the emphasis on early warning signs.

Policy Objectives and Scope

1. To be the framework for enterprise risk management of the Company and Group of Companies as well as to be the guidelines for practicing enterprise risk management of the Company and Group of Companies to be in accordance with the entire organization bases on law, rules and regulations of the relevant sectors, including to anticorruption according to the principles of Good Corporate Governance.
2. To lead to the actual practice and the harmony with enterprise risk management and internal control which is considered the significant component of the Company and Group of Companies' activity.
3. To determine roles and responsibilities for controlling the determined risk appropriately.
4. This policy shall be effective with all operation of directors, executives and all employees in organization.

Roles and Responsibilities

1. Board of Directors is responsible for the overall regulation and monitoring the enterprise risk management operation appropriately and regularly via risk management committee.
2. Audit committee supports the Board of Director to perform enterprise risk management operation by reviewing the enterprise risk management policy whether it is appropriate and effective or not.
3. Executive committee is responsible for considering and reviewing the enterprise risk management and internal control system of the Company and Group of Companies.
4. Chairman of the Executive committee is responsible for performing according to the policy, regulating the organization to strictly practice and monitoring the constant implementation as well as crating the awareness of risk and enterprise risk management to become the organizational culture.
5. Risk management committee is responsible for creating the confidence that the significant enterprise risk is regularly determined and evaluated, including having the effective risk management by responsible for the following matters: Set policy, practice and framework for enterprise risk management for the Company and Group of Companies to be the guidelines for business operation to be in accordance with securities and exchange law, the regulations of SET or the relevant laws to the business operation of Company and Group of Companies, including the measure and practices of anticorruption, Monitor, follow up and support the achievement of enterprise risk management in organizational level to the project level considering the risk of each aspect to evaluate, analyze and make decision to ensure that there is the risk management that concludes all processes of business operation, review practice and framework for enterprise risk management comparing to the international practice and propose suggestion to the Board of Director for the revision as appropriate, consider the review of risk and guidelines for risk management of the Company and Group of Companies as the agency has evaluated the risk, including give recommendation for revision, monitor the effectiveness of enterprise risk management of the Company and Group of Companies by having continual monitoring and review, report the risk with the highest and high level to the President of Executive Committee, Executive Committee, Audit Committee and Board of Directors.

6. Internal audit team is responsible for review the effectiveness of the internal risk control through the annual internal audit, which is the monitoring of business process based on the risk factors, including revise the fault.
7. All executives and employees are responsible for identifying, analyzing, evaluating and sorting the risk of department they are in charge of, including determine the appropriate measure of risk management as it is the part of responsible job.

The Company has disclosed and disclosed information on major risk factors in the annual report, which covers risks in every aspect. The Board of Directors has assigned the Risk Management Committee to formulate policies and operational framework for risk management.

The Company (Risk Management Framework) as well as the roles and responsibilities of the management by overseeing and supporting risk management at the organizational level. As well as the project level. Raise the importance of risk-based considerations and assess each factor to make proper use of resources and processes to align with the direction of the organization and enhance risk management capabilities. Throughout the organization

In addition, the Board of Directors has assigned the Audit Committee to review the internal control system and internal audit to ensure that the operation is effective. And cover all sides. Both accounting and finance. Property Care working, Operation is legal, related regulations. The Internal Audit Department is responsible for assessing risk and assessing control activities at the operational level within the organization. Include a review of financial reports and risk management information by reporting to the Audit Committee on a quarterly basis.

Moreover, the Company has appointed a management team to enable the organization to carry out concrete work to achieve the objectives and goals set. The scope of duties and responsibilities are as follows:

1. Has the duty to support the performance of the Risk Management Committee.
2. Define policies and guidelines for risk management. Prepare risk management plan. Risk assessment, recommend preventive measures and solutions.
3. Analyze, identify, and evaluate operational risks of the Company. Include risk prioritization, management plan, recommendations for improvement, to reduce the risk.
4. The Communicate understanding of the risk management plan to the company's personnel. Can be practically implemented.
5. Monitor the implementation of measures in each line. Provides a systematic risk management process across all lines of business and reduce the impact on the business of the company.

12. Business ethics

(Cited by Business Ethics Policy Revised Version dated on March 1, 2021)

The Board of Directors shall establish the system to ensure that the Company's operation shall comply with the laws and good ethic. That shall acknowledge all employees about the business morality and ethic framework. It shall regularly review the moral practice in response to the changing expectation of the company and shareholders. Moreover, it shall disclose the morality and ethic framework in the company's business ethic policy. The Board of Directors shall establish the good ethic practice, so that all Directors, Executives and employees acknowledge and comply with that.

The Board of Directors has prepared a "policy on (Business Ethics Policy) and Good Code of Conduct for Ethics to communicate to every board. All management and employees acknowledge and comply with them. The Board has approved and approved a review of the Business Ethics Policy. For the Board of Directors Meeting No. 1/2021 on February 24, 2021, the objective is to prepare and review the policy as follows:

1. To guide the work in accordance with the ethics beyond Business Elements and Code of Conduct.
2. To create and maintain relationships and responsibilities for all stakeholders including shareholders, employees, customers, trading partners, creditors, competitors, society, communities and the environment also participants for making a mutual benefit.
3. To understand the principles and practices of the private interests of directors, executives and employees as well as the interests of the Company and the Group without conflict of interest.
4. To create security and safety in health, work, the environment and the protection of corporate assets.

This policy sets the framework for action to be used as a guideline for achieving the same goal by defining the vision and mission of the organization, Business Ethics including Anti-Corruption, Ethics of Directors Management and staff, Ethics for Stakeholders which covers responsibilities for shareholders, employees, customers, partners / creditors , competitors, safety, health and environment in the organization. And responsibilities to the social, community and the environment including the guidelines for clarity, convenient for directors, executives and employees of the Company to be aware of the standards of practice that the Company expects and adhere to as a guideline for its operations for every involved with all stakeholders. The details of the full policy can be found at

<http://www.gunkul.com/th/sustainability/charters> which can summarize the important content as follows;

Business Practices

The Company and the Group have guidelines for conducting business by complying with relevant laws, regulations, rules and regulations, good corporate governance policy and business ethics including any other relevant policies, by conducting business with transparency, honesty and fairness to all stakeholders. There is a system for reviewing the work system for transparency through the internal control system and internal audit.

Ethics of Directors, Executives and Employees

1. Compliance with relevant laws and regulations
The director, executive and employee are required to comply with the related laws and regulations, as well as the requirements of the Stock Exchange of Thailand, the SEC Office and other related supervisory authority.
2. Conflict of Interest and Use of Insider Information
The directors, executives and employees are not allowed to use inside information for personal gain or for the benefit of related person or the third party, including information not disclosed to the public under the rules of the SEC Office and the Stock Exchange of Thailand, including any related laws.
3. Responsibilities towards Property of the Company and Its Group
Utilizing the assets and resources of the Company and the Group to maximize benefits. Prepare documents that are the property of the Company and the Group with honesty, prudence, cautiousness, and in accordance with the specified standards. Either related to accounting, financial or other relevant regulatory requirements, including the provision of a system for storing documents and maintaining the level of importance and confidentiality of documents to be accurate, complete and able to be examined
4. Information Technology
Comply with the "Information Technology Policy" of the Company and the Group, including relevant laws and regulations to maintain stability and security of the information technology system of the company and its group. Including checking and evaluating the adequacy of the policy and internal control system by independent agencies at least once a year. Also having risk assessment at least once a year by setting risk levels and determining measures or practices for risk control.

5. Non-infringement of intellectual property or copyright

Everyone must comply with all laws, regulations and contractual obligations regarding the right to intellectual property rights, including patents, copyrights, trade secrets and other proprietary information that will not violate the right of intellectual property rights and the use of others in corruption methods. In addition, intellectual property and copyright that creating from the performance of duties that has been assigned by the Company or the work that used for the Company. It is considered as the property of the Company and must be delivered to the Company regardless of the information, work or copyrighted work will be stored in any form.

Ethics towards the Stakeholders

1. Responsibilities towards Shareholders

Create more value for shareholders in the long term by performing their duties responsibly, prudently and honestly under reasonable decisions based on sufficient, accurate information, without direct or indirect interest. Including reporting information on management, operating results and information of the Company and the Group for shareholders to acknowledge regularly, completely according to the criteria of the Securities and Exchange Commission and the Stock Exchange of Thailand, to be sufficient for the decisions of all shareholders equally.

2. Responsibilities towards Employees

The Company and the Group have a policy to treat employees fairly by adhering to the principles of equality in terms of employment and compensation, appointment, promotion, migration and potential development along with Moral development. As well as, encouraging employees to participate in the presentation of operational guidelines as information for improving the organization.

3. Responsibilities towards Customers

The Company and the Group are determined to treat customers in both the public and private sectors with the responsibility to provide quality products and services that meet the standards, meet the requirements and satisfy the customers by providing a system and process for receiving complaints from customers in order to promptly resolve problems from complaints. Also, providing a channel for information and adequate guidance for customers about the Company and the Group's products and services.

4. Responsibilities towards Trading Partners/ Creditors

Trading Partners

Determine to treat trade partners equally and fairly by taking into account the fairness of both parties and avoiding situations that cause conflicts of interest by complying with the conditions agreed upon with partners, debtors and / or creditors. Also, must not support products or actions that violate intellectual property.

Creditors

The Company and the Group has a policy of adhering to creditors as well as guaranteed creditors equally, fairly and transparently including comply with the terms and conditions of various contracts with creditors correctly. Also repaying the loan and / or interest to the creditors completely and in accordance with the agreed deadline. In case that the Company is unable to comply with the conditions, the creditors will be notified in advance in order to jointly find solutions on the basis of reasoning.

5. Responsibilities towards Trade Competitors

Determine to treat competitors under the framework of laws relating to trade competition practices and strictly comply with intellectual property laws.

6. Occupational Safety and Environment in the Organization

The Company and the Group adhere to the safety, occupational health and environment according to the laws, regulations and according to the international standard.

7. Responsibilities towards Community and Environment

The Company and the Group focus on business activities together with social responsibility with regard to nearby communities, efficient use of resources and sustainable environmental protection by strictly complying with environmental laws and regulations. Support and cooperate for various activities to improve community learning; as well as, manage the work with the goal of preventing the impact on the environment. Also, constantly reviewing and evaluating the Company's performance on a regular basis, whether or not affecting the environment or not. Moreover, to use technology to make the operation more efficient.

8. Policy and Practice on Human Rights

(Citation to Human Rights Policy, revised version dated on March 1, 2021)

The Board of Directors attaches importance and recognizes the importance of respecting human rights in accordance with international standards in order to ensure that the business operations of the Company are free from violations of human rights and work rights. The Company will provide fairness and protect people who report human rights violations related to the Company by using measures to protect the complainants specified in the "Anti-Corruption and Whistle Blowing Policy". If anyone commits a violation, it must be considered disciplinary according to the regulations that set by the Company and might be punished by law if such action violates the law. The Company has set "Human Rights Policy" to be used as a guideline for the practice. The details are generally announced on the Company's website.

9. Policy and Practice on Tax Management

(Citation to Tax Management Policy, revised version dated on March 1, 2021)

The Board of Directors gives great importance to tax management, so it has established a "Tax Management Policy" which the Company has adhered to the principle of honesty, transparency, complying with tax laws and other related laws in order to build the Company's credibility, including a comprehensive assessment of risks in all tax-related activities, also regulatory risks, operational risks, and financial reporting risks of independent external auditors. In addition, the Company's employees must strictly abide by the rules and regulations in their operations in order to avoid any tax impacts that may cause damage to the Company. The Company has set a "Tax Management Policy" to be used as a guideline for the practice. The details are generally announced on the Company's website.

10. Policy and Practice on the Personal Data Protection and confidentiality

(Citation to Personal Data Protection Policy, revised version dated on March 1, 2021)

The Board of Directors focuses on the protection of personal data by establishing measures and guidelines on the security and confidentiality of personal data and communicating to all parties throughout the group of the Company to gain understanding and be careful in the use of personal data that obtained from the Company's business operations, in order to comply with the specified laws and determine the responsible person and the authorized person of the Company in the area of protection and confidentiality of such personal data. The Company has set a "Personal Data Protection Policy" to be used as a guideline for the practice. The details are generally announced on the Company's website.

11. Policy and Practice on Sustainable Development

(Citation to Sustainable Development Policy, revised version dated on March 1, 2021)

The Board of Directors focuses on sustainable development by establishing criteria and actions such as, setting up corporate governance policies and related policies, establishing strategies, goals, implementation of both occupational safety / health care, working environment, human rights and labor practices, engagement with stakeholders, including environmental and climate change management, etc., with continuous monitoring of

sustainable development performance. In addition, a sub-committee have been established to serve as a forum for consultation and development of the organization towards permanent sustainability. The Company has set a "Sustainable Development Policy" to be used as a guideline for the practice. The details are generally announced on the Company's website.

The Company determines the duties and responsibilities of all directors, executives and employees to understand and comply with the policies and practices set forth in the Code of Business Conduct. The meeting was organized to clarify, media outreach and do activities to continually understand. To get the employees of the company to acknowledge and understand the importance of compliance with the business ethics policy, the Company requires the executives in charge of the organization to take the responsibility for the employees under their supervisory line to understand and promote to comply with the Code of Business Ethics and all employees must act as a good example. In addition to the Code of Business Conduct set out in the Business Ethics Handbook, the Company has created Corporate Shared Values for employees to enhance their corporate values and culture. It is a clear recommendation for employees to understand which one they need to do or ignore. This is consistent with the policies set out in the Business Ethics Handbook. This makes the practice more concrete and if the personnel of the Company are failure to do so is a violation of the Company and the Group's regulations and also require a review of "Business Ethics Policy" annually.

13. Investor Relations Ethics

(Cited by Investor Relations Ethics revised version dated on March 1, 2021)

Basic principles of investor relations ethics

1. Disclose important and necessary information to make accurate and timely investment decisions.
2. Do not use internal information for personal gain and others.
3. Disclose information equally and fairly by giving opportunities for all related parties to access and inquire information.
4. Perform duties with integrity in the profession based on the principles of equality.

Code of Conduct for Investor Relations

Perform work in accordance with the rules, regulations, and relevant laws in accordance with the regulations of the Securities and Exchange Commission (SEC), the Stock Exchange of Thailand and the regulatory agencies related to the Company's business on the basis of the principles of investor relations ethics.

14. Leadership and Vision

Board of directors recommends company to have vision, mission, goal, policy, operational Direction, long-term strategy and plan & annual budget by assigning executive management to present and board of directors to comment and discuss to get common agreement before approval. Board of directors appoints president of executives to develop and implement business strategy. Role, duty and responsibility of board of directors, sub-committee and executive committee are needed to be identified reviewing at least every year.

According to the resolution of the Board of Directors Meeting No. 9/2017, held on December 18, 2017 and the Board of Directors Meeting No. 1/2021, held on February 24, 2021, the Board reviewed the Company's vision and mission which has been amended to the current version as follows;

Vision

Be a leader in the integrated renewable energy and electrical systems business, implementing state of the art technology for sustainable infrastructure development.

Mission

1. Renewable Energy :

To operate the business of the renewable energy power plants under the highest efficiency standards with the emphasis on the society and environment.

2. Sales :

To procure the equipment for power systems, energy saving products distribution channels and render the service which fulfills the customers' demand.

3. Technology :

To develop the IT system and adopt the new technology to improve management and productivity, increase work efficiency and reduce the production costs.

4. Returns :

To maximize the shareholders' and stakeholders' returns.

5. Personal:

To increase the employees' capability to enhance the Company's competitiveness on the global scale.

6. Management:

To create a strong management structure based on the principle of good governance.

Corporate Culture

1. GOAL "G"	Determination to achieve goals
2. RELIABILITY "R"	To be reliable and professional at work
3. OWNERSHIP "O"	Caring and unity
4. WISDOM LEARNING "W"	Learning constantly causing intelligence and adaptation
5. TECHNOLOGY & INNOVATION "T"	Exposure to technology and extending innovation
6. HONESTY & GOVERNANCE "H"	Honest, transparent and dedicated to the responsibilities

The company has set a policy to review the good corporate governance every year as well as review the internal practices of the organization to comply with the principles of good corporate governance completely or not. In the year 2020, there was a review and adjustment to be in accordance with the ASEAN CG Scorecard in order to implement and adapt as appropriate; as well as, explaining the reasons for not being able to comply with the said good corporate governance principles by presenting compliance and non-compliance to the Good Corporate Governance Committee and the Board of Director in order to be informed of the reasons and guidelines as follows:

Item that is not yet implemented	Reasons / guidelines
1. Employee compensation policy that is in line with the company's performance both in the short and long term.	<u>Year 2019</u> Defined as an internal policy but not yet published. The Company has implemented such a matter in the work system of the Human Resources Department which has already established an internal policy but this information may not publish for acknowledgment in general, in which the Company will publicize it for acknowledgment. <u>Year 2020</u> Completed by setting a policy and published in Annual Report and Company's website.

2. Integrated report preparation	<u>Year 2019</u> In the process of preparation Currently, the Company has prepared a sustainability report using the GRI guidelines as a framework for the preparation. In this regard, the Company is in the process of developing an integrated report and one report format. <u>Year 2020</u> The sustainability report has been reformatted to be an integrated report including having arranged the topics to be in one report format.
3. Revealing the CEO compensation policy for both short and long-term including the performance of CEO.	<u>Year 2019</u> Defined as an internal policy but not yet published. The Company has set criteria for compensation of CEO and high-level executives in the normal work system of the Human Resources Department; as well as, the board evaluating the performance of CEO annually but this information may not publish for acknowledgment in general, in which the Company will publicize it for acknowledgment. <u>Year 2020</u> Completed by setting a policy and published in Annual Report and Company's website.
4. Dose the company provide an compliant unit or not?	Internal processes of the company, there is a joint department to supervise the implementation of the process system already. However, the company will designate a Compliance Unit to present to the Board of Directors.

22.2 Sub-committee

The Board of Directors has appointed 5 sub-committee, Audit Committee, Good Corporate Governance Committee, Nomination and Remuneration Committee, Risk Management Committee and Executives Committee are in the details as follows:

1) The Audit Committee

As of December 31, 2020, the Audit Committee comprised of three independent directors by taking in each term not more than 3 years as defined by the Board of Directors. The members of the Audit Committee are as follow;

	Name list	Position
1.	Dr. Chongrak Rarueysong ^{1) 3)}	Chairman of the Audit Committee (Independent Director)
2.	Assoc. Prof. Dr. Panarat Panmanee ^{1) 2)}	Member of the Audit Committee (Independent Director)
3.	Mr. Tarakorn Angpubate ^{1) 4)}	Member of the Audit Committee (Independent Director)
4.	Mr. Tanetsiri Farkmitr	Secretary of the Audit Committee

Remarks: ¹⁾ Audit Committee/ Independent Director who has knowledge and experience in auditing on the Company's financial statements

²⁾ Audit Committee / Independent Director who graduated in Accounting and being a woman

³⁾ He was appointed as the Chairman of the Audit Committee on December 14, 2020.

⁴⁾ He was appointed as the member of the Audit Committee on December 14, 2020.

Scope of Authority, Duties and Responsibilities

Board of directors of the company assigns the audit committee with the authority as follows.

1. To perform the duty within the scope of authority and responsibility indicated within the charter of the audit committee
2. To examine and investigate any matter as necessary and to ask for information of the company as necessary to undertake the work within the duty and responsibility of the audit committee completely

Duty and responsibility of the audit committee

1. The audit committee is a subcommittee assigned by the board of directors with duty and responsibility as follows.
 - (1) To review the financial report of the company to ensure accuracy and reliability, including sufficient disclosure through coordination with the external auditor and the executives of the company responsible for preparation of the financial report, both quarterly and annually.
 - (2) To review the internal control and the internal audit system of the company to ensure suitability and efficiency in coordination with the external and internal auditors and to examine the independence of the internal audit unit or the other responsible agency related to internal audit and to provide consent on appointment, rotation, dismissal chief of the internal audit unit or other responsible agency related to internal audit.
 - (3) To review compliance with law on securities and stock exchange, requirements of the stock exchange or the laws related to the business of the company.
 - (4) To examine, select, propose for appointment of the independent person to perform the duty of the auditor of the company, to examine the remuneration of the auditor with consideration on reliability, sufficiency of resources and quantity of the audit work of such auditor and experience of the person assigned to examine the accounts of the company, to dismiss and require the audit committee to arrange a meeting jointly with the external independent auditor without the management in the meeting at least once a year.
 - (5) To examine the related transactions or the transactions with conflict of interest in accordance with the laws and requirements of the stock exchange to ensure that such transactions are justified and beneficial to the company.
 - (6) To review compliance with anti-corruption policy to ensure efficiency, to examine the outcome of the review on fraud and to provide the company a channel receive complaint on fraudulent act and to promote and encourage risk awareness and assessment, preparation of the preventive system and examination system.
 - (7) To assess performance of the audit committee, to provide recommendations on development and improvement to the board of directors for acknowledgment and information to determine the policy on continued development of the organization.
 - (8) To review the charter of the audit committee and the charter of the internal audit division annually.
 - (9) To prepare an activity report of the audit committee for disclosure in the annual report of the company and such report will be signed by the chairman of the audit committee.
 - Comments on accuracy, completeness and reliability related to preparation process and disclosure in the financial report of the company.
 - Comments on sufficiency of the internal control system of the company.
 - Comments on compliance with laws on securities and stock exchange, requirements of the stock exchange or laws related to the business of the company.
 - Comments on suitability of the auditor.
 - Comments on transactions with possible conflict of interest.
 - Overall comments or remarks that the audit committee has learned from the duty performed in accordance with the charter.
 - Number of meetings of the audit committee and attendance to the meeting by each audit committee, including remuneration received by each audit committee.
 - Other reports that the audit committee has viewed that the shareholders and the investors should know within the scope of authority and responsibility assigned by the board of directors of the company.

- (10) To examine the matter informed by the auditor of the company for the case that is doubtful that the director, manager or the person responsible for the operation of the company has involved in the wrongdoing as indicated in the Securities and Exchange Act (No.4) B.E. 2551 and to prepare the preliminary finding report to the Office of Securities and Exchange Commission and the auditor within 30 days since the date that it is informed by the auditor.
- (11) To perform the duty, the audit committee may ask for independent opinion from the other professional consultant as deemed necessary at the expense of the company.
- (12) To perform any other duty assigned by the board of directors of the company with approval from the audit committee such as review of the policy on financial management and risk management, review of compliance with the business ethics of the executives, joint review with the executives of the company on key matters to be presented to the public as required by the laws such as report and analysis of the executives.

2. The audit committee is required to arrange the meeting to examine the assigned matters as follows.

- (1) To review the financial statements and related financial reports, accounting principles and accounting methods, compliance with accounting standards, continuity of the business, change in major policy, including justification of the management related to the accounting policy to present to the board of directors of the company for approval on the financial statements before distribution to shareholders and investors.
- (2) To review the transactions with possible conflict of interest such as transactions with related company.
- (3) To review the internal control system and the internal audit system.
- (4) To review the annual internal audit plan of the company, assessment of the examination jointly with the internal auditor and the independent auditor.
- (5) To examine the problems or restrictions incurred during the examination jointly with the internal auditor and to review the performance of the internal auditor.
- (6) To examine the problems or restrictions incurred from the financial statements examined jointly with the internal auditor.
- (7) To examine whether the plan to review the method and control on electronic data processing and security maintenance project jointly with the internal auditor and the auditor.
- (8) To review the policy and sufficiency in key risk management of the company jointly with the management.
- (9) To review the financial management policy of the company.
- (10) To comply with the laws on public limited company, laws and/or notification on securities and stock exchange and other related laws and/or notifications.
- (11) To perform any other task assigned by the board of directors of the company.
- (12) To assess the performance of the audit committee in relation to the duty and responsibility assigned by the board of directors of the company.
- (13) To jointly assess and consider the performance, reward and penalty of the chief of the internal audit division with the management.
- (14) To review the charter of the audit committee and the charter of the internal audit division as deemed necessary or at least once a year.
- (15) To report the tasks performed by the audit committee to the board of directors of the company.

For the responsibility of the audit committee to perform the duty in accordance with this charter, the audit committee directly reports to the board of directors of the company and the directors of the company are still held responsible for the operation of the company to the public.

Qualifications of Audit Committee and Independent Directors

The independent director who is appointed as a director and audit committee will be independent from management and major shareholders of the Company. It is required to possess the following qualifications.

1. Not to hold shares over 0.75 percent of the total shares with voting right of the company, the parent company, the subsidiary company, the affiliated company, the major shareholder or the person with power to control the company, including shares of the related person of such independent director as well.
2. Not to be or used to be the director participating in the management, the employee, officer, advisor with regular salary or the person with power to control the company, the parent company, the subsidiary company, the affiliated company, the subsidiary company of the same level, the major shareholder or the person with power to control the company unless it has not possessed such qualification at least two years before the date of appointment as the independent director. Such forbidden qualification does not include the case that such independent director used to be a government officer or advisor of the government agency which is the major shareholder or the person with power to control the company.
3. Not to be the person with lineage relationship or with legal registration in the nature of being the father, mother, spouse, brother and sister and children, including spouse of the children of the other director, executive, major shareholder, the person with control power or the person proposed to be the director, the executive or the person with power to control the company or subsidiary company.
4. Not to be or used to have business relationship with the company, the parent company, the subsidiary company, the affiliated company, the major shareholder or the person with power to control the company of which the nature may obstruct his independent judgment and not to be or used to be the shareholder with significant shareholding or the person with power to control the those having business relationship with the company, the parent company, the subsidiary company, the affiliated company, the major shareholder or the person with power to control the company unless it has not possessed such qualification at least two years before the date of appointment as the independent director.

The business relationship in the first paragraph includes the business transaction made regularly to undertake the business, lease out or lease of the immovable, transaction related to property or service or financial assistance provided or accepted through borrowing or lending, guarantee, property provided as a collateral on debt, including other behavior of the same nature which will cause the company or trading partner to have the liability to pay to the other party at three percent of the net tangible asset value of the company or twenty million baht or more, whichever the lower. The computation of such liability is in accordance with the computation of the value of the related transaction in accordance with the notification of the capital market supervision committee on criteria on undertaking the related transactions, implicitly. However, such liability will include the liability incur one year before there is the business relationship with the same person.

5. Not to be or used to be the auditor of the company, the parent company, the subsidiary company, the affiliated company, the major shareholder or the person with control power or the partner of the auditing office of which supervises the auditor of the parent company, the subsidiary company, the affiliated company, the major shareholder or the person with control power of the company unless it has not possessed such qualification at least two years before the date of appointment as the independent director.
6. Not to be or used to be the person providing any professional service, including legal consulting service or financial service with service charge over two million baht per year from the company, the parent company, the subsidiary company, the affiliated company, the major shareholder or the person with power to control the company and not to be the shareholder with significant shareholding, the person with control power or the partner of those providing such professional service unless it has not possessed such qualification at least two years before the date of appointment as the independent director.

7. Not to be the director appointed to be the representative of the director of the company, the major shareholder or the shareholder who is related to the major shareholder of the company.
8. Not to significantly undertake the business similar to and in competition with the business of the company or the subsidiary company or not to be the partner with significant stake in the partnership or the director participating in the management, the employee, the officer, the advisor with regular salary or to hold shares over one percent of the total shares with voting right of the other company significantly undertaking the business similar to and in competition with the business of the company or the subsidiary company.
9. Not possess any qualification which could obstruct the independent opinion related to the operation of the company.
After he is appointed the independent director with qualifications in accordance with the first paragraph (1) to (9), the independent director may be assigned by the board of directors to make a decision to undertake the business of the company, the parent company, the subsidiary company, the affiliated company, the subsidiary in the same level, the major shareholder or the person with control power of the company through the collective decision.

2) The Good Corporate Governance Committee

As of December 31, 2020, the Good Corporate Governance Committee comprised of three independent directors as follow;

Name list		Position
1.	Dr. Chongrak Rarueysong ¹⁾	Chairman of the Good Corporate Governance Committee (Independent Director)
2.	Mr. Pongtep Thithapand	Member of the Good Corporate Governance Committee (Independent Director)
3.	Mr. Somchai Trairatanapirom ²⁾	Member of the Good Corporate Governance Committee (Independent Director)
4.	Miss Chantira Jongjamareeseethong	Secretary of the Good Corporate Governance Committee

Remarks: ¹⁾ He was appointed as the Chairman of the Audit Committee and Member of the Good Corporate Governance Committee on December 14, 2020.

²⁾ He was appointed as the Chairman of the Good Corporate Governance Committee on December 14, 2020.

Scope of authority, duties and responsibilities

The board of directors of the company has determined the scope of authority, duties and responsibilities of the good corporate governance committee as follows.

1. To determine policies, guidelines and framework on good corporate governance of the company, including other work undertaken and related to good corporate governance such as sustainable management, social responsibility, anti-corruption measures and guidelines to the board of directors of the company.
2. To supervise and monitor to ensure that the company, corporate group, committee, executives, employees and stakeholders have complied with the policies and guidelines provided and with the laws or requirements related to good corporate governance principles, anti-corruption measures and guidelines, business conducts and ethics through continued appropriate development.
3. To review the guidelines in accordance with good corporate governance principles of the company in comparison with the international guidelines and to provide recommendations on appropriate improvement to the board of directors of the company.
4. To propose the board of directors of the company, sub-committee and the management with rules and criteria on good corporate governance, business conducts and ethics, and proper business practices.

5. To encourage and support the company to distribute the good corporate governance principles, including information on related matters consistently so the sub-committee, the executives and every level of employees will acknowledge and understand.
6. To promote and support the company to participate in the assessment or ranking contest on good corporate governance to develop and upgrade the good corporate governance standard of company continuously.
7. To assess performance of the good corporate governance committee, to provide recommendations on development and improvement to the board of directors for acknowledgment and information to determine the policy on continued development of the organization.
8. To review the charter of the good corporate governance committee annually.
9. To prepare an activity report of the good corporate governance committee for disclosure in the annual report of the company and such report will be signed by the chairman of the good corporate governance committee.
 - (1) Overall comments or remarks that the good corporate governance committee has learned from the duty performed in accordance with the charter.
 - (2) Other reports that the good corporate governance committee has viewed that the shareholders and the investors should know within the scope of authority and responsibility assigned by the board of directors of the company.
 - (3) Number of meetings of the good corporate governance committee and attendance to the meeting by each good corporate governance committee, including remuneration received by each good corporate governance committee.
10. To perform the duty, the good corporate governance committee may ask for independent opinion from the other professional consultant as deemed necessary at the expense of the company.
11. To perform any other task assigned by the board of directors of the company.

3) The Risk Management Committee

As of December 31, 2020, the Risk Management Committee comprised of four persons including independent and executive directors as follow;

	Name	Position
1.	Mr. Tarakorn Angpubate	Chairman of the Risk Management Committee (Independent Director)
2.	Miss Sopacha Dhumrongpiyawut	Member of the Risk Management Committee
3.	Mr. Somchai Trairatanapirom	Member of the Risk Management Committee (Independent Director)
4.	Mr. Thitipong Techaratanayuenyong	Member of the Risk Management Committee & Secretary

Scope of authority, duties and responsibilities

The board of directors of the company has determined the scope of authority, duties and responsibilities of the risk management committee as follows.

1. To determine policies, guidelines and framework on risk management of the company as a guideline to undertake the business in accordance with the law on securities and stock exchange, requirements of the stock exchange or the laws related to the business conducted by the company, including anti-corruption measures and practice.
2. To supervise, monitor and support the organization and the project to accomplish the success in risk management with consideration on each risk to support the assessment, analysis and decision to ensure that the risk management process has covered every step of the business undertaken.

3. To review the guidelines and framework on risk management in comparison with the international practice and to provide recommendations on correction and improvement as deemed suitable to the board of directors of the company.
4. To assess performance of the risk management committee, to provide recommendations on development and improvement to the board of directors for acknowledgment and information to determine the policy on continued development of the organization.
5. To review the charter of the risk management committee annually.
6. To prepare an activity report of the risk management committee for disclosure in the annual report of the company and such report will be signed by the chairman of the risk management committee.
 - (1) Overall comments or remarks that the risk management committee has learned from the duty performed in accordance with the charter.
 - (2) Other reports that the risk management committee has viewed that the shareholders and the investors should know within the scope of authority and responsibility assigned by the board of directors of the company.
 - (3) Number of meetings of the risk management committee and attendance to the meeting by each risk management committee, including remuneration received by each risk management committee.
7. To perform the duty, the risk management committee may ask for independent opinion from the other professional consultant as deemed necessary at the expense of the company.
8. To perform any other task assigned by the board of directors of the company.

4) The Nomination and Remuneration Committee

As of December 31, 2020, the Nomination and Remuneration Committee comprised of four persons including independent and executive directors as follow;

Name	Position
1. Pol.Maj.Gen. Visit Sukarasep	Chairman of the Nomination and Remuneration Committee (Independent Director)
2. Mr. Decha Chooligorn	Member of the Nomination and Remuneration Committee (Independent Director)
3. Mr. Hathai Uthai	Member of the Nomination and Remuneration Committee (Independent Director)
4. Mrs. Somluk Kanuenghet	Member of the Nomination and Remuneration Committee & Secretary

Scope of authority, duties and responsibilities

The board of directors of the company has determined the scope of authority, duties and responsibilities of the nomination and remuneration committee as follows.

1. To determine policies, criteria and process on recruitment, selection and nomination of the person with suitable qualification in accordance with related laws and regulations to take the post as the director of the company, the committee in various sub-committee with clear and transparent criteria in congruent with the business strategy of the company for submission to the meeting of shareholders or the board of directors of the company for approval or appointment as applicable in accordance with the requirements of the company.
2. To determine policies, criteria and guidelines on remuneration, methods of payment of remuneration and benefits to the board of directors of the company and the sub-committee suitable to the duties and responsibilities for the company for submission to the meeting of shareholders or the board of directors of the company for approval as applicable in accordance with the requirements of the company.

3. To review the structure, criteria related to recruitment and remuneration to ensure suitability with the duties and responsibilities and performance of the company.
4. To consider and propose the succession plan of the top executives of the organization from the managing director or higher to the board of directors of the company for approval.
5. To assess performance of the nomination and remuneration committee, to provide recommendations on development and improvement to the board of directors for acknowledgment and information to determine the policy on continued development of the organization.
6. To review the charter of the nomination and remuneration committee annually.
7. To prepare an activity report of the nomination and remuneration committee for disclosure in the annual report of the company and such report will be signed by the chairman of the nomination and remuneration committee.
 - (1) Overall comments or remarks that the nomination and remuneration committee has learned from the duty performed in accordance with the charter.
 - (2) Other reports that the nomination and remuneration committee has viewed that the shareholders and the investors should know within the scope of authority and responsibility assigned by the board of directors of the company.
 - (3) Number of meetings of the nomination and remuneration committee and attendance to the meeting by each nomination and remuneration committee, including remuneration received by each nomination and remuneration committee.
8. To perform the duty, the nomination and remuneration committee may ask for independent opinion from the other professional consultant as deemed necessary at the expense of the company.
9. To perform any other task assigned by the board of directors of the company.

5) Executive Committee

As of December 31, 2020, the Executive Committee comprised of five persons as follow;

	Name list	Position
1.	Ms. Sopacha Dhumrongpiyawut	Chairman of the Executive Committee
2.	Mr. Somboon Aueatchasai	Executive Director
3.	Ms. Naruechon Dhumrongpiyawut	Executive Director
4.	Mr. Chaloepon Sricharoen	Executive Director
5.	Mrs. Areewan Chaloepondan	Executive Director

Scope of authority, duties and responsibilities

The board of directors of the company has determined the scope of authority, duties and responsibilities of the executive committee as follows.

1. To determine policies, guidelines, framework, target, business plan, management structure, rules and regulations, authority, duty, approval authority and budget, including supervision, examination, monitoring and review of the operation of the company in accordance with vision, mission, strategy and policy of the board of directors and in compliance with the laws on securities and stock exchange, requirements of the stock exchange or laws related to the business conducted by the company, requirements of the company, including anti-corruption measures and guidelines.
2. To determine regulations, policies and guidelines on corporate social responsibility to look after the society, community and environment.

3. To screen, approve or agree with the key business conducted in a normal course of business and management of the company within the scope of authority provided.
4. To determine the working regulations of the employees of the company without any conflict with related regulations and laws.
5. To approve the structure of the office and salary and other benefits of the employees and to approve the management structure of the division level or lower.
6. To screen, consent or approve the annual budget plan, to supervise and monitor the operation in accordance with the policy, target and budget plan approved.
7. To ensure that the internal control system of the company is suitable and proper.
8. To screen, consent or approve the investment and/or participation in the bidding contest of new projects and to undertake the project as deemed suitable and to enter into a juristic act related to such matter until its completion within the scope of authority provided.
9. To screen, consent or approve the joint venture with the person, juristic person and/or group of persons in any form to undertake the business in accordance with the objectives of the company, including enter into the juristic act related to such matter until its completion within the scope of authority provided.
10. To screen, consent or approve the appointment or employment of the advisor, including the expert outside the organization to provide opinions and undertake any act related to the business conducted by the company.
11. The executive committee may assign its authority and appoint a special working group, group of persons, executive or any person to undertake any work within the duty and responsibility as deemed suitable to the executive committee.
12. To authorize the management, special working group, group of persons, executive or any person as a substitute to undertake any act but not the approval on the related transaction or the transaction with possible conflict of interest or the transaction with conflict of interest as indicated in the regulations of the company, policy, rules and regulations and notifications of the Capital Supervision Commission as the approval on the transaction of such nature is required to be submitted to the meeting of the board of directors and/or the shareholders to examine and approve such transaction in accordance with the regulations of the company or the related laws unless it is an approval on the transaction of which the nature is a normal course of business of the company and in accordance with the policy and criteria approved by the board of directors.
13. To assess performance of the executive committee, to provide recommendations on development and improvement to the board of directors for acknowledgment and information to determine the policy on continued development of the organization.
14. To prepare an activity report of the executive committee for disclosure in the annual report of the company and such report will be signed by the chairman of the executive committee.
 - (1) Overall comments or remarks that the executive committee has learned from the duty performed in accordance with the charter.
 - (2) Other reports that the executive committee has viewed that the shareholders and the investors should know within the scope of authority and responsibility assigned by the board of directors of the company.
 - (3) Number of meetings of the executive committee and attendance to the meeting by each executive committee, including remuneration received by each executive committee.
15. To perform the duty, the executive committee may ask for independent opinion from the other professional consultant as deemed necessary at the expense of the company.
16. To perform any other task assigned by the board of directors of the company.

Board of directors may appoint other sub-committee as per necessity. Scope of authority of each sub-committee has to be clear and specific as sub-committee should be close to issue or problem than others.

22.3 Selection and Appointment of Directors and Executives

Selection of Board of Directors

The selection of persons to be appointed as the Board of Directors will be selected through the resolution of the Nomination and Remuneration Committee before proposing to the meeting of the Board of Directors for appointment. This selection will be made by using criteria of knowledge, ability, experience, vision and reliability including having qualifications in professional skills, specialization, consistent with the business strategy of the Company and does not have prohibited characteristics as specified by law, in order to propose to the shareholders' meeting for consideration and appointment which the Company has specified the criteria and methods which can be summarized as follows;

1. Board of directors comprises of at least 9 persons in which at least half of that must have residence in Thailand and directors must have qualifications as law said
2. Director search by shareholders' meeting is based on majority vote as follow;
 - 2.1 One shareholder has voting right equivalent to one share, one vote
 - 2.2 Shareholder votes director on one-on-one basis
 - 2.3 Director search is based on highest-scored ranking. In the case that qualified persons get same scores and exceed number of directors required, chairman of meeting has final decision.
3. In every annual shareholder meeting, one third of directors are required to resign. If total directors can't be divided by three, use close amount of directors to resign. Directors who are required to resign in the first year and second year use lucky draw technique. For the following years after that, directors who are in position for the longest period have to resign. However, directors who resign may be selected again.
4. Director has right to get compensation from company in term of reward, meeting fee, pension fund, bonus or other compensations as defined by rules or resolution from shareholders' meeting either in term of fixed amount or general concept. Moreover, director also gets allowance and fringe benefit on top of normal benefits like salary and bonus as employee.
5. Director who wants to resign sends resignation form to company. It will be effective once company accepts. Director may give resignation notice to register person.
6. In case that director position is vacant due to extra reasons (not term expired), board of directors can select qualified person with no banned manner as replacement director in next meeting of board of directors, except director's term has less than two months left. Such replacement director will be in the position for time equivalent to remaining term of previous director. This resolution from board of director requires at least three fourth of remaining directors.
7. If shareholders want director to resign, it needs to get vote from shareholders' meeting of at least three fourth of total shareholders attending the meeting and total voting right and have a share of not less than half of the total number of shares held by the shareholders who attend the meeting and have the right to vote.

Audit Committee/Independent Directors Selection

Regarding to the selection of Audit Committee, Board of directors or shareholders' meeting will select persons to be a committee in selecting audit committee in which such committee must have at least 3 persons from audit committee by selecting from independent directors. Audit committee has 3 year term but may get renewal from board of directors or shareholders' meeting. Among audit committee, there is at least 1 person who has knowledge and experience in financial & accounting background, so he/she can do financial statement review.

Good Corporate Governance Committee Selection

In the part of best corporate governance committee selection, the board of directors or the meeting of shareholders should appoint the committee members which all of them are the independent directors who are not directly involved in doing company business. In order to comply with the principles of good corporate governance and to provide fairness and transparency auditing for the company, it has been defined that the good corporate governance committee must have service period of 3 years. However, they may be appointed by the board of directors or the meeting of shareholders to continue his/her tenure roles and responsibilities as the good corporate governance committee. The good corporate governance committee will be considered by their qualifications in deep knowledge in the company's business area, experiences in corporate governance, and expertise in policy formation in order to ensure compliance with the good governance principles.

Risk Management Committee Selection

In the part of risk management committee selection, the board of directors or the meeting of shareholders should appoint the committee members consist of 2 independent directors and 2 managing directors. The directors must have well understanding of the organization's risk and the independent directors must able to advise the global types of risk management to the company. It has been defined that the risk management committee must have service period of 3 years. However, they may be appointed by the board of directors or the meeting of shareholders to continue his/her tenure roles and responsibilities as the risk management committee. The risk management committee will be considered by their qualifications in deep knowledge in the company's business area, skill and expertise in accounting and financial in policy formation in order to concretely implement risk management.

Nomination and Remuneration Committee Selection

In the part of the nomination and remuneration committee selection, the board of directors or the meeting of shareholders should appoint the committee members consist of 3 independent directors and 1 executive management. The executive management will be appointed to oversee the Division of Human Resources. It has been defined that the nomination and remuneration committee must have service period of 3 years. However, they may be appointed by the board of directors or the meeting of shareholders to continue his/her tenure roles and responsibilities as the nomination and remuneration committee. The nomination and remuneration committee will be considered by their qualifications in deep knowledge in the company's business area, skills and experiences in legal, expertise in developing such remuneration and nominations policy and structure. The information obtained from the database of Consultant Company will be used for the purpose of nomination and remuneration in the organization to compatible with internationally-recognized standards.

Executive Committee Selection

Board of directors appoints executive committee in which executive committee comprises of 3 at least and 6 at most by selecting from directors or employees or capable persons who are no audit committee. Executive committee has responsibility to manage company as per assignment from board of directors. Executive committee directly reports to board of directors.

However, the selection of all committer, the company will consider from select committee who are expert and has qualification in wide range of professional skill, special expertise, and deep knowledge in the company's business area which consistent with the business strategy of the Company in order to obtain policy guidelines, recommendations, and continuous improvement company processes to compatible with internationally-recognized standards.

The policy of "Nomination and appointment of Directors and Executives" is prepared to serve as a framework and guideline in nomination of the qualified and competent Directors and executives suitable to the Company's demands in compliance with the Good Governance. In addition, the policy shall promote the effective management to lead the Company to the sustainable progress and development. Including, directors or executives of the Company must never be an employee or partner of an external audit firm that has been in service for the past two years.

Principles on nomination and appointment

1) Qualification of Directors and committees

The qualification of Directors and committees shall be in accordance with each committee's charter which consistent with the business strategy of the Company, and possess qualifications in accordance with the laws and regulations of the relevant regulatory agencies including the regulations of the Company.

2) Qualification of executives

- The executives shall have knowledge, capability, experience and specialized qualification necessary and beneficial to the organization's business operation.
- The executives have leadership and intuitive vision.
- The executives shall be capable in preparation of strategy and organization management.

3) To be recognized by the relevant business organization.

Nomination and Appointment Process

The Board of Directors sets up the nomination and appointment process to comply with the principle of good governance based on transparency and accountability. The consideration process shall be as follows;

- 1) The Nomination and Remuneration Committee considers and nominates the committees and/or the high-ranked executives of the organization in accordance with the principle.
- 2) The Nomination and Remuneration Committee proposes the personal data and qualification of the committee to the Board of Directors for the approval.
- 3) The Board of Directors approves the appointment of the committee.
- 4) In case of the nomination of the Director retired by rotation or the nomination of the Director in replacement of the retired Director whose term is less than 2 months to propose to the shareholders' meeting for the appointment.

In the process of recruiting, The Company has a policy of using Professional Search Firm or Director Pool to nominate new directors for the selection and appointment process.

According to the Company's policy, the Company allows the minor shareholders to propose the qualified person to serve as the Director in the Ordinary General Meeting of Shareholders. In this regard, the Company shall notify of the proposal through the system of the Stock Exchange of Thailand, so that the shareholders are notified thereof in advance of the meeting day.

Executive Recruitment and Appointment

The board assists management in making policy and selection criteria for the position of managing director and policy to emergency succession or the retirement of managing director. The selection process will be clear and transparency. The selection criteria for the position will be considered by knowledge, experiences, abilities, ethics and leadership. The Nomination and Remuneration Committee are assigned to propose the qualified person for appointing as managing director.

The managing director was assigned to recruit the best candidates with extensive knowledge, skills, and experience for the position of executive in accordance to the properties and methods of selection defined by the company.

22.4 The Preparation of report on trading of shares / holding of securities of the Company

The board of directors defined that the Company must prepare and report the trade and transfer the Company's shares/securities to the board meeting of the good corporate governance committee and the board of directors in all meeting. The guidelines are set out in the charter of each committee, in the "Business Ethics Policy" and "Good Corporate Governance Policy", in order to be aware of the general practice. The detail is as follow;

No.	Director / Senior Executive Name (A)	Relation	Type of Securities	Number of shares that held at the beginning of the year 31st December 2019	Number of shares that held at the end of the year 31st December 2020	Number of shares changed increase / (decrease) in the year 2020 (share)	proportion Shareholding in the Company (%)
1	Dr. Gunkul Dhumrongpiyawut	Director Spouse Underage children	Common share Common share Common share	311,511,270 - -	311,511,270 - -	- - -	3.5070 - -
2	Dr. Chongrak Raueysong	Director (Independent Director) Spouse Underage children	Common share Common share Common share	311,511,270 - -	311,511,270 - -	- - -	3.5070 - -
3	Associate Professor Dr. Panarat Panmanee	Director (Independent Director) Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -	- - -
4	Gen. Tarnchaiyan Srisuwan	Director (Independent Director) Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -	- - -
5	Mr. Tarakorn Angpibate	Director (Independent Director) Spouse Underage children	Common share Common share Common share	900,039 - -	900,039 - -	0 - -	0.0101 - -
6	Mr. Kris Chantanothe	Director (Independent Director) Spouse Underage children	Common share Common share Common share	900,039 - -	900,039 - -	0 - -	0.0101 - -
7	Ms. Sopacha Dhumrongpiyawut	Director / Senior Executive Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -	- - -

8	Dr. Somboon Aueatchasai	Director / Senior Executive Spouse Underage children	Common share Common share Common share	33,600,000 4,076,799 -	33,600,000 4,076,799 -	- - -	0.3783 0.0459 -
9	Ms. Naruechon Dhumrongpiyawut	Director / Senior Executive Spouse Underage children	Common share Common share Common share	37,676,799 431,193 -	37,676,799 431,193 -	- - -	0.4242 0.0049 -
10	Mrs. Areewan Chalodman	Director / Senior Executive Spouse Underage children	Common share Common share Common share	431,193 -	431,193 -	- -	0.0049 -
11	Mr. Chaloepon Sitchaen	Senior Executive Spouse Underage children	Common share Common share Common share	- -	- -	- -	- -
12	Dr. Phongsakorn Damnoen	Senior Executive Spouse Underage children	Common share Common share Common share	38,174,073 336,000 -	38,174,073 336,000 -	- - -	0.4298 0.0038 -
13	Mr. Chaisiri Wattanachamarong	Senior Executive Spouse Underage children	Common share Common share Common share	38,510,073 -	38,510,073 -	- -	0.4335 -
14	Mr. Theerapab Punyasakorn	Senior Executive Spouse Underage children	Common share Common share Common share	- -	- -	- -	- -
15	Mrs. Sonluk Kanuenghet	Senior Executive / Secretary of the Nomination and Remuneration Committee Spouse Underage children	Common share Common share Common share	- -	- -	- -	- -
16	Mr. Thamrong Chankrathong	Senior Executive Spouse Underage children	Common share Common share Common share	- -	- -	- -	- -

17	Dr. Phatrot Phanukan	Senior Executive Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -
18	Mr. Thitipong Techaratanyuayong	Senior Executive / Secretary of the Risk Management Committee Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -
19	Mrs. Nattawan Wongchan	Senior Executive Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -
20	Ms. Sutiratt Tangnorakul	Executive Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -
21	Mr. Janpon Ngamaroonchote	Senior Executive Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -
22	Ms. Chanira Jongjamaeeseethong	Senior Executive / Company Secretary Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -
23	Mr. Tanetsiri Farknir	Executive / Secretary of the Audit Committee Spouse Underage children	Common share Common share Common share	- - -	- - -	- - -

Remark

¹⁾ As of 31st December 2020, the Company has registered capital of 2,220,632,743.50 baht and has the total share sold of 8,882,530,974 shares

Remuneration and Welfare for Executives and Employees

(Citation to Remuneration & Welfare for Executives and Employees Policy, dated on March 1, 2021)

The Nomination and Remuneration Committee has set a “Remuneration & Welfare for Executives and Employees Policy” and presented to the Board of Directors for consideration, approved in order to formulate a guideline on remuneration and welfares to executives ranging from the highest level of the organization to all levels of employees, including the Chief Executive Officer (CEO), Managing Director, Deputy Managing Director, Senior Director, Division Directors, Managers, Deputy Managers, Supervisors and Operations Staff.

The Company determines the remuneration and welfares of management and employees at all levels in accordance with the performance of the Company both in the short and long term at an appropriate rate according to market guidelines in similar industries in order to create incentives to work for better efficiency, including remuneration and welfares in various forms such as salary, perquisite, annual bonus, allowance, accommodation expenses, fuel expenses, wear and tear, telephone fees, sale commission, and other benefits such as provident fund, medical expenses, group accident insurance, children’s scholarships, financial aid in the event of disaster, funeral assistance. As for non-monetary benefits, consists of various types of leave, the cost of visiting in case of illness / maternity, New Year’s party etc. Including the remuneration and other welfares that will increase by considering the performance of the Company both in the short and long term.

In this regard, the criteria for considering the payment of remuneration, type of salary, perquisite (promotion) and annual bonus will be determined from the evaluation framework of the Company’s performance, by starting with defining and reviewing the vision, mission, and setting indicators both at the organizational and division levels (KPIs) to the individual level (PIs), by using the principles of the Balanced Scorecard (BSC) to cover all dimensions of assessment, including a competency assessment as a guideline for the development of each person together with the consideration of working time according to the established criteria.

For the criteria for considering the remuneration and welfares of all types of executives and employees, the Company has clearly established practical criteria, which are separated into each sub-policy in order to be consistent with their operations. Also, they have been reviewed regularly and brought to the HR Committee and the Nomination and Remuneration Committee to consider and approve then lead to action for tangible results to create long-term sustainability.

Auditor fee

1. Audit fee

In 2016 - 2020, audit fees for the Company comprises annual audit fee and audit fees for the 3 quarters, as per following details: -

Year	Audit Fee of Gunkul Engineering PCL. (THB)
2020	1,830,000.00
2019	1,830,000.00
2018	1,700,000.00
2017	1,480,000.00
2016	1,100,000.00

The parties related to the auditor and the auditing firm for 2020 is KPMG Phoomchai Audit Limited which is not a related party to the Company. It is an independent auditor and has been approved by the Securities and Exchange Commission and qualified by the Audit Committee and the Board of Directors including the Annual General Meeting of Shareholders for 2020.

2. Non-Audit fee

The Company had compensation for other services, such as overtime, vehicle fees, document binding fee, confirmation fee, and delivery fee, totaling THB 85,775.00 which was already paid within 2021.

22.5 Compliance with the Principles of Good Corporate Governance in Any Other Matter

The board of directors set agenda to acknowledge from every subcommittee chairman, report the progress of the subcommittee to the board of directors in quarterly for the efficiency of organization management for growing sustainably and continuing oversight of the principles of good corporate governance.

The Company is committed to bringing good corporate governance principles to the concrete operations throughout the organization. As a result, the Company received a 5-star rating of Good Corporate Governance (CGR) continuously for 4 consecutive years. In the year 2020, the Company received the Good Corporate Governance rating (CGR) at the excellent level rating of 95 points, comparing with the results that obtained in 2019, 2018 and 2017 at the excellent level rating of 94 points, 91 points and 91 points, respectively. The Company also received an ASEAN award under the 2019 ASEAN Corporate Governance Scorecard ("ACGS"), the "ASEAN Asset Class Publicly Listed Companies Award", given to 135 ASEAN listed companies who scored 97.50 or more. There were 42 Thai listed companies that received the award, considered the most awarded country in ASEAN.

In addition, in the year 2020, the Company received the results of the 2020 annual general meeting assessment at the excellent level rating of 100 points, comparing with the results that obtained in 2019, 2018 and 2017 at the excellent level rating of 100 points, good level rating of 96 points and 97.5 points, respectively.

In order to encourage voluntary compliance by the private sector to cooperate in the prevention and fight against corruption with the standardization of business to be correct and transparent as well as creating a higher standard of business ethics. In 2017, the Company issued a statement announcing its commitment to the Private Sector Collective Action Coalition Against Corruption (CAC). Also, the CAC Council has evaluated and approved the Company as a member of the Private Sector Collective Action Coalition Against Corruption from August 18, 2017 for a period of 3 years (until August 18, 2020). The Company has established guidelines on such principles throughout the organization, reflecting the overall development of the Company's good corporate governance. Moreover, the company is committed to sustainable this development.

In addition, in 2020, the Company has prepared a plan to comply with the good corporate governance principles for Thai listed companies (Corporate Governance Code for Listed Companies "CG Code") according to the guidelines and recommendations from the Securities and Exchange Commission. Then, brought to the Good Corporate Governance Committee meeting and the Board of Directors to define as a concrete practice and continue to develop. Such principles and plans have been acknowledged, reviewed and considered by the Good Corporate Governance Committee and the Board of Directors continuously during the year 2020.

23 Internal Control and Risk Management

The Board of Directors consistently places great emphasis on internal control and risk management of the Company and its subsidiaries. The objective is to support the performance of the Company's management to operate efficiently and achieve its goals. The relevant risk management policies and framework have been established in all areas and cover the risk factors of the business; as well as, establish guidelines for internal operations, preventive measures, risk reduction, reporting system, regular monitoring and evaluation processes regularly.

The Board of Directors has assigned the Audit Committee, consisting of 3 independent directors to be responsible for reviewing and assessing the adequacy of the internal control system provided by the management in accordance with international standards, referring to The Committee of Sponsoring Organizations of the Treadway Commission (COSO), including internal audits to ensure efficient operation and balance checks. In addition, there is control and supervision of the use of the Company's assets for the real benefit of the Company, including considering the audit results of the Internal Audit Department and the opinion of the auditor regarding the Company's internal control system.

In the Board of Directors' Meeting No. 1/2021 on 24th February 2021 with the Audit Committee which has 3 independent directors, the management and the internal audit department also attended the meeting. The Board of Directors jointly assessed the adequacy of the internal control system as determined by the Securities and Exchange Commission (SEC). From the overall assessment, the Board of Directors and the Audit Committee are of the opinion that the Company's internal control systems are adequate, appropriate and in line with the internal control system according to the Committee of Sponsoring Organizations of the Treadway Commission (COSO), which covers 5 components, namely the Control Environment, Risk Assessment, Control Activities, Information & Communication, and Monitoring Activities which can be summarized as follows:

Control Environment

The Company has clearly defined goals, vision, objectives, policies and guidelines. The Company operates its business under the principles of good corporate governance and business ethics by establishing a written corporate governance policy and business ethics. The roles, duties and responsibilities of the Board of Directors have been defined, including working policies, employee manuals, organizational structure and regular review of the organizational structure, to be in line with the strategy, business plan and support for business growth; as well as, important policies, charter of the Board of Directors and sub-committees are also reviewed and revised regularly. This is to be in line with the good corporate governance principles of the Securities and Exchange Commission and to be in line with the anti-corruption policy set by the Company and the certification of membership in the Thai Private Sector Collective Action Coalition against Corruption since 2017, which emphasized employees to understand the issue of Fraud Risk, by providing measures for whistleblowing or complaints of illegal acts, ethics or behaviors that may imply fraud or misconduct of individuals in the group, both from employees and stakeholders.

Risk Assessment

The Board of Directors recognize the importance of the organization's risk management of by assigning the Risk Management Committee (RMC) to define and review the organization risk management policy including overseeing, supporting the implementation of risk management and internal control, also having a risk management plan or risk management process in order to reduce the impact on the Company's business, including monitoring and evaluating the implementation of the risk management framework of the organization and promoting the improvement and development of the internal risk management system on a regular and continuous basis to ensure that the Company has managed the risks and there is sufficient and appropriate internal control in accordance with the strategy and business goals of the organization.

The Audit Committee has given importance to an appropriate and effective internal control system for the prevention and management of critical risks by approving an annual internal audit plan in which the Company's Internal Audit Department has prepared a risk-based audit plan to ensure that the internal control system is appropriate and sufficient for current risk management.

Control Activities

The Company has a control over the operation of the group by planning and controlling, such as the use of Key Performance Indicator (KPI), Separation of duties, Responsibility, Scope of approval. This includes the limit of approval power at each level (Line of Authority: LOA) that is appropriate for the business and communicate to the employees of the Company thoroughly, also establish guidelines for dealing with transactions that may or may not have a conflict of interest by taking into account the best interests of the shareholders and the stakeholders of the Company. There is a monitoring of the subsidiaries / associated companies by appointing executives to take positions as directors in subsidiaries / associates in order to participate in policy setting, acknowledging information and following up on the operations, taking care to protect the company's assets from being lost or misused and a check and balance of power from the agency and the committee that has been appointed specifically, such as the internal audit department and the risk management committee, establishing an efficient and appropriate internal control system and risk assessment. In addition, the Company Secretary department is responsible for overseeing the operations of the business group and the Board of Directors, including the disclosure of information in accordance with the Securities and Exchange law, SEC regulations and related laws.

Information & Communication

The Company recognizes the importance of the quality of information and communication, which is an important factor to support effective internal control with guidelines for information management by designing general and appropriate information technology controls. The Company has set up a database for every system in daily operations and for other purposes, and the information in the said database has been reviewed for accuracy and always updated including data security in the database. The Company has a process and channel for communicating internal information that is appropriate and effective for communication within the organization, such as public relations, electronic mail, report process, arranging activities etc. In addition, according to the good corporate governance policy of the company, the Board of Directors has arranged for the sufficient, reliable, and timely disclosure of the Company's information both financial and non-financial matters so that the shareholders and stakeholders of the company to receive information equally. As well as, establishing an investor relations department to be responsible for providing information to investors and the general public, as well as establishing channels for complaints in accordance with the Company's complaints and protection policies.

Monitoring Activities

The Company has followed up the operations and evaluated the internal control system, comparing the performance with the plan to meet the set goals on a regular basis and regularly report the results to the management, the Audit Committee and the Board of Directors. In addition, the internal audit department of the Company has an annual audit plan based on important risks, an increase in the number of projects, process or system, requests from management and / or the audit committee in order to review the adequacy and appropriateness of the internal control system for each activity, as well as providing suggestions for increasing the efficiency and effectiveness of the internal control, by communicating to the management for acknowledgment in order to take corrective actions. The internal audit department has regularly reported the audit results in accordance with the internal control audit plan that has been specified to the Audit Committee and the management of the Company throughout the year 2020.

The auditor of the Company is KPMG Phoomchai Audit Company Limited, a quarterly financial information and annual financial statements auditors for the year 2020 by reviewing the internal control system for accounting (in order to specify the guidelines, duration, scope and audit methods) in which the auditor did not find any significant faults regarding the internal control system.

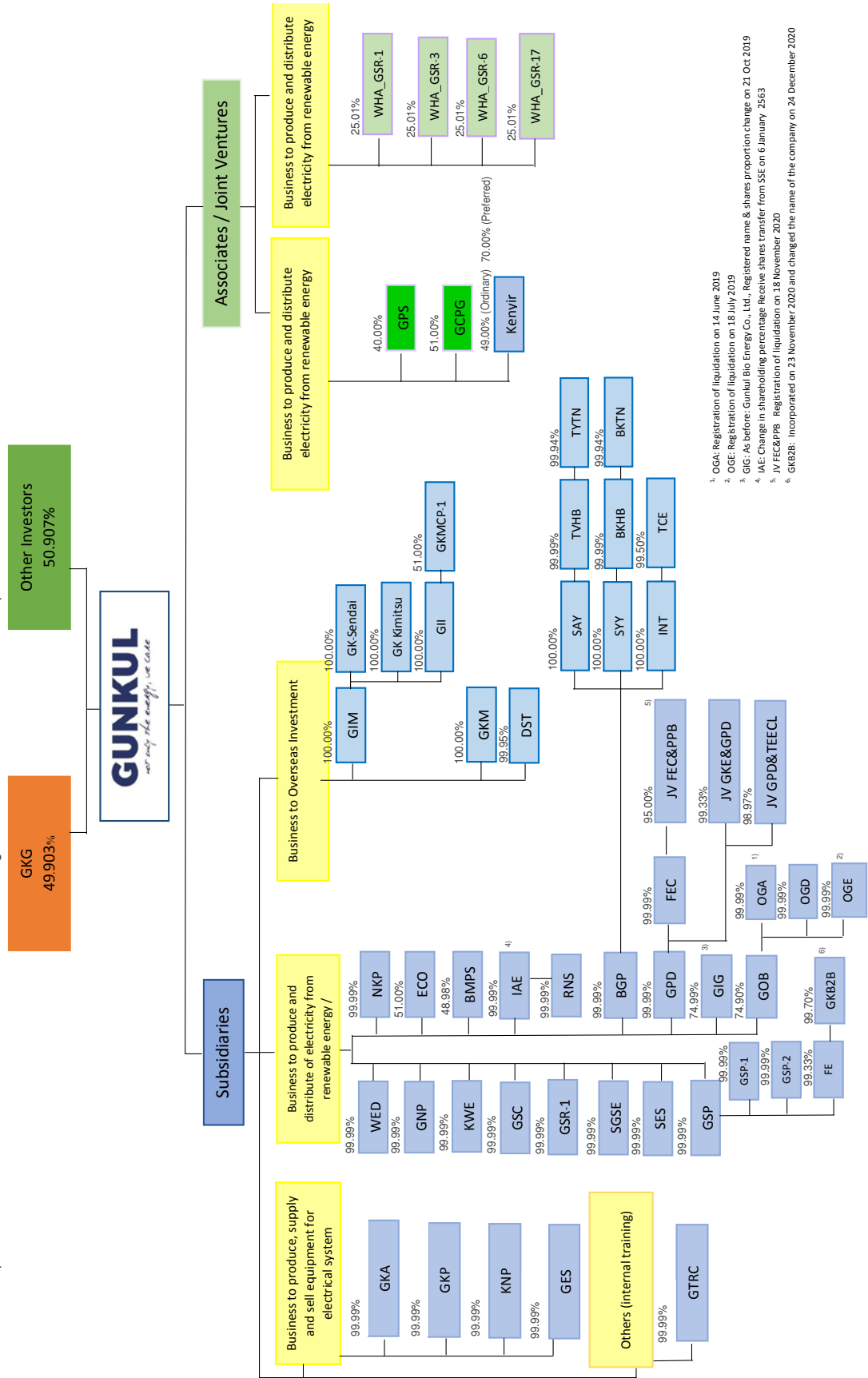
Head of the Company's Internal Audit Section

The Audit Committee Meeting has appointed Mr. Tanetsiri Farkmitr, Assistant Vice President of Internal Audit to be the head of internal audit section of the Company and Secretary to the Audit Committee, which effective from 20th October 2016. Mr. Tanetsiri Farkmitr has experience in internal audit. He is a certified public accountant (CPA) and has sufficiently experience in managing the Internal Audit Department. The Audit Committee therefore deemed that it was appropriate to perform such duties appropriately.

In this regard, the consideration and approval of the appointment, removal and transfer of the head of the internal audit department of the Company must be approved or received approval from the Audit Committee.

24.1 Proportion of shareholding in the subsidiaries and associated companies

- The related transaction between GUNKUL, subsidiaries and associated companies (joint ventures or affiliates) for normal business which are useful for company procedure. GUNKUL is the shareholder of the following subsidiaries and associated companies.



- Therefore, the connected transactions between the Company, subsidiary and associated companies do not cause conflicts of interest in the future.

24.2 Opinion of the Audit Committee for the Related Transaction between the Company with Subsidiaries, Joint Ventures and related companies/persons

- Buy/Sell transactions benefit the Company's operations, are reasonable and have normal trade conditions.
- Renting or leasing space contracts between the Company and subsidiaries and related persons, the Company and the Group have made a lease agreement and the sublease agreement. The rental price is determined by the independent appraiser. The rental rates for land and buildings used for the establishment of the Company and the Group were assessed. The terms and rates of rental can be comparable to renting to third parties which is Reasonable and necessary.
- Service of O&M and Management between the Group are made under both agreed on service fee which are useful for the Company's operation and are reasonable.
- The Group has entered into an agreement with a related company for the construction of a replacement power plant with a reasonable price by the fair rate which is comparable to other clients. The Company follows the practice of the regulations which related to the Stock Exchange of Thailand (SET) which in this case is considered that it is not "Normal business" (please see "Listed Companies Handbook" in the topic of "Related Transaction) size list more than 1 million baht or more than 0.03% of NTA and the Company need to ask for the resolution from the board of director's or the shareholder's meeting before enter the transaction (depended on transaction value).
- Subsidiaries and associated companies sign solar rooftop power plant construction contracts which are useful for the Company's operation and are reasonable.
- Asset acquisitions from related persons and companies to use for operation are necessary for and benefit the Company and the Group's operation. Conditions and prices of these acquisitions are comparable to acquire from a third party.
- The loans are charged at the interest rate close to the rate borrowed from financial institutions. The interest rates charged on intercompany loans within the Group and all related companies. The interest rate is on average and close to that of a financial institution. These lending are necessary and reasonable and benefit the Company and the Group's operations.

24.3 Summary of Relationship between the Company, Subsidiaries, Joint Ventures and Related Companies/Persons

Company	Symbol	Type of Business	Relationship
Subsidiaries : GUNKUL holding 100% stake			
Gunkul International (Mauritius)	GIM	Overseas Investment	As of December 31, 2020 - GUNKUL was major shareholder of GIM for 100% stake.
Gunkul International Investment (Singapore) Pte. Ltd.	GII	Overseas Investment	As of December 31, 2020 - GIM was major shareholder of GII for 100% stake.
Gunkul Engineering (Myanmar) Co., Ltd.	GKM	Overseas Investment	As of December 31, 2020 - GUNKUL was major shareholder of GKM for 100% stake.
Singapore An Yang Pte. Ltd.	SAY	Overseas Investment	As of December 31, 2020 - BGP was major shareholder of SAY for 100% stake.
Singapore Yun Yang Pte. Ltd.	SYU	Overseas Investment	As of December 31, 2020 - BGP was major shareholder of SYU for 100% stake.
INT Energy Pte. Ltd.	INT	Overseas Investment	As of December 31, 2020 - BGP was major shareholder of INT for 100% stake.
Subsidiaries : GUNKUL invest for 100% stake			
Sendai Okura GD Daiichi Godo Kaisha	GK Sendai	Generating Electrical Power	As of December 31, 2020 - GIM and BGP invested in GK Sendai in total for 100% stake.
Kimitsu Mega Solar Godo Kaisha	GK Kimitsu	Generating Electrical Power	As of December 31, 2020 - GIM and BGP invested in GK Kimitsu in total for 100% stake.
Subsidiaries : GUNKUL holding 99.99% stake			
G.K. Assembly Co., Ltd.	GKA	Manufacturing Electrical Products	As of December 31, 2020 - GUNKUL was major shareholder of GKA for 99.99 % stake. - Shared shareholder between GKA and GUNKUL is Mr.Gunkul Dhumrongpiyawut holding 0.00005% stake in GKA. - Shared directors between GKA and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mrs. Areewan Chaloeandarn.

Company	Symbol	Type of Business	Relationship
G.K.Power Products Co., Ltd.	GKP	Manufacturing Electrical Products	As of December 31, 2020 - GUNKUL was major shareholder of GKP for 99.99% stake. - Shared shareholder between GUNKUL and GKP is Mr.Gunkul Dhumrongpiyawut holding 0.001% stake in GKP. - Shared directors between GKP and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mrs. Areewan Chalabemdan.
K.N.P. Supply Co., Ltd.	KNP	Supplying Electrical Products	As of December 31, 2020 - GUNKUL was major shareholder of KNP for 99.99 % stake. - Shared shareholder between GUNKUL and KNP is Mr. Gunkul Dhumrongpiyawut holding 0.0002% stake in KNP. - Shared director between KNP and GUNKUL is Mr.Chaloempon Sritharoen.
Wind Energy Development Co., Ltd.	WED	Generating Electrical Products	As of December 31, 2020 - GUNKUL was major shareholder of WED for 99.99% stake. - Shared shareholder between GUNKUL and WED is Mr. Gunkul Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.00001% stake in WED. - Shared directors between WED and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut, daughter of Mr. Gunkul Dhamrongpiyawut. - Shared director between WED and GCPG and GPS is Mr. Somboon Aueatchasai.
Greenovation Power Co., Ltd.	GNP	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of GNP for 99.99% stake. - Shared shareholders between GNP and GUNKUL are Mr. Gunkul Dhamrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.00001% stake each in GNP. - Shared director between GNP and GUNKUL is Miss Naruechon Dhumrongpiyawut
Korat Wind Energy Co., Ltd.	KWE	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of KWE for 99.99% stake. - Share shareholders between KWE and GUNKUL are Mr. Gunkul Dhamrongpiyawut and Miss Sopacha Dhumrongpiyawut by holding 0.00001% stake each in KWE. - Shared directors between KWE and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.

Company	Symbol	Type of Business	Relationship
NK Power Solar Co., Ltd.	NKP	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of NKP for 99.99% stake. - Shared shareholder between GUNKUL and NKP is Miss Sopacha Dhumrongpiyawut holding 0.0038% stake in NKP. - Shared directors between NKP, GUNKUL and GPS are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai. - Shared directors between NKP and GCPG are Mr. Somboon Aueatchasai and Mr. Phongsakorn Damnoen.
Gunkul Solar Power Co., Ltd.	GSP	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of GSP for 99.99% stake. - Shared shareholder between GUNKUL and GSP is Mr. Somboon Aueatchasai holding 0.0001% stake in GSP. - Shared director between GSP and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 1 Co., Ltd.	GSP-1	Generating Electrical Power	As of December 31, 2020 - GSP was major shareholder of GSP-1 for 99.99% stake. GUNKUL holds GSP-1 through GSP. - Shared shareholder between GUNKUL and GSP-1 is Mr. Somboon Aueatchasai holding 0.0001% stake in GSP-1. - Shared director between GSP-1 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 2 Co., Ltd.	GSP-2	Generating Electrical Power	As of December 31, 2020 - GSP was major shareholder of GSP-2 for 99.99% stake. GUNKUL holds GSP-2 through GSP. - Shared shareholder between GUNKUL and GSP-2 is Mr. Somboon Aueatchasai holding 0.0001% stake in GSP-2. - Shared director between GSP-2 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 3 Co., Ltd. (Liquidation in Y2018)	GSP-3	Generating Electrical Power	As of December 31, 2020 - GSP was major shareholder of GSP-3 for 99.99% stake. GUNKUL holds GSP-3 through GSP. - Shared director between GSP-3 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 4 Co., Ltd. (Liquidation in Y2018)	GSP-4	Generating Electrical Power	As of December 31, 2020 - GSP was major shareholder of GSP-4 for 99.99% stake. GUNKUL holds GSP-4 through GSP. - Shared director between GSP-4 and GUNKUL is Miss Sopacha Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
Gunkul Solar Power 5 Co., Ltd. (Liquidation in Y2018)	GSP-5	Generating Electrical Power	As of December 31, 2020 - GSP was major shareholder of GSP-5 for 99.99% stake. GUNKUL holds GSP-5 through GSP. - Shared director between GSP-5 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 6 Co., Ltd. (Liquidation in Y2018)	GSP-6	Generating Electrical Power	As of December 31, 2020 - GSP was major shareholder of GSP-6 for 99.99% stake. GUNKUL holds GSP-6 through GSP. - Shared shareholder between GUNKUL and GSP-6 is Mr. Somboon Aueatchasai holding 0.0001% stake in GSP-6. - Shared director between GSP-6 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Bright Green Power Co., Ltd.	BGP	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of BGP for 99.99% stake.
Siam Gunkul Solar Energy Co., Ltd.	SGSE	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of SGSE for 99.99% stake. - Shared shareholder between SGSE and GUNKUL is Mr. Somboon Aueatchasai holding 0.0002% stake in SGSE. - Shared director between SGSE and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Solar Energy Society Co., Ltd.	SES	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of SES for 99.99% stake. - Shared director between SES and GUNKUL is Miss Sopacha Dhumrongpiyawut, Miss Naruechon Dhumrongpiyawut and Mr. Somboon Aueatchasai
Gunkul Solar Roof1 Co., Ltd.	GSR-1	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of GSR-1 for 99.99% stake. - Shared shareholder between GSR-1 and GUNKUL is Mr. Somboon Aueatchasai holding 0.0005% stake in GSR-1. - Shared directors between GSR-1 and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.

Company	Symbol	Type of Business	Relationship
Gunkul Solar Community Co., Ltd.	GSC	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of GSC for 99.99% stake. - Shared shareholders between GSC and GUNKUL are Miss Naruechon Dhumrongpiyawut holding 0.001% stake and Mr. Somboon Aueatchasai holding 0.001% stake in GSC. - Shared directors between GSC and GUNKUL are Miss Sopacha Dhumrongpiyawut, Miss Naruechon Dhumrongpiyawut and Mr. Somboon Aueatchasai. - Share director between GSC and GNP is Miss Naruechon Dhumrongpiyawut.
Gunkul Power Development Co., Ltd.	GPD	Contractor of Power Plant	As of December 31, 2020 - GUNKUL was major shareholder of GPD for 99.99% stake. - Shared shareholder between GPD and GUNKUL is Mr. Somboon Aueatchasai holding 0.0002% stake in GPD. - Shared directors between GPD and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Gunkul Energy Solution and Lighting Co., Ltd.	GES	Producing LED electric bulbs for sale and Contractor to install electricity generation equipment from renewable energy	As of December 31, 2020 - GUNKUL was major shareholder of GES for 99.99% stake. - Shared shareholder between GES and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.0001% stake in GES. - Shared shareholder between GES and GUNKUL is Mr. Somboon Aueatchasai holding 0.0001% stake in GES - Shared directors between GES and GUNKUL are Miss Naruechon Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Future Electrical Control Co., Ltd.	FEC	Contractor	As of December 31, 2020 - GPD was major shareholder of FEC for 99.99% stake by GUNKUL held FEC pass GPD. - Shared shareholders between FEC and GPD are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai holding 0.01% stake in FEC. - Shared director between FEC and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai. - Shared director between FEC and GPD are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.

Company	Symbol	Type of Business	Relationship
Joint Venture GKE & GPD Co., Ltd.	JV GKE&GPD	Manufacture of LED lamps for sale and the contractor for the installation of electricity generation equipment from renewable energy	As of December 31, 2020 - GUNKUL was a shareholder of JV GKE&GPD for 49.99% stake. - GPD is a shareholder of JV GKE & GPD at 49.99% (GUNKUL holds 99.99% of GPD) - JV GKE & GPD has a common shareholder with GPD, namely Miss Sopacha Dhumrongpiyawut and Mr. Phongsakorn Damnoen Which holds 0.00001% in JV GKE & GPD. - Shared director between JV GKE & GPD and GUNKUL are Miss Sopacha Dhumrongpiyawut. - Shared director between JV GKE & GPD and GPD are Miss Sopacha Dhumrongpiyawut
Infinite Alternative Energy Co., Ltd.	IAE	Investing in Generating Electrical Power Business Company	As of December 31, 2020 - GUNKUL was major shareholder of IAE for 99.99% stake. - Shared director between IAE and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut.
Rang Ngern Solution Co., Ltd.	RNS	Generating Electrical Power	As of December 31, 2020 - IAE was major shareholder of RNS for 99.99% stake, GUNKUL held RNS pass IAE - Shared director between RNS and GUNKUL is Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut.
Tri Viet Hoa Binh Joint Stock Company	TVHB	Overseas Investment	As of December 31, 2020 - SAY was major shareholder of TVHB for 99.99% stake.
Bach Khoa A Chau Hoa Binh Joint Stock Company	BKHB	Overseas Investment	As of December 31, 2020 - SYU was major shareholder of BKHB for 100% stake.
Subsidiaries : GUNKUL holding for 99.97% stake			
Gunkul Training Solar Center Co., Ltd.	GTRC	Education Services, Seminar Management, Training management, etc.	As of December 31, 2019 - GUNKUL was major shareholder of GTRC for 99.97% stake. - Shared shareholder between GTRC and GUNKUL is Mr. Somboon Aueatchasai holding 0.01% stake in GTRC. - Shared director between GTRC and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.

Company	Symbol	Type of Business	Relationship
Subsidiaries : GUNKUL holding for 99.95% stake			
Doan Son Thuy Investment Joint Stock Company	DST	Generating Electrical Power	As of December 31, 2020 - GKE was major shareholder of DST for 99.95% stake.
Subsidiaries : GUNKUL holding for 99.94% stake			
Tri Viet Tay Ninh Joint Stock Company	TYTN	Generating Electrical Power	As of December 31, 2020 - TVHB was major shareholder of TYTN for 99.94% stake.
Bach Khoa A Chau Tay Ninh Joint Stock Company	BNTN	Generating Electrical Power	As of December 31, 2020 - BKHB was major shareholder of BNTN for 99.94% stake.
Subsidiaries : GUNKUL holding for 99.70% stake			
Gunkul B2B Co., Ltd	GKB2B	Application and Platform	As of December 31, 2020 - FE was a shareholder of GKB2B for 99.70% stake by GUNKUL was a shareholder of GKB2B though GSP and FE. - Shared director between GKB2B and GUNKUL is Ms. Naruechon Dhumrongpiyawut
Subsidiaries : GUNKUL holding for 99.50% stake			
Tan Chau Nang Luong Joint Stock Company	TCE	Generating0 Electrical Power	As of December 31, 2020 - INT was major shareholder of TCE for 99.50% stake.
Subsidiaries : GUNKUL holding for 99.33% stake			
Future Energy Corporation Co., Ltd	FE	Application and Platform	As of December 31, 2020 - GSP was a shareholder of FE for 99.33% stake by GUNKUL was a shareholder of FE though GSP. - Shared director between FE and GUNKUL is Ms. Naruechon Dhumrongpiyawut
Subsidiaries : GUNKUL holding for 98.97% stake			
Joint Venture GPD and TEECL Co., Ltd.	JV GPD&TEECL	Contractor of Power Plant	As of December 31, 2020 - GPD was a shareholder of JV GPD&TEECL for 98.97% stake by GUNKUL was a shareholder of JV GPD&TEECL though GPD. - Shared director between JV GPD&TEECL and GUNKUL is Ms. Sopacha Dhumrongpiyawut

Company	Symbol	Type of Business	Relationship
Subsidiaries : GUNKUL holding for 95.00% stake			
Joint Venture FEC and PPB Co., Ltd.	JV FEC&PPB	Contractor of Power Plant	As of December 31, 2020 - FEC was a shareholder of JV FEC&PPB for 95.00% stake by GUNKUL was a shareholder of JV FEC&PPB though FEC. - Shared director between JV FEC&PPB and GUNKUL is Mr. Somboon Aueatchasai.
Subsidiaries : GUNKUL holding for 74.99% stake			
Gunkul Infinite Group Co., Ltd.	GIG	Rent, sublease and manage property, generate electricity for sale	As of December 31, 2020 - GUNKUL was a shareholder of GIG for 74.99% stake. - Shared shareholder between GIG and GUNKUL is Mr. Somboon Aueatchasai holding 0.02% stake in GIG. - Shared directors between GIG and GUNKUL are Mr. Somboon Aueatchasai.
Subsidiaries : GUNKUL holding for 74.90% stake			
GO Blo Energy Co., Ltd.	GOB	Investing in Generating Electrical Power Business Company	As of December 31, 2020 - GUNKUL was a shareholder of GOB for 74.90% stake. - Shared shareholder between GOB and GUNKUL is Mr. Phongsakorn Damnoen holding 0.0003% stake in GOB. - Shared directors between GOB and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut.
Outgrow A Co., Ltd. (Liquidation in Y2019)	OGA	Generating Electrical Power	As of December 31, 2020 - GOB was major shareholder of OGA for 99.99% stake, GUNKUL held OGA pass GOB. - Shared shareholder between OGA and GOB is Mr. Phongsakorn Damnoen holding 0.0013% stake in OGA. - Shared directors between OGA and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut. - Shared directors between OGA and GOB are Mr. Somboon Aueatchasai, Miss Naruechon Dhumrongpiyawut and Mr. Phongsakorn Damnoen.

Company	Symbol	Type of Business	Relationship
Outgrow B Co., Ltd. (Liquidation in Y2018)	OGB	Generating Electrical Power	As of December 31, 2020 - GOB was major shareholder of OGB for 99.99% stake, GUNKUL held OGB pass GOB. - Share shareholder between OGB and GOB is Mr. Phongsakorn Damnoen holding 0.0013% stake in OGB. - Shared directors between OGB and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut. - Shared directors between OGB and GOB are Mr. Somboon Aueatchasai, Miss Naruechon Dhumrongpiyawut and Mr. Phongsakorn Damnoen.
Outgrow D Co., Ltd.	OGD	Generating Electrical Power	As of December 31, 2020 - GOB was major shareholder of OGD for 99.99% GUNKUL held OGB pass GOB. - Shared shareholder between OGD and GOB is Mr. Phongsakorn Damnoen holding 0.0013% stake in OGD. - Shared directors between OGD and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut. - Shared directors between OGD and GOB are Mr. Somboon Aueatchasai, Miss Naruechon Dhumrongpiyawut and Mr. Phongsakorn Damnoen.
Outgrow E Co., Ltd. (Liquidation in Y2018)	OGE	Generating Electrical Power	As of December 31, 2020 - GOB was major shareholder of OGE for 99.99% stake, GUNKUL held OGB pass GOB. - Shared shareholder between OGE and GOB is Mr. Phongsakorn Damnoen holding 0.0013% stake in OGE. - Shared directors between OGE and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut. - Shared directors between OGE and GOB are Mr. Somboon Aueatchasai, Miss Naruechon Dhumrongpiyawut and Mr. Phongsakorn Damnoen.

Company	Symbol	Type of Business	Relationship
Outgrow Wood Supply A Co., Ltd. (Liquidation in Y2018)	OGW-A	Related to Power Plant Business	As of December 31, 2020 - GOB was major shareholder of OGW-A for 99.98% stake, GUNKUL held OGW-A pass GOB. - Shared shareholder between OGW-A and GOB is Mr. Phongsakorn Damnoen holding 0.0100% stake in OGW-A. - Shared directors between OGW-A and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut. - Shared directors between OGW-A and GOB are Mr. Somboon Aueatchasai, Miss Naruechon Dhumrongpiyawut and Mr. Phongsakorn Damnoen.
Outgrow Wood Supply B Co., Ltd. (Liquidation in Y2018)	OGW-B	Related to Power Plant Business	As of December 31, 2020 - GOB was major shareholder of OGW-B for 99.98% stake, GUNKUL held OGW-B pass GOB. - Shared shareholder between OGW-B and GOB is Mr. Phongsakorn Damnoen holding 0.0100% stake in OGW-B. - Shared directors between OGW-B and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut - Shared directors between OGW-B and GOB are Mr. Somboon Aueatchasai, Miss Naruechon Dhumrongpiyawut and Mr. Phongsakorn Damnoen.
Subsidiaries : GUNKUL holding for 51% stake			
Eco Thai Energy Co., Ltd.	ECO	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of ECO for 51.00% stake. - Shared directors between ECO and GUNKUL are Miss Naruechon Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Gunkul Myanmar Central Power 1 Co., Ltd.	GMCP-1	Overseas Investment	As of December 31, 2020 - GMP was major shareholder of GMCP-1 for 51.00% stake.
Subsidiaries : GUNKUL holding for 48.98% stake			
BMP Solar Co., Ltd.	BMPS	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of BMPS for 48.98% stake. - Shared director between BMPS and GUNKUL is Miss Naruechon Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
Associated Company and Joint Venture: GUNKUL holding for 51% stake			
Gunkul Chubu Powergen Co., Ltd.	GCPG	Generating Electrical Power	As of December 31, 2020 - GUNKUL was major shareholder of GCPG for 51.00% stake. - GCPG is held by Dhumrongpiyawut family for 0.00005% stake. - Shared director between GCPG and GUNKUL is Mr. Somboon Aueatchasai. - On February 28, 2015. GCPG had sold its shares to Chubu Electric Power G.B. ("CHUBU") for 40.00% stake, sharing control by GUNKUL. - On July 1, 2015. The Board of Committee made an agreement to change the company name from "Gunkun Powergen Co., Ltd. (GPG)" to "Gunkul Chubu Powergen Co., Ltd. (GCPG)"
Associated Company and Joint Venture: GUNKUL holding for 49% stake (Ordinary Shares 49%, Preferred Shared 70%)			
Kenyir Gunkul Solar Sdn Bhd.	Kenyir	Generating Electrical Power	As of December 31, 2020 - GUNKUL is a shareholder of Kenyir in 49.00% of common shares and 70.00% of preferred shares. - Shared director between Kenyir and GUNKUL is Miss Naruechon Dhumrongpiyawut.
Associated Companies and Joint Ventures : GUNKUL holding for 40% stake			
G- Power Source Co., Ltd.	GPS	Generating Electrical Power	As of December 31, 2020 - GUNKUL was a shareholder of GPS for 40.00 % stake. - Shared directors between GPS and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Joint Ventures (No Sharing Control) : GUNKUL holding for 25.01% stake			
WHA Gunkul Green Solar Roof 1 Co., Ltd.	WHA_GSR-1	Generating Electrical Power	As of December 31, 2020 - GUNKUL was a shareholder of WHA_GSR-1 for 25.01% stake. - Shared director between WHA_GSR-1 GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 3 Co., Ltd.	WHA_GSR-3	Generating Electrical Power	As of December 31, 2020 - GUNKUL was a shareholder of WHA_GSR-3 for 25.01% stake. - Shared director between WHA_GSR-3 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 6 Co., Ltd.	WHA_GSR-6	Generating Electrical Power	As of December 31, 2020 - GUNKUL was a shareholder of WHA_GSR-6 for 25.01% stake. - Shared director between WHA_GSR-6 and GUNKUL is Miss Sopacha Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
WHA Gunkul Green Solar Roof 17 Co., Ltd.	WHA_GSR-17	Generating Electrical Power	As of December 31, 2020 - GUNKUL was shareholder of WHA_GSR-17 for 25.01% stake. - Shared director between WHA_GSR-17 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Related Companies			
Gunkul Group Co., Ltd.	GKG	Holding company	- GKG is major shareholder of GUNKUL with 49.97% stake. - GKG is held by Dhumrongpiyawut family at 99.73% stake. - GKG has shared director with GUNKUL which is Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Kulnatee Co., Ltd.	KNT	Marine Transport in Asian Region	- Major shareholder of KNT is Sricharoen family holding 98% stake, Sricharoen family is a family of Miss Sopacha Dhumrongpiyawut
Gunkul Trading & Agency Co., Ltd.	GKT	International Marine Transport	- GKT is held by Dhumrongpiyawut family, major shareholding of GKG, Dhumrongpiyawut family holds 67.00% stake. - Shared director between GKT and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Marine Line Co., Ltd.	GKM	Operating Closed	- GML is held by Dhumrongpiyawut family holding 97.00% stake. - Shared director between GML and GUNKUL is Mr. Gunkul Dhumrongpiyawut.
Gunkul Engineering (2000) Co., Ltd.	GK2000	Rental	- Major shareholders of GK2000 are GKG and Dhumrongpiyawut family holding 100% stake. - Shared director between GK2000 and GUNKUL is Mr. Gunkul Dhumrongpiyawut.
G.M. Supply & Construction Co., Ltd.	GMS	Rental	- GMS is held by Dhumrongpiyawut family holding 98.00% stake. - Shared director between GMS and GUNKUL is Mr. Gunkul Dhumrongpiyawut.
Siam Future Co., Ltd.	SF	Electricity Industry	- Major shareholder of SF is GKG holding 99.97% stake. - Shareholders between SF and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.0001% stake each in SF. - Shared director between SF and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
Happy Green 2558 Co., Ltd.	HPG	Electricity Industry	- Major shareholder of HPG is GKG holding 99.94% stake. - Shareholders between HPG and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each in HPG. - Shared director between HPG and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Tech-Green Co., Ltd. (Liquidation in Y2020)	TG	Electricity Industry	- Major shareholder of TG is GKG holding 99.94% stake. - Shareholders between TG and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each in TG. - Shared director between TG and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Entirety Sap Co., Ltd. (Liquidation in Y2020)	ETS	Electricity Industry	- Major shareholder of ETS is GKG holding 99.94% stake. - Shareholders between ETS and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each in ETS. - Shared director between ETS and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Gunkul Tech Co., Ltd. (Liquidation in Y2020)	GTC	Technology	- Shareholder of GTC is GKG which holding 50.00% stake and Mr. Somboon Aueatchasai holding 0.005% stake. - Shared directors of GTC and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Noppakul Co., Ltd.	NPK	Chattel and Realty	- Major shareholder of NPK is Miss Naruechon Dhumrongpiyawut holding 82.00% stake and Sricharoen family holds 18.00% stake. - Shared director between NPK and GUNKUL is Miss Naruechon Dhumrongpiyawut.
Green Field Energy Co., Ltd.	GF	Real Estate	- Shareholder of GF is GMA which holding 99.99% stake and Mr. Gunkul Dhumrongpiyawut and Ms. Naruechon Dhumrongpiyawut holding 0.00008% stake. - Shared directors of GF and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Ms. Naruechon Dhumrongpiyawut.
P.M. Building Group Co., Ltd.	PMBG	Rental	- Shareholder of PMBG is Ms. Fahmui Trikanjanothai, she is a relative of Mr. Gunkul Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
Great Miracle Asset Co., Ltd.	GMA	Movable and Immovable	- Major shareholder of GMA is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA.
			- Shared directors between GMA and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 2 Co., Ltd.	GMA-2	Movable and Immovable	- Major shareholder of GMA-2 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-2 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-2.
			- Shared directors between GMA-2 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 3 Co., Ltd.	GMA-3	Movable and Immovable	- Major shareholder of GMA-3 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-3 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-3.
			- Shared directors between GMA-3 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 4 Co., Ltd.	GMA-4	Movable and Immovable	- Major shareholder of GMA-4 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-4 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-4.
			- Shared directors between GMA-4 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 5 Co., Ltd.	GMA-5	Movable and Immovable	- Major shareholder of GMA-5 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-5 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-5.
			- Shared directors between GMA-5 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
Great Miracle Asset 7 Co., Ltd.	GMA-7	Movable and Immovable	- Major shareholder of GMA-7 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-7 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-7.
			- Shared directors between GMA-7 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 8 Co., Ltd.	GMA-8	Movable and Immovable	- Major shareholder of GMA-8 is Mr. Gunkul Dhumrongpiyawut holding 99.02% stake.
			- Shareholders between GMA-8 and GUNKUL are Mr. Gunkul Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-8.
			- Shared directors between GMA-8 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 9 Co., Ltd.	GMA-9	Movable and Immovable	- Major shareholder of GMA-9 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-9 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-9.
			- Shared directors between GMA-9 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 10 Co., Ltd.	GMA-10	Movable and Immovable	- Major shareholder of GMA-10 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholders between GMA-10 and GUNKUL are Mr. Gunkul Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-10.
			- Shared directors between GMA-10 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 11 Co., Ltd.	GMA-11	Movable and Immovable	- Major shareholder of GMA-11 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake.
			- Shareholder between GMA-11 and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-11.
			- Shared directors between GMA-11 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 12 Co., Ltd.	GMA-12	Movable and Immovable	- Shared shareholders between GMA-12 and GUNKUL are Mr. Gunkul Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-12.

Company	Symbol	Type of Business	Relationship
Great Miracle Asset 13 Co., Ltd.	GMA-13	Movable and Immovable	- Major shareholder of GMA-13 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake. - Shareholders between GMA-13 and GUNKUL are Mr. Gunkul Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-13. - Shared directors between GMA-13 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Great Miracle Asset 14 Co., Ltd.	GMA-14	Movable and Immovable	- Major shareholder of GMA-14 is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake. - Shareholders between GMA-14 and GUNKUL are Mr. Gunkul Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in GMA-14. - Shared directors between GMA-14 and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Pranburi Boulevard Co., Ltd.	PB	Movable and Immovable	- Major shareholder of PB is Mr. Gunkul Dhumrongpiyawut holding 99.99% stake. - Shareholder between PB and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.000001% stake in PB. - Shared directors between PB and GUNKUL are Mr. Gunkul Dhumrongpiyawut, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Future Energy Corporate Co., Ltd.	FTEC	Application and computer program services	- Major shareholder of FTEC is Miss Naruechon Dhumrongpiyawut holding 74.99% stake. - Shareholder between FTEC and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 74.99% stake in FTEC. - Shared directors between FTEC and GUNKUL is Miss Naruechon Dhumrongpiyawut.
Related Person			
Mr. Gunkul Dhumrongpiyawut	-	Director	- Mr. Gunkul Dhumrongpiyawut and family hold 49.97% stake in GKG which is major shareholder of GUNKUL. He is a Chairman of the Board Directors of GUNKUL.
Miss Sopacha Dhumrongpiyawut	-	Director	- Miss Sopacha Dhumrongpiyawut is Mr. Gunkul Dhumrongpiyawut's wife. She is the Chief Executive Officer (CEO) of GUNKUL.
Miss Naruechon Dhumrongpiyawut	-	Director	- Miss Naruechon Dhumrongpiyawut is Mr. Gunkul Dhumrongpiyawut's daughter. She is a director of GUNKUL.
Mr. Pawich Dhumrongpiyawut	-	Mr. Gunkul Dhumrongpiyawut's son	- Mr. Pawich Dhumrongpiyawut is Mr. Gunkul Dhumrongpiyawut's son.
Mr. Chaloepon Sricharoen	-	Director	- Mr. Chaloepon Sricharoen is Miss Sopacha Dhumrongpiyawut's younger brother. He is a director of GUNKUL.

24.4. Summary of related transaction in 2019 and 2018

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
(1) Sales of goods and rendering of service					
GUNKUL	GKA	Sale of goods	0.90	3.68	GUNKUL sold finished goods to GKA for use in operations at cost plus profit of 5-30%.
		Sale of Properties	0.05	0.01	
		Account receivable	0.02	0.20	
		Other Receivable ¹ (Cash advance)	-	0.01	
		Other Receivable ¹	-	0.18	
GKP		Sale of goods	-	0.10	GUNKUL sold finished goods to GKP for use in operations at cost plus profit of 5-30%.
		Sale of Properties	0.03	-	
		Other Receivable ¹	-	0.05	
		Other Receivable ¹ (Cash advance)	0.34	-	
KNP		Sale of goods	0.26	-	GUNKUL sold finished goods to KNP for use in operations at cost plus profit of 5-30%.
		Account receivable	-	-	
GES		Sale of goods	6.13	0.06	GUNKUL sold finished goods to GES for use in operations at cost price plus profit 5-30%.
		Account receivable	0.51	-	
		Other Receivable ¹ (Cash advance)	0.01	-	
GPD		Sale of goods	305.65	99.13	GUNKUL sold finished goods to GPD for use in operations at cost price plus profit 5-30%. According to the contract mutually agreed.
		Service revenue (S&A)	-	-	
		Service revenue	0.59	-	
		Sale of Properties	-	0.19	
		Account receivable	95.20	85.19	
		Other Receivable ¹	-	1.58	
		Other Receivable ¹ (Cash advance)	0.29	0.08	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
RNS		Sale of goods	0.01	0.58	GUNKUL sold finished goods to RNS for use in operations at cost price plus profit 5-30% according to the contract agreed between the parties.
		Service revenue (S&A)	5.04	5.04	
		Account receivable	-	-	
		Other Receivable	0.45	0.45	
GSR1		Sale of goods	0.05	0.64	GUNKUL sold finished goods to GSR1 for use in operations at cost price plus profit 5-30%.
		Account receivable	-	-	
GPS2		Sale of goods	0.01	-	GUNKUL sold finished goods to GPS2 for use in operations at cost price plus profit 5-30%.
		Account receivable	-	-	
WED		Sale of goods	0.04	0.02	GUNKUL sold finished goods to WED for use in operations at cost price plus profit 5-30%.
		Other Receivable	-	-	
ECO		Management income (S&A service)	0.40	0.39	According to the contract agreed between the parties.
		Sale of Properties	-	-	
		Other Receivable	0.04	0.03	
GNP		Sale of goods	0.01	-	GUNKUL sold finished goods to GNP for use in operations at cost price plus profit 5-30%.
		Sale of Properties	-	0.01	
		Account receivable	0.01	-	
KWE		Sale of goods	0.04	0.04	GUNKUL sold finished goods to KWE for use in operations at cost price plus profit 5-30%.
		Sale of Properties	-	0.01	
		Account receivable	-	-	
		Other Receivable(Cash advance)	-	-	
NK		O&M Service revenue	1.65	1.58	According to the contract agreed between the parties.
		Advance received for O&M service fee	-	-	
		Account receivable	-	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GSC		Sale of goods	0.92	0.57	GUNKUL sold finished goods to GSC for use in operations at cost price plus profit 5-30%.
		Account receivable	0.63	0.21	
SES		Sales revenue	-	1.09	GUNKUL sold finished goods to SES for use in operations at cost price plus profit 5-30%.
		Account receivable	0.01	-	
		Other Receivable(Cash advance)	-	0.03	
		Other Receivable	-	0.50	
JV GKE&FEC		Sale of goods	1.66	-	GUNKUL sold finished goods to JV GKE&FEC for use in operations at cost price plus profit 5-30%.
		Account receivable	-	-	
		Other Receivable(Cash advance)	-	0.30	
GIG		Service revenue (S&A)	0.36	-	GUNKUL sold finished goods to GIG for use in operations at cost price plus profit 5-30%.
		Sale of goods	6.84	-	
		Other receivables from sale of assets	-	-	
		Other Receivable	0.10	-	
"Tri Viet Tay Ninh JSC"		Sale of goods	0.63	-	GUNKUL sold finished goods to Tri viet for use in operations at cost price plus profit 5-30%.
		Account receivable	0.61	-	
FEC		Sale of goods	30.79	1.19	GUNKUL sold finished goods to FEC for use in operations at cost price plus profit 5-30%.
		Sale of Properties	-	0.01	
		Account receivable	19.57	0.13	
		Other Receivable(Cash advance)	0.06	-	
GPS BMPS		Sale of goods	-	0.39	GUNKUL sold finished goods to GPS for use in operations at cost price plus profit 5-30%.
		Sale of goods	-	0.31	
		Account receivable	-	0.23	
BGP		Other Receivable(Cash advance)	0.10	-	GUNKUL sold finished goods to BMPS for use in operations at cost price plus profit 5-30%.

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GCPG		Sale of goods	0.38	-	GUNKUL sold finished goods to GCPG for use in operations at cost price plus profit 5-30%. According to the contract mutually agreed.
		S&A Service revenue	5.53	5.31	
		Other Receivable	0.49	0.47	
DST		Account receivable	331.76	-	
GKA	GKP	Sale of goods	37.07	35.91	GKA sold finished goods to GKP for use in operations at cost price plus profit 5-30%.
		Service revenue	7.59	-	
		Account receivables	24.63	4.90	
GES		Sale of goods	0.52	0.14	GKA sold finished goods to GES for use in operations at cost price plus profit 5-30%.
GPD		Sale of goods	6.99	2.20	GKA sold finished goods to GPD for use in operations at cost price plus profit 5-30%.
		Account receivables	0.01	0.01	
FEC		Sale of goods	1.76	1.77	GKA sold finished goods to FEC for use in operations at cost price plus profit 5-30%.
		Account receivables	0.38	0.12	
NK		Sale of goods	-	0.13	GKA sold finished goods to NK for use in operations at cost price plus profit 5-30%.
		Account receivable	-	0.13	
GSC		Sale of goods	0.11	-	GKA sold finished goods to GSC for use in operations at cost price plus profit 5-30%.
GCPG		Sale of goods	0.24		GKA sold finished goods to GCPG for use in operations at cost price plus profit 5-30%.
		Account receivable	0.26		
GKP	GPD	Sale of goods	4.23	2.61	GKP sold finished goods to GPD for use in operations at cost price plus profit 5-30%.
		Service revenue	0.19	-	
		Account receivables	4.53		
RNS		Sale of goods	-	0.21	GKP sold finished goods to RNS for use in operations at cost price plus profit 5-30%.
FEC		Sale of goods	0.02	0.59	GKP sold finished goods to FEC for use in operations at cost price plus profit 5-30%.
		Account receivables	0.02	-	

Company	Related Companies	Type of Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GPD	GCPG	Sale of goods	0.02	0.98	GKP sold finished goods to GCPG for use in operations at cost price plus profit 5-30%.
		Account receivables	-	1.05	
	FNC	Service revenue	0.07	-	GKP sold finished goods to FNC for use in operations at cost price plus profit 5-30%.
	ECO	O&M Service revenue	2.50	2.50	According to the contract agreed between the parties.
		O&M Deferred income	-	-	
	BMPS	O&M Service revenue	0.10	0.10	According to the contract agreed between the parties.
		O&M Deferred income	0.03	0.03	
	SES	Construction revenue	367.49	161.89	According to the contract agreed between the parties.
		O&M Service revenue	1.11	0.30	
		Account receivables	7.50	15.73	
		Accrued revenue	80.51	37.77	
		Advance payment	11.31	18.62	
		Construction Deferred income	0.06	-	
		O&M Deferred income	0.15	-	
	RNS	O&M Service revenue	59.39	57.91	According to the contract agreed between the parties.
		Sale of goods	-	0.06	
		Account receivables	-	0.07	
		O&M Accrued service fee	1.59	1.26	
		O&M Deferred income	2.03	4.13	
	FEC	Sale of goods	0.02	0.13	GPD sold finished goods to FEC for use in operations at cost price plus profit 5-30%.
	GPS	O&M Service revenue	44.46	26.40	According to the contract agreed between the parties.
		Sale of goods	-	0.01	
		O&M Accrued service fee	1.59	1.59	
		O&M Deferred income	1.30	1.23	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GCPG		O&M Service revenue	23.03	23.03	According to the contract agreed between the parties.
		O&M Accrued service fee	0.19	0.19	
		O&M Deferred income	3.13	3.13	
WHA_GSR-1		O&M Service revenue	-	0.32	According to the contract agreed between the parties.
WHA_GSR-3		O&M Service revenue	-	0.41	According to the contract agreed between the parties.
WHA_GSR-6		O&M Service revenue	0.39	0.41	According to the contract agreed between the parties.
WHA_GSR-17		O&M Service revenue	-	0.49	According to the contract agreed between the parties.
GES		Sale of goods	0.32	-	GPD sold finished goods to GES for use in operations at cost price plus profit 5-30%.
GSC		Sale of goods	0.04	0.60	GPD sold finished goods to GSC for use in operations at cost price plus profit 5-30%.
		Account receivables	-	0.28	
GIG		Construction income	15.18	-	According to the contract agreed between the parties.
		Accrued revenue	1.52	-	
FEC	GNP	Sale of goods	0.63	-	FEC sold finished goods to GNP for use in operations at cost price plus profit 5-30%.
JV GKE&FEC		Sale of goods	4.21	-	FEC sold finished goods to JV GKE&FEC for use in operations at cost price plus profit 5-30%.
		Account receivables	-	1.47	
		Other Receivable	4.81	7.40	
KWE		Sale of goods	0.63	-	FEC sold finished goods to KWE for use in operations at cost price plus profit 5-30%.
SES	GSC	Other Income	0.12	2.38	According to the contract agreed between the parties.
		Other Receivable	-	1.83	
GES	SES	Construction income	72.82	-	According to the contract agreed between the parties.
		Accrued revenue	15.51	-	
		Advance payment	1.37	-	

Company	Related Companies	Type of Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
BGP	KGS	Service revenue Other Receivable	32.30 68.21	- -	According to the contract agreed between the parties.
(2) Purchasing and receiving services					
GUNKUL	GKA	Purchase of goods	107.78	254.18	GUNKUL bought finished goods from GKA for use in operations at cost price plus profit 5-30%.
		Account payables	25.65	54.91	
	GKP	Purchase of goods	278.40	254.64	GUNKUL bought finished goods from GKP for use in operations at cost price plus profit 5-30%.
		Account payables	44.39	93.07	
	KNP	Purchase of goods	0.26	-	GUNKUL bought finished goods from KNP for use in operations at cost price plus profit 5-30%.
	GES	Purchase of goods	0.76	0.76	GUNKUL bought finished goods from GES for use in operations at cost price plus profit 5-30%.
		Accounts payable	-	0.41	
	GPD	Purchase of goods	-	0.25	GUNKUL bought finished goods from GPD for use in operations at cost price plus profit 5-30%.
		Other payables	-	0.03	
	GSC	Purchase of goods	-	0.04	GUNKUL bought finished goods from GSC for use in operations at cost price plus profit 5-30%.
	FEC	Purchase of goods	-	0.02	GUNKUL bought finished goods from FEC for use in operations at cost price plus profit 5-30%.
		Creditor of retention	-	1.76	
	GTRC	Training Fee	0.44	1.61	According to the contract agreed between the parties.
		Other payables	0.14	0.05	
	GKT	Purchase of goods	-	0.01	GUNKUL bought finished goods from GKT for use in operations at cost price plus profit 5-30%.
	GKA	Purchase of goods	0.43	4.02	GKA bought finished goods from GKP for use in operations at cost price plus profit 5-30%.
		Account payables	0.01	0.44	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GES		Purchase of goods	0.06	0.90	GKA bought finished goods from GES for use in operations at cost price plus profit 5-30%.
		Accounts payable	0.01	0.01	
		Purchase of properties	0.03	-	
		Purchase of properties	-	0.01	
GTRC		Training Fee	0.18	0.99	According to the contract agreed between the parties.
		Purchase of properties	0.01	-	
		Other payables	0.01	-	
GKP		Purchase of goods	1.31	-	GKP bought finished goods from GES for use in operations at cost price plus profit 5-30%.
		Training Fee	0.06	0.22	
		Other payables	0.02		
WED		Training Fee	0.02	0.04	According to the contract agreed between the parties.
		Other payables	0.01		
GPD		Purchase of goods and services	2.15	0.05	GPD bought finished goods from FEC for use in operations at cost price plus profit 5-30%
		Account payables	0.45	0.12	
		Creditor of retention	-	0.23	
GES		Account payables	1.05	-	GPD bought finished goods from GES for use in operations at cost price plus profit 5-30%
		Purchase of goods and services	0.81	-	
		Training Fee	0.09	0.60	
		Other payables	0.05	-	
FEC		Creditor of retention	-	0.44	According to the contract agreed between the parties.
		Training Fee	0.01	-	
		Other payables	0.01	-	
GTRC		Training Fee	0.02	-	According to the contract agreed between the parties.
		Other payables	0.01	-	
KWE		Training Fee	0.01	-	According to the contract agreed between the parties.
		Other payables	0.01	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
ECO	GTRC	Training Fee	0.01	-	According to the contract agreed between the parties.
		Other payables	0.01	-	
GES	GTRC	Training Fee	0.04	0.06	According to the contract agreed between the parties.
		Other payables	0.01	-	
FEC	GTRC	Training Fee	0.28	0.42	According to the contract agreed between the parties.
		Other payables	0.03	-	
	GES	Purchase of goods and services	-	1.19	FEC bought finished goods from GES for use in operations at cost price plus profit 5-30%
GSP2	GTRC	Training Fee	-	0.01	According to the contract agreed between the parties.
GCPG	GTRC	Training Fee	-	0.01	According to the contract agreed between the parties.
GKT	GTRC	Training Fee	-	0.06	According to the contract agreed between the parties.
		Other payables	-	0.01	
BGP	GTRC	Training Fee	0.01	0.06	According to the contract agreed between the parties.
GSC	GTRC	Training Fee	0.01	0.04	According to the contract agreed between the parties.
BMPS	GTRC	Training Fee	0.01	0.02	According to the contract agreed between the parties.
SES	GSC	Purchase of properties	-	0.37	According to the contract agreed between the parties.
		Assets payable	1.10	-	According to the contract agreed between the parties.
	GTRC	Training Fee	0.01	-	According to the contract agreed between the parties.
		Other payables	0.01	-	
GMA	GTRC	Training Fee	0.01	-	According to the contract agreed between the parties.
(3) Purchase-disposal of assets and rental fees					
GUNKUL	NK	Rental income	0.23	0.23	The rental price is based on the market price or the fair price based on the
		Accrued rental income	0.28	0.24	appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GSR1		Rental income	0.02	0.02	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rights of use assets	8.88	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Lease liabilities	8.88	-	
GMA		Rental	3.12	3.12	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rights of use assets	6.29	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Lease liabilities	6.29	-	
GMA-2		Rental	2.21	2.21	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rights of use assets	3.13	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Lease liabilities	3.13	-	
GMA-8		Rental	1.10	1.10	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rights of use assets	1.10	1.10	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Lease liabilities	1.10	1.10	
GKA	GKP	Rental Income	-	0.41	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rental Income	-	0.41	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rental Income	-	0.41	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GSR-1		Rental Income	0.12	0.12	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Accrued rental income	0.01	0.01	
		Rights of use assets	2.46	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Lease liabilities	2.46	-	
		Amortization - Right-of-Use Assets	0.80	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Interest Payable - Liabilities under the lease agreement	0.02	-	
GMA-9		Rental	-	0.84	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rights of use assets	1.98	-	
		Lease liabilities	1.98	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Amortization - Right-of-Use Assets	0.65	-	
		Interest Payable - Liabilities under the lease agreement	0.01	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rental	-	0.68	
GKA		Rental income	0.79	0.20	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Accrued rental income	-	0.07	
		Rights of use assets	0.79	0.20	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Lease liabilities	-	-	
		Amortization - Right-of-Use Assets	-	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Interest Payable - Liabilities under the lease agreement	-	-	
GES		Rental	-	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rights of use assets	-	-	
		Lease liabilities	-	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Amortization - Right-of-Use Assets	-	-	
		Interest Payable - Liabilities under the lease agreement	-	-	The rental price is based on the market price or the fair price based on the appraised value of an independent appraiser. In this regard, the conditions of the agreement are in accordance with the normal conditions that can be compared with the transactions with other unrelated persons.
		Rental	-	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
(4) Financial Support					
GUNKUL	GPD	Short-term loans			GUNKUL lent money to GPD for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.65-2.73% per year. The interest rates are mutually agreed.
		Early repayment loan	117.07	57.07	
		Loans during the period	-	93.70	
		Payment received	(117.07)	(33.70)	
		Balance	-	117.07	
		Interest received	1.66	2.00	
		Accrued interest receivable	-	1.96	
	GES	Short-term loans			GUNKUL lent money to GES for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.60-3.13% per year. The interest rates are mutually agreed.
		Early repayment loan	34.34	54.00	
		Loans during the period	-	-	
		Payment received	(34.34)	(19.66)	
		Balance	-	34.34	
		Interest received	0.34	1.55	
		Accrued interest receivable	-	0.02	
		Short-term loans			GUNKUL borrowed money from GES for the purpose of doing business by issuing promissory note with mutually agreed charged interest.
		Early repayment loan	-	-	
		Loans during the period	10.00	-	
		Pay back	-	-	
		Balance	10.00	-	
		Interest Expenses	-	-	
		Accrued Expenses	-	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020	2019	
			(Million baht)	(Million baht)	
BGP		<u>Short-term loans</u>			GUNKUL lent money to BGP for the purpose of doing business by issuing promissory note with charged interest at the rate of 3.00% per year. The interest rates are mutually agreed.
		Early repayment loan	603.38	43.83	
		Loans during the period	2,368.88	559.56	
		Payment received	(2,021.09)	-	
		Balance	951.17	603.38	
		Interest received	3.94	4.55	
		Accrued interest receivable	0.31	4.48	
		<u>Short-term loans</u>			GUNKUL borrowed money from BGP for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.11% per year. The interest rates are mutually agreed.
		Early repayment loan	-	-	
		Loans during the period	10.00	-	
		Pay back	-	-	
		Balance	10.00	-	
		Interest Expenses	-	-	
		Accrued Expenses	-	-	
GIM		<u>Short-term loans</u>			GUNKUL lent money to GIM for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.20% per year. The interest rates are mutually agreed.
		Early repayment loan	-	-	
		Loans during the period	1,321.73	-	
		Payment received	-	-	
		Difference from exchange rate change	(6.07)	-	
		Balance	1,315.65	-	
		Interest received	0.87	-	
Accrued interest receivable	0.87	-			

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
		<u>Short-term loans</u>			GUNKUL borrowed money from GIM for the purpose of doing business with no interest charge between them.
		Early repayment loan	193.54	349.63	
		Loans during the period	1,065.00	-	
		Pay back	(1,272.77)	(141.29)	
		Difference from exchange rate change	14.23	(14.80)	
		Balance	-	193.54	
		Interest Expenses	-	-	
BMPS		<u>Short-term loans</u>			GUNKUL lent money to BMPS for the purpose of doing business by issuing promissory note with charged interest at the rate of 3.01% per year. The interest rates are mutually agreed.
		Early repayment loan	368.48	388.48	
		Loans during the period	-	-	
		Payment received	(23.56)	(20.00)	
		Balance	344.93	368.48	
		Interest received	13.41	14.18	
		Accrued interest receivable	0.25	0.60	
GNP		<u>Short-term loans</u>			GUNKUL lent money to GNP for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.80-3.27% per year. The interest rates are mutually agreed.
		Early repayment loan	-	132.00	
		Loans during the period	-	-	
		Payment received	-	(132.00)	
		Balance	-	-	
		Interest received	-	2.36	
		Accrued interest receivable	-	-	
GSP		<u>Short-term loans</u>			GUNKUL borrowed money from GSP for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.85% per year. The interest rates are mutually agreed.
		Early repayment loan	80.00	80.00	
		Loans during the period	41.00	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020	2019	
			(Million baht)	(Million baht)	
SES		Pay back	(11.00)	-	GUNKUL lent money to SES for the purpose of doing business by issuing promissory note with charged interest at the rate of 2.77% per year. The interest rates are mutually agreed.
		Balance	110.00	80.00	
		Interest Expenses	2.28	2.28	
		Accrued Expenses	0.20	0.06	
		<u>Short-term loans</u>			
		Early repayment loan	40.00	-	
		Loans during the period	491.00	40.00	
		Payment received	(31.00)	-	
		Balance	500.00	40.00	
		Interest received	7.28	0.07	
		Accrued interest receivable	6.56	0.07	
		<u>Short-term loans</u>			
	Early repayment loan	-	54.00		
	Loans during the period	-	-		
	Pay back	-	(54.00)		
	Balance	-	-		
	Interest Expenses	-	0.79		
	Accrued Expenses	-	-		
	<u>Short-term loans</u>			GUNKUL lent money to KWE for the purpose of doing business with charged interest at the rate of 2.67 -2.98% per year. The interest rates are mutually agreed.	
	Early repayment loan	-	1,069.07		
	Loans during the period	-	-		
	Pay back	-	(1,069.07)		
	Balance	-	-		
	Interest received	-	12.33		
	Accrued interest receivable	-	-		

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
FEC		Short-term loans			GUNKUL lent money to FEC for the purpose of doing business with charged interest at the rate of 2.51% per year. The interest rates are mutually agreed.
		Early repayment loan	-	10.00	
		Loans during the period	-	-	
		Payment received	-	(10.00)	
		Balance	-	-	
		Interest received	-	0.01	
		Accrued interest receivable	-	-	
		Short-term loans			GUNKUL borrowed money from FEC for the purpose of doing business with an interest at the rate of 2.50% per year, which is in accordance with the mutual agreement.
		Early repayment loan	-	-	
		Loans during the period	200.00	-	
		Pay back	(200.00)	-	
		Balance	-	-	
		Interest Expenses	1.14	-	
		Accrued Expenses	-	-	
KGS		Short-term loans			GUNKUL lent money to KGS for the purpose of doing business with charged interest at the rate of 3.50% per year. The interest rates are mutually agreed.
		Early repayment loan	169.93	-	
		Loans during the period	-	169.93	
		Payment received	(169.93)	-	
		Balance	-	169.93	
		Interest received	0.34	0.90	
		Accrued interest receivable	-	0.90	
KNP		Short-term loans			GUNKUL borrowed money from KNP for the purpose of doing business with an interest at the rate of 2.65% per year, which is in accordance with the mutual agreement.
		Early repayment loan	12.77	-	
		Loans during the period	-	50.00	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GSC		Pay back	(4.77)	-37.24	GUNKUL lent money to GSC for the purpose of doing business with charged interest at the rate of 2.62% per year. The interest rates are mutually agreed.
		Balance	8.00	12.77	
		Interest Expenses	0.30	0.35	
		Accrued Expenses	0.01	0.01	
		Short-term loans			
		Early repayment loan	-	-	
		Loans during the period	-	0.50	
		Payment received	-	(0.50)	
		Balance	-	-	
		Interest received	-	-	
		Accrued interest receivable	-	-	GUNKUL borrowed money from GSC for the purpose of doing business with an interest at the rate of 2.11% per year, which is in accordance with the mutual agreement.
		Short-term loans			
		Early repayment loan	-	-	
		Loans during the period	7.00	-	
		Pay back	-	-	
		Balance	7.00	-	
		Interest Expenses	-	-	
		Accrued Expenses	-	-	
		Short-term loans			
		Early repayment loan	-	-	
FAM		Loans during the period	57.64	-	GUNKUL borrowed money from FAM for the purpose of doing business with an interest at the rate of 2.20% per year, which is in accordance with the mutual agreement.
		Pay back	-	-	
		Difference from exchange rate change	(0.26)	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
DST		Balance	57.38	-	GUNKUL lent money to DST for the purpose of doing business with no interest charge between them.
		Interest Expenses	0.04	-	
		Accrued Expenses	0.04	-	
		<u>Short-term loans</u>			
		Early repayment loan	-	-	
		Loans during the period	90.29	-	
		Payment received	-	-	
IAE		Difference from exchange rate change	(0.69)	-	GUNKUL borrowed money from IAE for the purpose of doing business with an interest at the rate of 2.14% per year, which is in accordance with the mutual agreement.
		Balance	89.60	-	
		Interest received	-	-	
		Accrued interest receivable	-	-	
		<u>Short-term loans</u>			
		Early repayment loan	-	-	
		Loans during the period	17.00	-	
SGSE		Pay back	-	-	GUNKUL borrowed money from SGSE for the purpose of doing business with an interest at the rate of 2.14% per year, which is in accordance with the mutual agreement.
		Balance	17.00		
		Interest Expenses	0.04	-	
		Accrued Expenses	0.04	-	
		<u>Short-term loans</u>			
		Early repayment loan	-	-	
		Loans during the period	16.00	-	
		Pay back	(1.00)	-	
		Balance	15.00	-	
		Interest Expenses	0.04	-	
		Accrued Expenses	0.02	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GSR1		<u>Short-term loans</u>			GUNKUL borrowed money from GSR1 for the purpose of doing business with an interest at the rate of 2.11% per year, which is in accordance with the mutual agreement.
		Early repayment loan	-	-	
		Loans during the period	5.00	-	
		Pay back	-	-	
		Balance	5.00	-	
		Interest Expenses	-	-	
GPD	GSP1	Accrued Expenses	-	-	GPD short-term loans from GSP1 for use as working capital by issuing promissory note with charged interest at the rate of 2.87% per year. The interest rates are mutually agreed.
		<u>Short-term loans</u>			
		Early repayment loan	15.00	15.00	
		Loans during the period	-	-	
		Pay back	(8.00)	-	
		Balance	7.00	15.00	
GSP2		Interest Expenses	0.33	0.43	GPD short-term loans from GSP2 for use as working capital by issuing promissory note with charged interest at the rate of 2.87% per year. The interest rates are mutually agreed.
		Accrued Expenses	-	0.11	
		<u>Short-term loans</u>			
		Early repayment loan	17.00	17.00	
		Loans during the period	-	-	
		Pay back	(8.00)	-	
FEC		Balance	9.00	17.00	GPD short-term loans from FEC for use as working capital by issuing promissory note with charged interest at the rate of 1.90% per year. The interest rates are mutually agreed.
		Interest Expenses	0.39	0.49	
		Accrued Expenses	-	0.12	
		<u>Short-term loans</u>			
		Early repayment loan	-	-	
		Loans during the period	40.00	-	

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
GSP	GSP1	Pay back	(40.00)	-	GSP short-term loans from GSP1 for use as working capital by issuing promissory note with charged interest at the rate of 2.14% per year. The interest rates are mutually agreed.
		Balance	-	-	
		Interest Expenses	0.26	-	
		Accrued Expenses	-	-	
		Short-term loans			
		Early repayment loan	-	-	
		Loans during the period	13.00	-	
		Pay back	-	-	
		Balance	13.00	-	
		Interest Expenses	0.03	-	
		Accrued Expenses	0.03	-	
	GSP2	Short-term loans			GSP short-term loans from GSP2 for use as working capital by issuing promissory note with charged interest at the rate of 2.14% per year. The interest rates are mutually agreed.
		Early repayment loan	-	-	
		Loans during the period	18.00	-	
		Pay back	-	-	
		Balance	18.00	-	
		Interest Expenses	0.05	-	
		Accrued Expenses	0.05	-	
(5) Other items					
GUNKUL	GKP	Dividend income	-	15.00	GUNKUL received dividends from GKP in accordance with the resolution of the Board of Directors' Meeting from the amount of 99,998 shares held (par value of 1,000.00 baht per share). In the year 2019, the total dividend that received was 15 million baht. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
KNP		Dividend income	-	0.70	GUNKUL received dividends from KNP in accordance with the resolution of the Board of Directors' Meeting from the amount of 499,998 shares held (par value of 100.00 baht per share). In the year 2019, a total dividend of 0.70 million baht has been received. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
GPS		Dividend income	61.94	48.77	GUNKUL received dividends from GPS in accordance with the resolution of the Board of Directors' Meeting from the amount of 3,719,998 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 61.94 million baht and 48.77 million baht, respectively.
		Dividends receivable	106.76	115.80	
GCPG		Dividend income	134.57	131.59	GUNKUL received dividends from GCPG in accordance with the resolution of the Board of Directors' Meeting from the amount of 5,059,195 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 134.57 million baht and 131.59 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
WHA_GSR-1		Dividend income	0.16	0.14	GUNKUL received dividends from WHA_GSR-1 in accordance with the resolution of the annual general meeting of shareholders from the amount of 287,615 shares held (par value of 10.00 baht per share). In the year 2020 and 2019, the total dividend that received was 0.16 million baht and 0.14 million baht, respectively.
WHA_GSR-3		Dividend income	0.42	0.36	GUNKUL received dividends from WHA_GSR-3 in accordance with the resolution of the annual general meeting of shareholders from the amount of 362,645 shares held (par value of 10.00 baht per share). In the year 2020 and 2019, the total dividend that received was 0.42 million baht and 0.36 million baht, respectively.

Company	Related Companies	Type of Transaction	Size (Million baht)		Reason and Necessity
			2020	2019	
	WHA_GSR-6	Dividend income	0.42	0.36	GUNKUL received dividends from WHA_GSR-6 in accordance with the resolution of the annual general meeting of shareholders from the amount of 362,645 shares held (par value of 10.00 baht per share). In the year 2020 and 2019, the total dividend that received was 0.42 million baht and 0.36 million baht, respectively.
	WHA_GSR-17	Dividend income	0.48	0.74	GUNKUL received dividends from WHA_GSR-17 in accordance with the resolution of the annual general meeting of shareholders from the amount of 400,160 shares held (par value of 10.00 baht per share). In the year 2020 and 2019, the total dividend that received was 0.48 million baht and 0.74 million baht, respectively.
	GSR-1	Dividend income	-	1.20	GUNKUL received dividends from GSR-1 in accordance with the resolution of the annual general meeting of shareholders from the amount of 209,997 shares held (par value of 10.00 baht per share). In the year 2019, the total dividend that received was 1.20 million baht. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
	IAE	Dividend income	232.88	80.69	GUNKUL received dividends from IAE in accordance with the resolution of the Board of Directors' Meeting from the amount of 10,478,799 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 232.88 million baht and 80.69 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
	NK	Dividend income	9.00	11.00	GUNKUL received dividends from NK in accordance with the resolution of the Board of Directors' Meeting and the annual general meeting of shareholders which the Company holds 2,940 preferred shares in accordance with the regulations of the preferred shareholders that will receive dividends before ordinary shareholders at the rate of 99% of all dividends. In the year 2020 and 2019, the total dividend that

Company	Related Companies	Type of Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
					received was 9.00 million baht and 11.00 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
	SGSE	Dividend income	4.12	8.59	GUNKUL received dividends from SGSE in accordance with the resolution of the Board of Directors' Meeting from the amount of 408,997 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 4.12 million baht and 8.59 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
	WED	Dividend income	148.84	200.02	GUNKUL received dividends from WED in accordance with the resolution of the Board of Directors' Meeting and the annual general meeting of shareholders from the amount of 157,499,987 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 148.84 million baht and 200.02 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
	ECO	Dividend income	5.40	4.83	GUNKUL received dividends from ECO in accordance with the resolution of the Board of Directors' Meeting and the annual general meeting of shareholders from the amount of 390,150 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 5.40 million baht and 4.83 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.

Company	Related Companies	Type o Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
BMPS		Dividend income	25.30	26.00	GUNKUL received dividends from BMPS in accordance with the resolution of the Board of Directors' Meeting and the annual general meeting of shareholders which the Company holds 48,010 preferred shares in accordance with the regulations of the preferred shareholders that will receive dividends before ordinary shareholders at the rate of 99% of all dividends. In the year 2020 and 2019, the total dividend that received was 25.30 million baht and 26 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
GNP		Dividend income	307.39	629.64	GUNKUL received dividends from GNP in accordance with the resolution of the Board of Directors' Meeting from the amount of 148,499,998 shares held (par value of 10.00 baht per share). In the year 2020 and 2019, the total dividend that received was 307.39 million baht and 629.64 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
GTRC		Dividend income	-	3.00	GUNKUL received dividends from GTRC in accordance with the resolution of the Board of Directors' Meeting from the amount of 99,997 shares held (par value of 100.00 baht per share). In the year 2019, the total dividend that received was 3.00 million baht. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
KWE		Dividend income	946.82	-	GUNKUL received dividends from KWE in accordance with the resolution of the Board of Directors' Meeting from the amount of 1,070,000 shares held (par value of 100.00 baht per share). In the year 2020, the total dividend that received was 946.82 million baht. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.

Company	Related Companies	Type of Transaction	Size		Reason and Necessity
			2020 (Million baht)	2019 (Million baht)	
	GIM	Dividend income	699.45	-	GUNKUL received dividends from GIM in accordance with the resolution of the Board of Directors' Meeting from the amount of 72,796,063 shares held (par value of USD 1.00 per share). In the year 2020, the total dividend that received was 699.45 million baht. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
IAE	RNS	Dividend income	170.32	201.62	IAE received dividends from RNS in accordance with the resolution of the Board of Directors' Meeting and the annual general meeting of shareholders from the amount of 13,549,997 shares held (par value of 100.00 baht per share). In the year 2020 and 2019, the total dividend that received was 170.32 million baht and 201.62 million baht, respectively. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.
GSP	GSP-2	Dividend income	-	1.60	GSP received dividends from GSP-2 in accordance with the resolution of the Board of Directors' Meeting from the amount of 999,997 shares held (par value of 100.00 baht per share). In the year 2019, the total dividend that received was 1.60 million baht. The payment of dividends shall be made within one month from the date of resolution to be in accordance with the law.

24.5 Policy and procedure of related transaction approval

Related transaction between the Company and its subsidiaries and related companies/person depend on reason, necessity and benefit to the Company as a whole. Price has to be fair or equivalent to normal business condition and in compliance with Securities and Exchange Act and other related rules and regulations. The Company sets procedures and steps of approving such related transactions by not allowing management or related persons who have conflict of interest in that transaction to participate in the approval process. In case this transaction involves related person who may have conflict of interest, or might happen in the future. A management division may propose the transaction to the board of directors or shareholders meeting for approval depend on size list.

In case of a transaction with a person which may cause the conflict of interest, the Board of Directors has set up the policy to ensure the transparency and justice equally for all shareholders based on the following principles;

- The transaction shall gain the approval from the Directors and Executives with the careful, honest and transparent consideration, by which the interested person does not participate in the decision.
- The transaction is conducted with consideration of the Company's benefits like the transaction with the outsider.
- The Company establishes the monitoring and following-up system to ensure that the transaction is in compliance with the process.
- The transaction information is disclosed completely and correctly in the proper time.

The Company's policy on the transaction categorizes the transactions as follows;

- The regular business and regular business promotion between the Company and its subsidiaries / affiliates and Directors, Executives or the related person which gains the approval in principles from the Board of Directors shall be conducted by the Management, if the transaction has the trade agreement in the manner that the respectable person would agree with his counterpart in the same situation with the trade bargain leverage not influenced by the fact that he is the Director, Executive or the related person.

The Company shall make the transaction summary report to propose in the meeting of the Audit Committee and the meeting of the Board of Directors every quarter.

- Other transactions aside from the above-mentioned regular business and regular business promotion such as the short-term rent or lease of immovable property, transaction in relation to the asset or service (for example the investment or sale of the financial investment in the business) or the offer or reception of the financial assistance.

The Company's policy specifies the approval authority in compliance with the principle of Stock Exchange of Thailand.

The Company shall make the transaction summary report to propose in the meeting of the Audit Committee and the meeting of the Board of Directors every quarter.

The Board of Directors shall comply with the Securities and Exchange Act B.E. 2535, regulations, notifications, orders or requirements of Stock Exchange of Thailand. Additionally, it shall comply with regulations regarding the related transaction and the gain / disposal of the key assets of the Company or its subsidiaries / affiliates, so that the transaction does not bring about the conflict of interest and cause the utmost benefits for all shareholders. In this regard, the Company shall disclose the details of transactions in the annual information declaration (Form 56-1), the Company's annual report and the notes to financial statement which shall be audited by the Company's auditors.

24.6 Policy and trend to do related transactions in the future

1. Trend of related transactions with persons with possible conflict of interest

- Business of producing, supplying and selling electrical and energy-saving products, The Company continues to conduct related transactions with its subsidiaries for product trading, asset trading, financial support including guaranteeing credit facilities for subsidiaries. Also, the use of the subsidiary's assets to guarantee the credit facilities of the Company.
- Business of production and distribution of electricity from renewable energy, the Company continues to conduct related transactions with its subsidiaries, associated companies and joint ventures for the sale of products, power plant maintenance service, asset trading, financial support. This is also including the guarantee of credit facilities for the subsidiary and the use of the subsidiary's assets to guarantee the credit facilities of the Company.
- Business of construction and system work, the Company continues to conduct related transactions with its subsidiaries for selling products, construction service and system contractor, financial support. This is also including the guarantee of credit facilities for the subsidiary and the use of the subsidiary's assets to guarantee the credit facilities of the Company.
- Business of foreign investment and project of foreign investment, the Company continues to conduct related transactions with subsidiaries and projects continuously for providing financial support.
- The Company and the Group have leased real estate and movable properties for using in business operations from the group of companies with mutual directors.

2. Policy on related transactions in the future

The Company has a policy on related transactions by set up a normal practical business terms, set up a market price which can compare with a price from outsider and comply with the law or the principle of Stock Exchange of Thailand including, regulations, notifications, orders or requirements. The Company sets measures and procedures of approving such related transactions by not allowing management or related persons who have conflict of interest in that transaction to participate in the approval process. In case this transaction involves related person who may have conflict of interest, or might happen in the future. A management division may propose the transaction to the board of directors or shareholders meeting for approval depend on size list. In purpose to comply with a policy and a table of approval authority, which set up to be a guideline for proceeding the matter and for ensuring the transparency.

The Company will comply with regulations about disclosure of related transactions as well as make the transaction summary report to propose in the meeting of the Audit Committee and the meeting of the Board of Directors every quarter. The Company will disclose related transactions in its annual report and in the notes to the audited financial statements.

25 Board of Directors' Responsibility for Financial Reporting

According to the Public Company Act B.E. 2535 (1992), Accounting Act, B.E. 2543 (2000) Securities, the Exchange Act BE 2535 (1992) and the Notification of Capital Market by the subject of criteria, conditions, and procedures for disclosing information in financial status and performance of a securities issuing company stated that the board of directors should prepare the financial statement to present their financial status, operational performance, the change of shareholder's equity, and statement of cash flows of the previous fiscal year which is true and reasonable.

Since the board of directors becomes aware of obligations and responsibilities of overseeing the financial reports preparation to ensure efficient operational processes, the audit committee has been appointed to response for auditing the accounting policy and quality of the financial report, reviewing the internal control system, internal auditing to an organization's overall risk management framework, developing appropriate and efficiency internal controls ensuring accurate, complete, reasonably and consistent accounting data and must be sufficient to maintain the property and to significantly prevent fraud or unusual operation, disclosure transparent information related to all transactions between each other and financial information contained in the annual report. The financial statements prepared in accordance with a generally accepted accounting standard by selecting the most appropriate policy, practice consistently, very careful in the judgments, preparing a good estimate, and adequate disclosure of important information in notes to the financial statement for benefit of shareholders and general investors with transparency.

The financial statements of the Company and the consolidated financial statements of Company and its subsidiaries for the year ended December 31, 2020 have been examined by an external auditor, KPMG Phoomchai Audit Ltd. To conduct the audits and express an opinion in accordance with generally accepted auditing standards, the auditor was provided with all of the Company's records and related data as requested. The auditor's opinion is presented in the auditor's report as part of this annual report.

The Board of Directors considers the Company's overall internal control system satisfactory and provides credibility and reliability to Gunkul Engineering Public Company Limited and its subsidiaries' consolidated financial statements for the year ended December 31, 2020. The Board of Directors also believes that all these financial statements have been prepared in accordance with generally accepted accounting principle and related regulations.



(Dr. Gunkul Dhumrongpiyawut)

Chairman of the Board

24th February 2021

26 Summary of Financial Statements

Financial Statements

(1) Independent Auditor's Report

- Mr. Waiyawut Kosamarnchaiyakij, Certified Public Accountant (Thailand) No. 6333 from KPMG Phoomchai Audit Ltd. has audited the consolidated and separate financial statements of Gunkul Engineering Public Company Limited and its subsidiaries (the "Group") and of Gunkul Engineering Public Company Limited (the "Company"), respectively, which comprise the consolidated and separate statements of financial position as of 31 December 2018, and expressed the unqualified opinion that the consolidated and separate financial statements, consolidated and separate cash flows statements for the year then ended, and notes, comprising a summary of significant in accordance with Thai Financial Reporting Standards.

For the emphasis of matter, attention to note 4 to the financial statements describing the effect of the business combination under common control. The corresponding figures presented are based on the audited financial statements as at and for the year ended 31 December 2018 after making the adjustments described in note 4. My opinion is not modified in respect of this matter.

- Mr. Waiyawut Kosamarnchaiyakij, Certified Public Accountant (Thailand) No. 6333 from KPMG Phoomchai Audit Ltd. has audited the consolidated and separate financial statements of Gunkul Engineering Public Company Limited and its subsidiaries (the "Group") and of Gunkul Engineering Public Company Limited (the "Company"), respectively, which comprise the consolidated and separate statements of financial position as of 31 December 2019, and expressed the unqualified opinion that the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2019 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).
- Mr. Waiyawut Kosamarnchaiyakij, Certified Public Accountant (Thailand) No. 6333 from KPMG Phoomchai Audit Ltd. has audited the consolidated and separate financial statements of Gunkul Engineering Public Company Limited and its subsidiaries and of Gunkul Engineering Public Company Limited (the "Company"), which comprise the consolidated and separate statements of financial position as of 31 December 2020, and expressed the unqualified opinion that 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).

(2) Table Summary of Financial Statements

- Statements of Financial Position

Gunkul Engineering Public Company Limited and Its Subsidiaries Statements of Financial Position as at 31 December 2018- 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Assets						
<u>Current assets</u>						
Cash and cash equivalents	4,391,924,583	1,600,219,537	892,652,654	339,673,750	303,754,822	273,762,813
Other current financial assets	162,314,840	23,553,105	606,089,344	82,000,000	-	529,906,475
Short-term deposits from financial institution						
pledged as collateral	1,724,375,404	2,593,886,402	1,501,020,586	-	200,103,712	-
Trade and other current receivables	2,863,723,261	1,227,263,208	1,068,798,910	966,903,135	287,910,819	388,885,965
Current portion of finance lease receivables	58,538,686	-	-	-	-	-
Unbilled revenue	1,225,272,800	625,171,464	225,175,687	-	-	-
Other receivables	-	-	289,929,696	-	151,002,647	62,838,422
Revenue Department receivable	385,537,470	220,205,763	298,960,074	-	2,570,255	-
Short-term loans to related parties	-	169,928,657	-	2,933,806,406	984,724,262	1,754,452,670
Current portion of Long-term loans to related parties	-	-	-	-	-	-
Inventories	637,408,172	652,779,571	540,167,019	377,178,712	380,906,999	284,332,577
Derivative assets	5,283,830	-	-	5,283,830	-	-
Other current assets	328,107,233	172,152,970	-	93,001,447	-	-
Total current assets	11,782,486,279	7,285,160,677	5,422,793,970	4,797,847,280	2,310,973,516	3,294,178,922
<u>Non-current assets</u>						
Other non-current financial assets	132,868,873	127,479,060	-	111,360,565	120,532,784	-
Long-term deposits from financial institution						
pledged as collateral	376,094,162	325,562,501	592,003,707	-	-	-
Loan to related parties		-	-	324,925,280	348,482,931	-
Investments in associates	409,815,757	481,894,599	426,852,710	397,594,800	397,594,800	397,594,800
Investments in joint ventures	1,155,928,826	1,249,137,069	1,078,764,354	726,177,750	726,177,750	576,610,150
Investments in subsidiaries	-	-	-	15,712,437,525	13,188,214,576	12,884,624,101
Finance lease receivable	821,785,263	-	-	-	-	-
Other non-current receivables	-	-	-	-	-	-
Investment properties	-	-	-	3,143,658	3,143,658	3,143,658
Property, plant and equipment	26,942,970,534	24,567,137,226	23,018,092,750	59,467,928	66,413,447	74,184,502
Rights-of-use assets	682,345,139			42,054,486	-	-
Goodwill	163,476,324	163,476,324	163,476,324	-	-	-
Intangible assets	3,414,649,404	3,953,067,993	4,213,228,830	6,835,206	6,132,502	4,928,514
Advance for shares subscription	-	559,555,466	-	-	-	-
Deposit for asset	-	-	-	-	-	-
Advance for land lease	-	194,348,456	215,351,112	-	-	-

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Financial Position as at 31 December 2018- 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Deferred tax assets	56,761,808	75,948,204	75,465,591	37,905,714	62,758,854	61,100,361
Other non-current assets	92,973,746	58,772,159	418,720,423	68,015,824	45,854,435	388,874,152
Total non-current assets	34,249,669,836	31,756,379,057	30,201,955,801	17,489,918,736	14,965,305,737	14,391,060,238
Total assets	46,032,156,115	39,041,539,734	35,624,749,771	22,287,766,016	17,276,279,253	17,685,239,160
Liabilities and equity						
<u>Current liabilities</u>						
Short-term loans from financial institutions	4,659,281,879	1,051,088,014	2,306,788,075	4,590,160,022	984,643,614	2,012,489,398
Short-term loans from related parties		-	-	182,000,000	286,305,838	483,630,656
Trade and other current payables	2,403,918,800	1,069,528,094	340,646,726	513,709,350	360,844,846	246,918,703
Unearned revenues	399,672,806	402,319,891	104,217,170	34,200,367	19,528,128	16,166,890
Payable for purchases of assets	1,532,604,348	2,802,809,458	454,767,934	-	-	-
Payable for share subscription	59,083,480	-	-	20,726,403	-	-
Revenue Department payable		-	59,323,015	-	-	3,310,866
Retention payables	350,552,294	414,703,853	532,589,874	6,612,800	9,316,344	9,617,538
Current portion of long-term loans	1,496,265,900	1,261,321,656	1,546,994,980	28,482,094	28,504,129	28,443,981
Current portion of debentures	1,819,000,000	1,000,000,000	2,765,500,000	1,819,000,000	1,000,000,000	2,765,500,000
Current portion of finance lease liabilities	42,155,085	15,510,305	13,931,656	15,409,287	7,903,214	7,185,659
Derivative Liabilities	20,705,137	-	-	20,520,943	-	-
Income tax payable	29,390,046	24,123,342	64,806,817	-	-	-
Other current liabilities	169,943,278	163,654,718	315,094,448	23,759,195	19,775,742	119,595,334
Total current liabilities	12,982,573,053	8,205,059,331	8,504,660,695	7,254,580,461	2,716,821,855	5,692,859,025
<u>Non-current liabilities</u>						
Long-term loans	14,657,840,218	14,387,961,223	14,129,849,292	336,511,427	364,982,721	393,486,850
Debentures	4,135,584,021	4,602,977,092	2,819,000,000	4,135,584,021	4,602,977,092	2,819,000,000
Retention payables	15,924,784	5,969,146	146,051,080	87,500	185,000	133,298
Lease liabilities	552,532,255	17,022,188	18,866,326	37,132,462	10,487,263	7,615,657
Deferred tax liabilities	226,632,783	186,316,791	188,230,332	-	-	-
Provisions for employee benefit	86,538,736	76,991,751	52,889,050	54,463,259	49,064,855	34,690,365
Provisions for demolition cost of buildings and power plants	319,889,987	209,434,134	203,979,259	-	-	-
Derivative Liabilities	571,894,192	-	-	143,633,082	-	-
Other non-current financial liabilities	618,571	618,571	-	618,571	618,571	-
Other non-current liabilities	6,814,409	16,275,668	61,175,854	10,486	637,663	25,326,970
Total non-current liabilities	20,574,269,956	19,503,566,564	17,620,041,193	4,708,040,808	5,028,953,165	3,280,253,140
Total liabilities	33,556,843,009	27,708,625,895	26,124,701,888	11,962,621,269	7,745,775,020	8,973,112,165

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Financial Position as at 31 December 2018- 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Equity						
Share capital						
Authorised share capital	2,220,632,743	2,225,586,448	1,854,655,373	2,225,586,448	2,225,586,448	1,854,655,373
Issued and paid-up share capital	2,220,632,743	2,220,632,743	1,854,655,373	2,220,632,743	2,220,632,743	1,854,655,373
Treasury shares	(304,674,256)	(304,674,256)	-304,674,256.00	(304,674,256)	(304,674,256)	-304,674,256.00
Additional paid in capital:						
Premium on ordinary shares	5,179,473,454	5,179,473,454	5,179,473,454	5,179,473,454	5,179,473,454	5,179,473,454
Retained earnings						
Appropriated						
Legal reserve	222,559,000	222,559,000	198,300,000	222,559,000	222,559,000	198,300,000
Treasury shares reserve	304,674,256	304,674,256	304,674,256	304,674,256	304,674,256	304,674,256
Unappropriated	5,781,434,415	4,134,470,833	2,452,439,992	2,702,479,550	1,907,839,036	1,479,522,211
Difference arising from business combination						
under common control	(467,953,968)	(464,752,542)	(464,752,542)	-	-	-
Deficit from changes in ownership						
interest in subsidiary	(205,957,015)	-	-	-	-	-
Other components of equity	(380,345,758)	(580,176,332)	(309,604,699)	-	-	175,957
Equity attributable to owners of the Parent	12,349,842,871	10,712,207,156	8,910,511,578	10,325,144,747	9,530,504,233	8,712,126,995
Former shareholder before business restructuring	-	-	-	-	-	-
Non-controlling interests	125,470,235	620,706,683	589,536,305	-	-	-
Total equity	12,475,313,106	11,332,913,839	9,500,047,883	10,325,144,747	9,530,504,233	8,712,126,995
Total liabilities and equity	46,032,156,115	39,041,539,734	35,624,749,771	22,287,766,016	17,276,279,253	17,685,239,160

Note: As of December 31, 2020, the Company's registered capital is 2,220,632,743.50 baht with paid-up capital in the amount 2,220,632,743.50 Baht, by being ordinary shares in the amount 8,882,530,974 shares, with a par value of 0.25 baht per share.

● Statements of Comprehensive Income

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Comprehensive Income as of 31 December 2018 - 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
<u>Revenue</u>						
Revenue from sale	1,495,877,402	1,526,498,126	1,344,964,976	1,673,022,476	1,430,662,575	1,212,462,215
Revenue from sale of electricity	2,896,952,073	2,928,425,222	1,762,808,281	-	-	-
Revenue from rendering of services	124,213,883	87,728,797	68,541,412	20,256,922	40,007,288	28,309,677
Revenue from construction services	2,022,418,375	979,945,647	1,887,242,809	-	-	60,852,900
Revenue from sales of assets under finance lease	913,476,986	-	-	-	-	-
Revenue from adder	1,196,404,375	1,575,971,477	1,166,941,762	-	-	-
Dividend income	-	-	-	2,577,185,095	1,162,637,144	1,491,947,483
Net foreign exchange gain	-	19,893,800	-	18,821,658	7,205,903	6,380,350
Interest income	10,854,877	18,476,841	14,266,266	29,124,441	40,290,683	26,844,921
Gain on change in fair value of derivatives	-	-	-	74,308,660	-	-
Gain on bargain purchase	259,273,007	-	-	-	-	-
Gain on sale of investment in a subsidiary	1,977,595,728	-	-	-	-	-
Other income	77,474,322	58,319,381	216,121,172	940,353	39,204,126	50,502,901
Total revenue	10,974,541,028	7,195,259,291	6,460,886,678	4,393,659,605	2,720,007,719	2,877,300,447
<u>Expenses</u>						
Cost of sale	1,110,665,621	1,040,341,624	943,583,114	1,369,403,789	1,086,502,988	944,887,737
Cost of sale of electricity	1,738,354,708	1,499,380,037	901,674,319	-	-	-
Cost of rendering of services	52,881,296	47,714,078	42,241,899	2,561,419	13,504,399	21,251,070
Cost of construction services	1,814,550,944	862,949,818	1,282,474,222	-	-	47,683,757
Cost of sales of assets under finance lease	891,847,931	-	-	-	-	-
Selling expenses	58,491,311	68,263,898	63,205,732	29,498,367	45,429,016	46,564,007
Administrative expenses and others	896,785,305	771,916,944	679,832,705	423,580,484	390,233,897	344,421,150
Unwind foreign exchange option contracts fee	-	-	588,109,119	-	-	588,109,119
Net foreign exchange loss	13,867,001	-	146,810,278	-	-	-
Loss on changes in fair value of derivatives	13,219,384	-	146,810,278	-	-	-
Total expenses	6,590,663,501	4,290,566,399	4,794,741,666	1,825,044,059	1,535,670,300	1,992,916,840
Share of profit of associates and joint ventures accounted for using equity method	72,595,791	268,653,670	269,402,971	-	-	-
Profit before finance costs and income tax expense	4,456,473,318	3,173,346,562	1,935,547,983	2,568,615,546	1,184,337,419	884,383,607
Finance costs	911,768,869	910,076,035	800,452,148	321,391,732	290,683,941	275,702,662
Profit before income tax expense	3,544,704,449	2,263,270,527	1,135,095,835	2,247,223,814	893,653,478	608,680,945
Tax expense (income)	119,411,606	40,981,213	103,496,017	50,072,144	(945,963)	(51,707,970)
Profit for the year	3,425,292,843	2,222,289,314	1,031,599,818	2,197,151,670	894,599,441	660,388,915

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Comprehensive Income as of 31 December 2018 - 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Other comprehensive income						
<i>Items that will be reclassified subsequently to profit or loss</i>						
Exchange differences on translating financial statements	200,099,685	(270,009,246)	52,216,056	-	-	-
Loss on measurement of financial assets	(291,769)	(443,608)	826,812	-	(175,957)	155,051
Income tax relating to items that will be reclassified subsequently to profit or loss	22,658	(22,658)	-	-	-	-
Total items that will be reclassified subsequently to profit or loss	199,807,965	(270,452,854)	53,042,868	-	(175,957)	155,051
<i>Items that will not be reclassified to profit or loss</i>						
Defined benefit plan actuarial losses	-	(2,332,399)	-	-	(3,562,648)	-
Income tax relating to items that will not be reclassified	-	466,480	-	-	712,530	-
Total items that will not be reclassified to profit or loss	-	(1,865,919)	-	-	(2,850,118)	-
Other comprehensive income (expense) for the year, net of tax	199,807,965	(272,318,773)	53,042,868	-	(3,026,075)	155,051
Total comprehensive income (expense) for the year	3,625,100,808	1,949,970,541	1,084,642,686	2,197,151,670	891,573,366	660,543,966
Profit attributable to:						
Owners of the parent	3,412,336,597	2,147,329,258	1,085,172,042	2,197,151,670	894,599,441	660,388,915
Former shareholder before business restructuring	-	-	5,067,117	-	-	-
Non-controlling interests	12,956,246	74,960,056	88,170,937	-	-	-
Profit for the year	3,425,292,843	2,222,289,314	1,178,410,096	2,197,151,670	894,599,441	660,388,915
Total comprehensive income (expense) attributable to:						
Owners of the parent	3,612,167,171	1,874,891,706	1,138,199,225	2,197,151,670	891,573,366	660,543,966
Former shareholder before business restructuring	-	-	5,067,117	-	-	-
Non-controlling interests	12,956,246	75,056,177	88,186,622	-	-	-
Total comprehensive income (expense) for the year	3,625,123,417	1,949,947,883	1,231,452,964	2,197,151,670	891,573,366	660,543,966
Basic earnings per share (in Baht)	0.39	0.24	0.12	0.25	0.10	0.08

- Statements of Changes in Equity

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of changes in equity

Consolidated financial statements															
	Note	Other components of equity													
		Issued and paid-up share capital	Treasury shares	Share premium	Difference arising from business combination under common control	Deficit from changes in ownership interests in subsidiary	Retained earnings		Unappropriated	Exchange differences on translating financial statements	Investments in debt instruments designated at fair value through other comprehensive income	Total other components of equity	Equity attributable to owners of the parent	Non-controlling interests	Total equity
							Legal reserve	Treasury shares							
Year ended 31 December 2020															
Balance at 31 December 2019 - as reported		2,220,632,743	(304,674,256)	5,179,473,454	(464,752,542)	-	222,559,000	304,674,256	4,134,470,833	(580,445,443)	269,111	(580,176,332)	10,712,207,156	620,706,683	11,332,913,839
Impact of business restructuring		-	-	-	(3,201,426)	-	-	-	-	-	-	-	(3,201,426)	-	(3,201,426)
Impact of changes in accounting policies	3	-	-	-	-	-	-	-	(570,821,710)	-	-	-	(570,821,710)	-	(570,821,710)
Balance at 1 January 2020 - restated		2,220,632,743	(304,674,256)	5,179,473,454	(467,953,968)	-	222,559,000	304,674,256	3,563,649,123	(580,445,443)	269,111	(580,176,332)	10,138,184,020	620,706,683	10,758,880,703
Transactions with owners, recorded directly in equity															
Distributions to owners of the parent															
Subsidiary paid dividend		-	-	-	-	-	-	-	-	-	-	-	-	(5,218,784)	(5,218,784)
Dividend paid to shareholders	30	-	-	-	-	-	-	-	(1,194,551,305)	-	-	-	(1,194,551,305)	-	(1,194,551,305)
Total distributions to owners of the parent		-	-	-	-	-	-	-	(1,194,551,305)	-	-	-	(1,194,551,305)	(5,218,784)	(1,199,770,089)
changes in ownership interests in subsidiaries															
Acquisition of non-controlling interests without a change in control	5	-	-	-	-	(205,957,015)	-	-	-	-	-	-	(205,957,015)	(574,042,985)	(780,000,000)
Acquisition of non-controlling interests from business combination	5	-	-	-	-	-	-	-	-	-	-	-	-	1,004,075	1,004,075
Increase of ordinary shares in subsidiary	13	-	-	-	-	-	-	-	-	-	-	-	-	70,065,000	70,065,000
Total changes in ownership interests in subsidiaries		-	-	-	-	(205,957,015)	-	-	-	-	-	-	(205,957,015)	(502,973,910)	(708,930,925)

Gunkul Engineering Public Company Limited	267

- Statements of Cash Flow

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Cash Flows as of 31 December 2018 - 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
<i>Cash flows from operating activities</i>						
Profit for the year	3,425,292,843	2,222,289,314	1,178,410,096	2,197,151,670	894,599,441	660,388,915
Adjustments to reconcile profit to cash receipts (payments)						
Tax expense (income)	119,411,606	40,981,213	103,496,017	50,072,144	(945,963)	(51,707,970)
Finance costs	911,768,869	910,076,035	800,452,148	321,391,732	290,683,941	275,702,662
Depreciation and amortisation	1,353,456,948	1,137,428,087	762,809,614	14,863,386	14,093,113	15,090,095
Provisions for employee benefits	10,772,722	23,144,731	7,694,195	6,400,674	11,718,991	4,664,594
Unrealised (gain) loss on foreign exchange	39,846,270	(13,419,138)	2,106,223	29,068,581	(7,830,297)	8,309,632
(Gain) loss on change in fair value of derivatives	13,219,384			(74,308,660)		
Share of profit of associate and joint ventures accounted for using equity method	(72,595,791)	(268,653,670)	(269,402,971)	-	-	-
Benefit received from the advance payment for investment machinery	-	-	(34,552,697)		-	(34,552,697)
Dividend income	-	-	-	(2,577,185,095)	(1,162,637,144)	(1,491,947,483)
Impairment loss recognised in profit or loss	5,890,475	-		5,570,988		
Bad and doubtful debts expenses	-	1,313,177	(1,189,735)		187,152	-
Loss on inventories devaluation	13,477,851	10,695,705	1,358,873	4,998,462	6,678,700	2,480,263
Loss on disposal of property, plant and equipment	1,587,372	44,305,310	8,242,027	873,794	6,463,359	(75,454)
Gain on disposal of other debts securities	(325,093)	(3,310,253)	(1,974,744)	(98,473)	(1,987,463)	(1,925,655)
Gain on bargain purchase	(259,273,007)					
Gain on sale of investment in subsidiaries	(1,977,595,728)					
Interest income	(41,977,557)	(18,476,841)	(14,266,266)	(29,124,441)	(40,290,683)	(26,844,921)
	3,542,957,164	4,086,373,670	2,543,182,780	(50,325,238)	10,733,147	(640,418,019)
<i>Changes in operating assets and liabilities</i>						
Short-term deposits from financial institution pledged as collateral	810,934,192	(877,150,637)	(1,098,180,584)	200,103,712	(200,103,712)	-
Trade and other current receivables	(1,206,422,843)	271,591,016	86,370,486	(591,632,671)	268,386,487	(165,789,666)
Lease receivables	84,971,942	-	-	-	-	-
Unbilled revenue	(600,101,336)	(399,995,777)	534,434,196	-	-	12,148,598
Other receivables	-	-	(50,976,783)	-	-	7,287,378
Revenue Department receivable	(165,331,707)	306,881,090	(198,225,126)	2,570,255	(2,570,255)	-
Inventories	1,893,548	(123,308,257)	(132,540,514)	(1,270,176)	(103,253,122)	(91,908,180)
Other current assets	(130,204,646)	(41,613,221)	36,523,439	(62,559,878)	(8,659,948)	-

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Cash Flows as of 31 December 2018 - 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Other non-current financial assets	(14,349,411)	87,008	-	132,622	(3,483)	-
Other non-current assets	(4,830,540)	(32,228,823)	113,226,714	-	(33,000,000)	-
Advance for land lease	-	10,020,198	(2,105,743)	-	-	-
Trade and other current payable	(1,628,468,385)	463,685,436	(429,554,738)	147,971,477	38,807,602	(12,741,717)
Unearned revenues	(2,647,085)	298,102,721	(154,539,198)	14,672,238	3,361,238	1,352,918
Retention payables	(34,646,551)	(224,342,050)	140,440,649	(2,801,043)	(249,493)	(533,046)
Other current liabilities	8,012,228	(27,149,582)	-	4,173,895	(34,490,854)	2,139,498
Other payables	-	-	(115,965,624)	-	-	5,835,607
Provisions for employees benefits	(1,225,737)	(1,374,429)	(586,216)	(1,002,270)	(907,149)	(12,321)
Other non-current liabilities	28,861,999	(20,210,841)	14,537,726	(627,177)	40	(14,028,927)
Net cash generated from (used in) operating activities	689,402,832	3,689,367,522	1,286,041,464	(340,594,254)	(61,949,502)	(896,667,877)
Taxes paid	(77,931,180)	(115,875,436)	(163,759,102)	(9,532,177)	(12,854,435)	(9,480,432)
Net cash from (used in) operating activities	611,471,652	3,573,492,086	1,122,282,362	(350,126,431)	(74,803,937)	(906,148,309)
<i>Cash flows from investing activities</i>						
Acquisition of subsidiaries, net of cash acquired	-	-	(573,628,353)	-	-	-
Payment for incremental of capital in subsidiaries	-	-	-	(1,411,919,807)	(341,090,475)	(629,641,900)
Proceeds from reduction of shares in subsidiary	-	-	-	-	37,500,000	17,420,000
Proceeds from incremental of shares in non-controlling interests	70,065,000	500,000	-	-	-	-
Acquisition of non-controlling interests	(780,000,000)	-	(8,580,000)	(780,000,000)	-	-
Acquisition of subsidiaries, net of cash acquired.	(440,642,857)	-	-	(311,576,740)	-	-
Proceeds from disposal of subsidiaries	4,597,985,471	-	-	-	-	-
Acquisition of business under common control	(2,535,975)	-	(56,560,000)	-	-	(56,560,000)
Payment for incremental of capital in joint ventures	-	(152,067,600)	-	-	(149,567,600)	-
Proceeds from sale of other debts securities	326,272,590.00	2,156,565,115	1,968,784,038	160,098,472	1,911,717,980	1,801,746,980
Acquisition of other debts securities	(465,001,000)	(1,571,162,230)	(1,927,051,843)	(242,000,000)	(1,380,000,000)	(1,779,551,843)
Benefit received from advance payment of machinery for investment	-	7,744,373	35,147,322	-	7,744,373	35,147,322
Payment for deposit for purchase of assets	-	-	-	-	-	-
Payment for advance for land lease	-	-	-	-	-	-
Acquisition of property, plant and equipment	(3,496,709,518)	(743,056,656)	(6,167,793,747)	(7,643,276)	(2,922,677)	(17,820,463)
Acquisition of intangible assets	(8,720,885)	(32,849,993)	(135,311,376)	(2,846,680)	(2,684,535)	(1,993,870)
Proceeds from sale of property, plant and equipment	5,561,559	25,763,836	713,784	995,592	2,880,776	288,855
Proceeds from sale of intangible assets	-	73,008,746	-	-	-	-
Proceeds from loans to related parties	169,928,657.00	-	421,390,094	2,396,986,952	1,284,929,600	787,958,290
Payment for loans to related parties	-	(169,928,657)	-	(4,329,537,498)	(863,684,123)	(1,985,603,210)

Gunkul Engineering Public Company Limited and Its Subsidiaries
Statements of Cash Flows as of 31 December 2018 - 2020

Unit : Baht

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Payment for advance for shares subscription	-	(559,555,466)	-	-	-	-
Dividend received	197,985,034	181,968,242	206,986,264	2,586,224,693	1,162,637,144	1,491,947,483
Interest received	11,922,568	18,177,390	46,129,984	29,189,095	48,977,680	21,443,700
Net cash from (used in) investing activities	186,110,644	(764,892,900)	(6,189,773,833)	(1,912,029,197)	1,716,438,143	(315,218,656)
<i>Cash flows from financing activities</i>						
Proceeds from short-term loans	3,620,874,153.00	-	-	3,617,171,295	-	-
Repurchase of treasury shares	-	-	(304,674,256)	-	-	(304,674,256)
Proceeds from short-term loans	-	-	37,795,883	-	-	55,151,096
Repayment of short-term loans	-	(1,254,902,711)	-	-	(1,027,827,332)	-
Proceeds from loans from related parties	-	-	-	1,371,000,000	50,000,000	134,000,000
Repayment of loans to related parties	-	-	-	(1,489,537,147)	(232,523,205)	-
Proceeds of long-term loans	1,743,669,366.00	1,717,573,607	6,140,207,783	-	-	428,760,000
Repayment of long-term loans	(1,391,695,929)	(1,525,809,398)	(848,101,466)	(28,800,000)	(28,800,000)	(7,200,000)
Proceeds from debentures	1,343,837,657	2,783,042,500	1,819,000,000	1,343,837,657	2,783,042,500	1,819,000,000
Repayment of debentures	(1,000,000,000)	(2,765,500,000)	(280,000,000)	(1,000,000,000)	(2,765,500,000)	(280,000,000)
Payment of lease liabilities	(247,016,227)	(15,183,489)	(15,942,393)	(7,903,215)	(7,858,839)	(8,855,633)
Dividend paid to shareholders	(1,194,489,983)	(73,198,984)	(333,793,403)	(1,194,489,983)	(73,198,983)	(333,793,403)
Dividend paid to non-controlling interests	(5,218,784)	(44,385,799)	(88,174,358)	-	-	-
Dividend paid to former shareholder before business restructuring	-	-	(562,000,000)	-	-	-
Interest paid	(905,271,702)	(904,612,822)	(756,770,609)	(304,724,370)	(306,749,747)	(235,964,690)
Net cash from (used in) financing activities	1,964,688,551	(2,082,977,096)	4,807,547,181	2,306,554,237	(1,609,415,606)	1,266,423,114
Net increase (decrease) in cash and cash equivalents	2,762,270,847	725,622,090	(259,944,290)	44,398,609	32,218,600	45,056,149
Effect of exchange rate changes on cash and cash equivalents	29,434,199	(18,055,207)	(5,420,378)	(8,479,681)	(2,226,591)	(11,622,101)
Cash and cash equivalents as at 1 January	1,600,219,537	892,652,654	1,158,017,322	303,754,822	273,762,813	240,328,765
Cash and cash equivalents at 31 December	4,391,924,583	1,600,219,537	892,652,654	339,673,750	303,754,822	273,762,813

(3) Table of Key Financial Ratios

Items	Consolidated Financial Statements			Separate Financial Statements		
	2020	2019	2018	2020	2019	2018
Liquidity Ratio						
Liquidity Ratio (time)	0.91	0.89	0.65	0.66	0.85	0.60
Quick Liquidity Ratio (time)	0.86	0.81	0.59	0.61	0.71	0.55
Cash Flow Liquidity Ratio (time)	0.34	0.20	0.10	0.05	0.11	0.05
Trade Account Receivable Turnover (time)	5.82	4.76	3.88	2.99	4.35	4.17
Average Collection Period (days)	62.73	76.68	93.95	122.26	83.99	87.51
Inventory Turnover (days)	4.67	2.99	4.20	3.64	2.89	3.57
Average Selling Period (days)	78.12	122.12	86.92	100.35	126.39	102.37
Payable Turnover (time)	2.21	3.66	4.08	3.82	4.06	4.00
Credit Term (days)	165.11	99.78	89.42	95.46	89.98	91.25
Cash Cycle (days)	(24.25)	99.02	91.46	127.15	120.40	98.62
Profitability Ratio						
Gross Profit Margin (%)	35.16%	51.39%	49.12%	18.98%	25.20%	22.11%
Operating Profit Margin (%)	51.52%	44.70%	33.42%	151.69%	80.53%	67.94%
Net Profit Margin (%)	39.60%	30.25%	18.91%	129.76%	60.83%	50.74%
Return on Equity (%)	27.46%	18.95%	12.40%	21.28%	9.39%	7.58%
Efficiency Ratio						
Return on Assets (%)	7.44%	5.50%	3.31%	9.86%	5.18%	3.73%
Return on Fixed Assets (%)	10.00%	6.76%	3.92%	12.56%	5.98%	4.63%
Asset Turnover (time)	0.19	0.18	0.17	0.08	0.09	0.07
Financial Ratio						
Debt to Equity Ratio (time)	2.69	2.44	2.75	1.16	0.81	1.03
Interest Coverage Ratio (time)	4.89	3.49	2.60	7.99	4.07	3.21
Dividend Payout (%)	46.67%	56.67%	40.00%	72.80%	134.04%	66.67%
Other Ratios						
Earnings Per Share (Baht) ²⁾	0.39	0.24	0.16	0.25	0.10	0.09
Basic Earnings Per Share (Baht) ¹⁾	0.39	0.24	0.15	0.25	0.10	0.09
Book Value Per Share (Baht) ²⁾	1.42	1.28	1.28	1.18	1.07	1.17

Remarks: ¹⁾ Basic Earnings per Share: to calculate with the number of all average weighted common shares which have been paid up.

²⁾ Earnings per Share and Book Value per Share: to calculate with the total number of all paid up common stocks at the end of the period by using the par value of the shares at 0.25 Baht per share to be used for comparison.

• Operating Performance

Revenue

The main revenue of the Group during the years 2018 - 2020 comes from three main types of revenue: the revenue from manufacturing, supply and distribution of electrical equipment business, renewable power plant business and construction services business. As for the year ended 31 December 2020, the Company had total revenue of 10,974.54 million baht, increased from the same period of last year showing the amount of 7,195.26 million baht, an increase of 3,779.28 million baht, representing an increase of 52.52% and had the profit for the period (the portion of the parent company) in the amount of 3,412.34 million baht, increased from the same period of the previous year showing the amount of 2,147.33 million baht which increased by 1,265.01 million baht or increased by 58.91%, due to the Company had revenue that grew in all sectors as follows;

The Company had revenue from construction services that shown in the consolidated financial statements for the year ended 31 December 2020, amounting to 2,022.42 million baht, compared with the same period of the previous year showing the amount of 979.95 million baht, which increased due to the auction of affiliates' works and the revenue was gradually recognized in the year 2020 onwards.

Revenue from the sale of electricity and the increase in the purchase price of electricity that shown in the consolidated financial statements for the year ended 31 December 2020, showing the amount of 4,093.36 million baht, compared with the same period of the previous year showing the amount of 4,504.40 million baht, decreased by 411.04 million baht or representing 9.13% decrease. The significant decrease in revenue was caused by the sale of wind power in reason of the decline in production capacity since 2019, the monsoon season that entered Thailand is relatively earlier than in 2020; as a result, the wind flow produced during the same period compared with the previous year was reduced and returned to normal in the fourth quarter of last year.

The Company had revenue from selling electrical equipment that shown in the consolidated financial statements for the year ended 31 December 2020, showing the amount of 1,495.88 million baht compared with the same period of the previous year showing the amount of 1,526.50 million baht, decreased by 30.62 million baht, representing a decrease of 2.01%, decreased from the product has been gradually delivered in the first quarter of 2021 and has been appointed as a distributor of electrical equipment to the government sector.

Revenue Type	2018		2019		2020	
	THB mln	%	THB mln	%	THB mln	%
1. Revenue from the manufacturing, supply and distribution of equipment business for electrical systems and renewable energy systems						
1.1 Sourcing for Distribution	573.03	9.20	1,017.92	14.34	510.26	5.90
1.2 Production for Distribution	771.93	12.39	508.58	7.16	985.62	11.40
2. Revenue from electricity generation and distribuion business from renewable energy						
- Produce and sale of electricity from solar energy	2,929.75	47.02	4,504.40	63.46	4,093.35	47.33
3. Revenue from constructions	1,887.24	30.29	979.95	13.80	2,022.42	23.38
4. Revenue from services	68.54	1.10	87.72	1.24	124.21	1.44
5. Revenue from sales of assets under finance lease	-	-	-	-	913.48	10.56
Total Revenue	6,230.49	100.00	7,098.57	100.00	8,649.34	100.00

Revenue structure of the group which divided by product line

Revenue from the total sales of the Group in 2018 – 2020, the main customers of the Group were government, private agencies and business customers that produce electricity from renewable energy.

Revenue structure which divided by customer Segment						
Revenue	2018		2019		2020	
	THB mln	%	THB mln	%	THB mln	%
Public Sector Customer						
- Revenue from the sale of equipment for electrical and renewable energy systems and revenue from rendering of services	768.44	12.33	1,087.69	15.32	3,555.92	41.11
- Revenue from electricity distribution	2,929.75	47.02	4,504.40	63.46	4,093.35	47.33
Private Sector Customer						
- Revenue from the sale of equipment for electrical and renewable energy systems	620.46	9.96	515.42	7.26	263.22	3.04
- Revenue from construciton of power plants	1,887.24	30.29	979.95	13.80	728.10	8.42
Foreign customers	24.60	0.39	11.11	0.16	8.75	0.10
Total Revenue	6,230.49	100.00	7,098.57	100.00	8,649.34	100.00

Cost of Sales and Gross margin

The Group had a gross profit margin of 35.16% and 51.39% in 2020 and 2019, respectively, according to the consolidated financial statements. The trend of such gross profit was in the same direction as the increase in revenue from commercial electricity sales from wind and solar power.

Sale and Administrative Expenses and Financial Costs

The Company had sale and administrative expenses and financial costs which was normally increased and varies according to the increasing revenue.

The Company had financial costs for the year ended 31 December 2020, showing the amount of 911.77 million baht, compared with the same period of the previous year showing the amount of 910.07 million baht, increased by 1.70 million baht or 0.19%. Due to the Company had more credit for project loans from the sale of commercial electricity in the wind project which increased by 170 MW and 61 MW of solar power plant projects in Japan.

Net Profit

The Company's consolidated financial statements for the year 2020 were 3,425.29 million baht, the year 2019 were 2,222.29 million baht and the year 2018 were 1,178.41 million baht, with a net profit increased of 1,203.00 million baht if considering the normal operating results of the Company and subsidiaries in the consolidated financial statements for the year 2020 compared to the same period of the previous year. This is due to the Company sold 2 projects in Japan, which recognized a profit from disposal of investments in a subsidiary of 1,977.60 million baht. In addition, the Company has sold commercial electricity by 2020 from solar projects in Vietnam, totaling 160 MW, 30 MW from Malaysia, including revenue from commercial electricity sales from 170 MW wind projects and also 2 solar power projects in Japan that received into the system, also the electricity production cost was not very high compared to the revenue received.

- **Financial Status**

Total Assets

The Company's total assets at the end of 2020, 2019 and 2018 are 346,032.16 million baht, 39,041.54 million baht and 35,624.75 million baht, respectively. The main items of current assets are Short-term deposits from financial institution pledged as collateral, Accounts Receivables and Merchandise Inventory which vary according to sales. Also, the construction of renewable power plants for external companies and the increasing of ability of the Group to invoice customer, investments in subsidiaries; as well as, the cash flow that the Company must reserve for investment, operation and dividend payments. The main items of non-current assets are buildings and equipment invested by the Group to generate electricity.

In providing financing for working capital and investing in fixed assets, the Group has financing both from the capital increase and from borrowing the financial institutions. As a result, the Group debt-to-equity ratios are 2.69 times, 2.44 times and 2.75 times, according to the consolidated financial statements as at the end of 2020, 2019 and 2018, respectively.

Trade Account Receivables

The Company and its subsidiaries have a policy to provide credit to customers based on their financial position, payment history, order frequency and order value. The average credit term was approximately 30-120 days for both private and government customers and credit term 30-180 days for foreign customers.

As at the end of 2020, 2019 and 2018 according to consolidated financial statements, The Group had total trade accounts receivable and unbilled revenue of 4,089.00 million baht, 1,852.43 million baht and 1,293.98 million baht. (Excluding other account receivables and trade account receivables value less allowance for doubtful account), respectively. With an average collection period at the end of 2020, 2019 and 2018, was 63 days, 77 days and 94 days, respectively. In 2020, The Company had an increase in accounts receivable which was due to the increased income recognition from construction accounts receivable according to the period of completion and from power plants customers that generate higher electricity.

Details of the Group's Trade Account Receivables are as follows:

Amount Due from Related Parties

	2018		2019		2020	
	THB mln	%	THB mln	%	THB mln	%
Not Yet Due	5.28	186.57	2.83	138.73	2.04	100.00
Overdue						
- Not 3 months	-	-	-	-	-	-
- During 3-6 months	-	-	-	-	-	-
- During 6-12 months	-	-	-	-	-	-
- Over 12 months	-	-	-	-	-	-
Total Trade Receivable	5.28	186.57	2.83	138.73	2.04	100.00
Decution of Allowance for Devaluation of Goods	-	-	-	-	-	-
Net Trade Receivables	5.28	186.57	2.83	138.73	2.04	100.00

Other Trade Account Receivables

	2018		2019		2020	
	THB mln	%	THB mln	%	THB mln	%
Not Yet Due	860.64	80.67	1,000.40	94.13	1,452.91	90.58
Overdue						
- Not 3 months	161.08	15.10	28.31	2.66	113.37	7.07
- During 3-6 months	31.68	2.97	1.32	0.12	19.52	1.22
- During 6-12 months	0.77	0.07	3.55	0.33	2.93	0.18
- Over 12 months	12.69	1.19	29.23	2.75	15.25	0.95
Total	1,066.86	100.00	1,062.81	100.00	1,603.98	100.00
<u>Decution of Allowance for Devaluation of Goods</u>	<u>(0.89)</u>	<u>(0.00)</u>	<u>(2.26)</u>	<u>(0.00)</u>	<u>(8.15)</u>	<u>(0.01)</u>
Net Inventories	1,065.97	100.00	1,060.55	100.00	1,595.83	99.99

Inventory

When considering the consolidated financial statements as at the end of 2020, 2019 and 2018, the Group's inventories amounted to 637.40 million baht, 652.78 million baht and 540.17 million baht.

	2018		2019		2020	
	THB mln	%	THB mln	%	THB mln	%
Instant Product	374.65	66.54	479.74	69.89	442.26	64.62
Product in Process	0.72	0.13	0.48	0.07	0.41	0.06
Raw Material	146.08	25.94	136.40	19.87	171.20	25.01
Consumables	1.71	0.30	1.70	0.25	1.89	0.28
Contruction in Process	11.34	2.01	28.75	4.19	9.63	1.41
Goods in Transit	28.57	5.07	39.31	5.73	59.00	8.62
Total	563.07	100.00	686.38	100.00	684.39	100.00
<u>Decution of Allowance for Devaluation of Goods</u>	<u>(22.90)</u>	<u>(4.07)</u>	<u>(33.60)</u>	<u>(4.90)</u>	<u>(46.99)</u>	<u>(6.87)</u>
Net Inventories	540.17	95.93	652.78	95.10	637.40	93.13

The Group has a policy to set allowance for diminution in value of inventories for obsolete, defective and outdated inventories by considering each item. The products of the Company are used for basic electricity systems in countries where technology is often unlikely to change. As a result, the Company's products can be sold continuously without obsolete. However, the Group reversed allowance for diminution in value of inventories because the Company had already sold such products at 46.99 million baht, 33.60 million baht and 22.90 million baht at year-end of 2020, 2019 and 2018, respectively.

The Company has average selling period from 78 days, 122 days, and 87 days in 2020, 2019 and 2018, most of them are products related to sourcing for distribution and for the construction projects of government agencies and private sectors.

Investments in Subsidiaries and Associates

The Company's investment structure in subsidiaries and associates is as follows:

Company Name	Paid-up Capital (Thousand Baht)			Proportion of Investment (%)			Cost Method (Thousand Baht)			Dividend (Thousand Baht)		
	2020	2019	2018	2020	2019	2018	2020	2019	2018	2020	2019	2018
G.K. Power Products Co., Ltd.	100,000	100,000	100,000	100	100	100	80,425	80,425	80,425		15,000	14,540
G.K. Assembly Co., Ltd.	200,000	200,000	200,000	100	100	100	163,188	163,188	163,188	-	-	50,000
K.N.P. Supply Co., Ltd.	12,500	12,500	50,000	100	100	100	3,908	3,908	41,408	700	700	-
Greenovation Power Co.,Ltd.	1,485,000	1,485,000	1,485,000	100	100	100	1,916,500	1,916,500	1,916,500	629,640	629,640	-
Wind Energy Development Co.,Ltd.	1,575,000	1,575,000	1,575,000	100	100	100	2,226,150	2,226,150	2,226,150	200,025	200,025	389,025
NK Power Sola Co., Ltd.	2,600	2,600	2,600	100	100	100	40,854	40,854	40,854	11,001	11,001	12,000
Gunkul Solar Roof 1 Co., Ltd	21,000	21,000	21,000	100	100	100	21,000	21,000	21,000	1,201	1,201	-
Gunkul Training Center Co., Ltd.												
(Gunkul Solar Roof 2 Co., Ltd.)	1,000	1,000	1,000	100	100	100	1,000	1,000	1,000	2,999	2,999	-
Solar Energy Society Co., Ltd.	368,464	315,678	140,300	100	100	100	368,464	315,678	140,300	-	-	-
Bright Green Power Co.,Ltd.	1,306,410	171,250	120,000	100	100	100	1,306,410	171,250	120,000	-	-	-
Gunkul Power Development Co., Ltd.	300,000	300,000	300,000	100	100	100	300,000	300,000	300,000	-	-	619,999
Gunkul Solar Community Co.,Ltd.	20,000	20,000	10,000	100	100	100	20,000	20,000	10,000	-	-	-
Siam Gunkul Solar Energy Co.,Ltd.	40,900	40,900	40,900	100	100	100	40,899	40,899	40,899	8,589	8,589	-
Korat Wind Energy Co.,Ltd.	1,107,000	1,107,000	1,017,138	100	100	100	1,538,750	1,538,750	1,448,887	-	-	-
Gunkul Energy Solution and Lighting Co., Ltd.	40,600	40,600	40,600	100	100	100	40,600	40,600	40,600	-	-	-
Gio Bio Energy Co.,Ltd.	34,300	34,300	34,300	75	75	75	25,690	25,690	25,690	-	-	-
Infinite Alternative Energy Co.,Ltd.	1,564,000	1,564,000	1,564,000	67	67	67	1,868,576	1,088,576	1,088,576	80,687	80,687	165,436
Eco Thai Energy Co., Ltd.	76,500	76,500	76,500	51	51	51	42,015	42,015	42,015	4,830	4,830	6,964
Gunkul Infinite Group Co.,Ltd.												
(Gunkul Bio Energy Co., Ltd.)	282,259	2,000	500	75	75	100	211,694	1,499	499	-	-	-
Gunkul International (Mauritius) Ltd.	4,740,445	4,740,445	4,740,445	100	100	100	4,740,445	4,740,445	4,740,445	-	-	-
Gunkul Solar Power Co., Ltd.	179,250	179,250	179,250	100	100	100	179,250	179,250	179,250	-	-	-
BMP Solar Co., Ltd.	980	980	980	100	100	100	216,938	216,938	216,938	25,997	25,997	26,997
GKE & GPD Joint Venture Co.,Ltd.	20,000	20,000	-	50	50	-	10,000	10,000	-	-	-	-
GKE & FEC Joint Venture	26,000	6,000	-	60	60	-	15,600	3,600	-	-	-	-
Gunkul Engineering (Myanmar) Ltd.	1,588	-	-	100	-	-	1,588	-	-	-	-	-
Doan Son Thuy Investment Joint Stock Ltd.	332,494	-	-	100	-	-	332,494	-	-	-	-	-
Total							15,378,356	13,188,215	12,884,624	965,669	980,669	1,284,961

Land, Buildings and Equipment

The Company had net building and equipment equal to 59.47 million baht ,66.41 million baht and 74.18 million baht in 2020, 2019 and 2018, respectively. Since the Company had invested in buildings and equipment by increase in vehicle parts, tools, appliances and office equipment due to the increase of staff and executive from the expansion of the Company.

For the consolidated financial statements of the Group as at the end of 2020, 2019 and 2018 were 26,942.97 million baht, 24,567.14 million baht and 23,018.09 million baht, respectively. The substantial increase in land, buildings and equipment were based on the consolidated financial statements as compared to the separate financial statements of the Company. This is due to the consolidation of the value of land, buildings and equipment of the subsidiary in 2020 with the acquisition of 4 solar power plant projects in Vietnam and in 2019, the construction for 2 projects of wind power plants at Nakhon Ratchasima Province and 2 projects of solar power plant in Sendai and Kimitsu city, Japan. The details of the land Building and equipment of subsidiaries are as follows:

- **Wind Energy Development Co.,Ltd.**

In 2012, the company purchased a land for the power plant business in the amount of 378 million baht for the construction of a 60 MW wind power plant.

In 2017, the said subsidiary had complete commercial electricity sales for 3 projects.

- **Greenovation Power Co.,Ltd.**

In 2014, the said subsidiary began acquiring land for the construction of the wind power plant by purchasing land assets for the power plant business in amount to 204 million baht.

In 2018, the said subsidiary had complete commercial electricity sales in March 2018.

- **Korat Wind Energy Co.,Ltd.**

In 2018, the said subsidiary had complete commercial electricity sales in June 2018.

- **Renewable energy project from solar energy in Sendai, Japan**

In 2018, the said project had complete commercial electricity sales in November 2018.

- **Renewable energy project from solar energy in Kimitsu, Japan**

In 2019, the said project had complete commercial electricity sales in April 2019.

- **Renewable energy projects from solar energy in Tan Chau City, Tay Ninh Province, Vietnam, 2 projects, with a size of 30 MWp per project.**

In 2020, the said projects have been acquired and they have successfully distributed commercial power since May 2019.

- **Renewable energy projects from solar energy in Tan Chau City, Tay Ninh Province, Vietnam, 1 project, with a size of 50 MWp.**

In 2020, the said project has been acquired and it has successfully distributed commercial power since October 2020.

- **Renewable energy projects from solar energy in Phong Dien City, Thua Thien Hue Province, Vietnam, 1 project, with a size of 50 MWp.**

In 2020, the said project has been acquired and it has successfully distributed commercial power since December 2020.

Total Liabilities

The Company's total liabilities at the end of 2020, 2019 and 2018 were 33,556.84 million baht, 27,708.62 million baht and 26,124.70 million baht, respectively. In 2020, the Group began to have a higher total liability due to in 2019, the Company and its subsidiaries have grown and expanded in which the Company has drawn down renewable energy projects, resulting in the Company having short-term loans, long-term loans. There are debentures that will due in 2021 and trust receipts to support the increase in such investments, sales and construction from 2018 to 2020.

Total liabilities of the Company consisting of current debts, mainly including Short-term loans from financial institutions account for 13.88% of the Group's total liabilities. Trade payable account and asset payable for approximately 11.73% of the Group's total liabilities and long-term loans account and current portion of debentures for 9.88% of total liabilities. These 4 lists, the Company are used as a source of funds for the procurement of raw materials and commercial credits and construction of power plants of the Group.

The Group's liquidity ratios according to the consolidated financial statements for the year 2018-2020 were 0.91 times, 0.89 times and 0.65 times, respectively. For quick liquidity ratios were 0.86, times 0.81 times and 0.59 times, respectively. The average repayment period was 63 days, 77 days and 94 days. The Company has a cash cycle of 99 days, 91 days and 76 days, respectively. The selling period was 122 days, 87 days and 58 days. The collection period was 56 days, 55 days and 62 days, respectively. There was more time to collect revenue due to the increase in construction income and there was a way to recognize revenue including payment which was different from the case of the purchase.

In 2020 and 2019, the Company's debt-to-equity ratio increased from 2.44 times to 2.69 times and due to the improved operating results, the shareholders' equity increased from the previous year.

Shareholders' Equity

Shareholders' equity of the Company was 10,325.14 million baht, 9,530.50 million baht and 8,712.13 million baht at the end of the year 2020, 2019 and 2018, according to the separate financial statements, respectively.

For the consolidated financial statements as at the end of 2020, 2019 and 2018, The Group's shareholders' equity was 12,472.31 million baht, 11,332.91 million baht and 9,500.05 million baht, respectively, which the shareholders' equity had already included the profit (loss) for the year that appeared to have an effect on the shareholders' equity as follows:

- Treasury stock from the Shares Repurchase Program for financial management in the amount of 304.67 million baht.
- The impact of business integration under the same control (Acquisition of a subsidiary, FEC) in the amount of 558.37 million baht.
- The Company had a resolution to have a dividend payment for the operating results of year 2020 in the amount of 1,600 million baht.

Cash Flow

In 2020, the Company had net operating cash flow of 611.47 million baht, because the Company has increased the revenue growth in the year 2020 due to investment in subsidiaries in the renewable energy group in order to invest in a subsidiary that related to renewable energy. As for the use in investing activities in the amount of 186.11 million baht, the cash flow from financing activities increased due to the dividend's payment to shareholders, the gradual repayment of loans and debentures due to be drawn down for investment in wind power project construction in the amount of 170 MW and solar energy projects in Japan.

In 2019, the Company had net operating cash flow of 3,573.49 million baht, since in 2019 the Company has expanded its income, declining from investing in subsidiary companies in the renewable energy group in order to invest in a subsidiary in renewable energy. As for use in investing activities of 764.89 million baht, the cash flow from financing activities decreased from the gradual repayment of loans and debentures drawn down for the investment in the construction of 170 MW wind power projects, and solar energy projects in Japan that gradually drawn down since 2018.

For the year 2018, the Company had cash flow that needs to be spent on investing activities for 6,189.77 million baht from cash paid in order to buy land, building and equipment of subsidiaries for the construction of power plants from renewable energy from domestic and abroad. The Company had cash flow from financing activities of 4,807.55 million baht, a cash flow from long-term loans, cash flow from debentures issuance and pay dividends. The remaining cash flow of approximately 892.65 million baht for use in business management in 2019.



**Gunkul Engineering Public Company Limited
and its Subsidiaries**

**Financial statements for the year ended
31 December 2020
and
Independent Auditor's Report**

Independent Auditor's Report

To the Shareholders of Gunkul Engineering Public Company Limited

Opinion

I have audited the consolidated and separate financial statements of Gunkul Engineering Public Company Limited and its subsidiaries (the "Group") and of Gunkul Engineering 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 judgment, were of most significance in my audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

Impairment testing of goodwill and investment in subsidiaries, associate and joint venture	
Refer to Note 4, 12, 13 and 16	
The key audit matter	How the matter was addressed in the audit
The Group consistently considered impairment testing of goodwill, and considered impairment testing of investment in subsidiaries, associate and joint venture when there is an indicator which all mainly affected by market situation. This required management's judgement. Therefore, this is an area of focus in my audit.	My audit procedures in this area included, among others: • Understanding the impairment testing process of the management including estimated future cash flow and key assumptions used; • Testing key assumptions that underpin management's discounted cash flows with reference to market situations and its operating environment, my knowledge of the industry, and other obtained information; • Evaluating of the forecasting of financial performances by comparing historical estimation to the actual operating results and; • Evaluating the adequacy of the disclosures in accordance with the relevant Thai Financial Reporting Standards.

Acquisition of subsidiaries	
Refer to Notes 5	
The key audit matter	How the matter was addressed in the audit
In 2020, the Group acquired investments in companies whose main business is the generation and sale of electricity. In addition to recognising assets acquired and liabilities assumed from the business combination at their fair value, the Group recognised gain on bargain purchase of Baht 259 million (note 5(a)) in the consolidated statements of comprehensive income for the year ended 31 December 2020. The acquisition method of accounting for business combinations is a complex and judgmental exercise, requiring the Group to determine the fair value of assets acquired and liabilities assumed and consideration transferred with any resulting differences recognised as goodwill or a gain on bargain purchase. Due to the materiality of the transactions and the significant judgment and complexities involved in determining the fair value of assets acquired and liabilities assumed, I considered accounting for business combination as a key audit matter.	My audit procedures in this area included, among others: • Inquiring from management to understand the procedures on the identification fair value of assets acquired and liabilities assumed. • Reading the share purchase agreement and analysis memorandum supporting the acquisition prepared by the Group; • Evaluating the assessment by the Group of the identification of all the assets acquired and liabilities assumed, and consideration transferred; • Evaluating the competency and independence of the independent valuer of the Group; • Involving KPMG valuation specialists to evaluate the identification of the intangible assets, and the financial parameters applied for the discount rate, including the valuation methodology used and calculation rationale; • Evaluating the appropriateness of the assumptions applied to key inputs such as sales volumes and prices, operating costs, and long-term growth rates, which included comparing these inputs with externally derived data as well as my knowledge of the Group and the industry; • Evaluating the adequacy of the disclosures in accordance with the relevant Thai Financial Reporting Standards.

Revenue and cost of construction services	
Refer to Note 4 and 10	
The key audit matter	How the matter was addressed in the audit
The Group accounts for revenue and cost of construction services by referencing the stage of completion of the constructions. This is assessed by the responsible project's engineers and considered with the actual costs and the estimated costs to complete the constructions. The management and the project's engineers are required to exercise significant judgement to estimate the cost of construction services to complete the contracts that will affect the stage of completion. I considered the stage of completion and estimation for cost of construction services as the key audit matter.	My audit procedures in this areas included, among others; • Understanding the processes of the estimation and revision of the estimated costs of construction services; • Testing the estimated costs of construction services which were approved by the management, actual costs, revenue from construction services and unbilled revenue with related contracts and documents; • Comparing the stage of completion determined by engineers with the ratio of actual costs and the estimated costs including tested customers' acceptance documents; • Performing site visits together with the engineers to assess the appropriateness of the actual constructions progress and the stage of completion; • Performing analyses of the actual costs incurred and the estimated costs comparison, gross profits, progress of constructions and challenging the management for any deviations; • Testing the stage of completions and unbilled revenue calculations; • Testing the actual costs incurred after the period ended with related documents; • Evaluating the adequacy of the disclosures in accordance with the relevant Thai Financial Reporting Standards.

Emphasis of Matters

I draw attention to the followings;

- a) As discussed in note 3 to the financial statements which describe the impact of the adoption of certain new accounting policies from 1 January 2020 on the Group and the Company.
- b) As discussed in note 5(a) to the financial statements, during the year ended 31 December 2020, the Group has acquired businesses and has hired an independent appraiser to determine the fair value of the identifiable assets acquired and liabilities assumed from the business acquisitions. As at the reporting date, the appraisals have not yet been completed therefore the determination of the fair values and the allocation of the purchase prices were determined provisionally and are subject to potential amendment.

My opinion is not modified in respect of these matters.

Other Information

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(Waiyawat Kosamarnchaiyakij)
Certified Public Accountant
Registration No. 6333

KPMG Phoomchai Audit Ltd.
Bangkok
24 February 2021

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of financial position

Assets	Note	Consolidated		Separate	
		financial statements		financial statements	
		31 December		31 December	
		2020	2019	2020	2019
		(in Baht)			
Current assets					
Cash and cash equivalents	7	4,391,924,583	1,600,219,537	339,673,750	303,754,822
Short-term deposits from financial institution					
pledged as collateral		1,724,375,404	2,593,886,402	-	200,103,712
Trade and other current receivables	6, 8	2,863,723,261	1,227,263,208	966,903,135	395,842,686
Current portion of finance lease receivables	9	58,538,686	-	-	-
Unbilled revenue	10	1,225,272,800	625,171,464	-	-
Revenue Department receivable		385,537,470	220,205,763	-	2,570,255
Short-term loans to related parties	6	-	169,928,657	2,933,806,406	984,724,262
Inventories	11	637,408,172	652,779,571	377,178,712	380,906,999
Derivative assets		5,283,830	-	5,283,830	-
Other current financial assets		162,314,840	23,553,105	82,000,000	-
Other current assets		328,107,233	172,152,970	93,001,447	43,070,780
Total current assets		11,782,486,279	7,285,160,677	4,797,847,280	2,310,973,516
Non-current assets					
Other non-current financial assets	6	132,868,873	127,479,060	111,360,565	120,532,784
Long-term deposits from financial institution					
pledged as collateral		376,094,162	325,562,501	-	-
Loan to related parties	6	-	-	324,925,280	348,482,931
Investments in associates	12	409,815,757	481,894,599	397,594,800	397,594,800
Investments in joint ventures	12	1,155,928,826	1,249,137,069	726,177,750	726,177,750
Investments in subsidiaries	5, 13	-	-	15,712,437,525	13,188,214,576
Finance lease receivables	9	821,785,263	-	-	-
Investment properties		-	-	3,143,658	3,143,658
Property, plant and equipment	14	26,942,970,534	24,567,137,226	59,467,928	66,413,447
Right-of-use assets	6, 15	682,345,139	-	42,054,486	-
Goodwill	16	163,476,324	163,476,324	-	-
Intangible assets	16	3,414,649,404	3,953,067,993	6,835,206	6,132,502
Advance for shares subscription		-	559,555,466	-	-
Advance for land lease		-	194,348,456	-	-
Deferred tax assets	28	56,761,808	75,948,204	37,905,714	62,758,854
Other non-current assets		92,973,746	58,772,159	68,015,824	45,854,435
Total non-current assets		34,249,669,836	31,756,379,057	17,489,918,736	14,965,305,737
Total assets		46,032,156,115	39,041,539,734	22,287,766,016	17,276,279,253

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of financial position

Liabilities and equity	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
		2020	2019	2020	2019
(in Baht)					
Current liabilities					
Short-term loans from financial institutions	17	4,659,281,879	1,051,088,014	4,590,160,022	984,643,614
Short-term loans from related parties	6	-	-	182,000,000	286,305,838
Trade and other current payables	6	2,403,918,800	1,069,528,094	513,709,350	360,844,846
Unearned revenues		399,672,806	402,319,891	34,200,367	19,528,128
Payable for purchases of assets		1,532,604,348	2,802,809,458	-	-
Payables for share subscription	5	59,083,480	-	20,726,403	-
Retention payables	6	350,552,294	414,703,853	6,612,800	9,316,344
Current portion of long-term loans	17	1,496,265,900	1,261,321,656	28,482,094	28,504,129
Current portion of debentures	17	1,819,000,000	1,000,000,000	1,819,000,000	1,000,000,000
Current portion of lease liabilities	6, 17	42,155,085	15,510,305	15,409,287	7,903,214
Derivative liabilities		20,705,137	-	20,520,943	-
Income tax payable		29,390,046	24,123,342	-	-
Other current liabilities		169,943,278	163,654,718	23,759,195	19,775,742
Total current liabilities		12,982,573,053	8,205,059,331	7,254,580,461	2,716,821,855
Non-current liabilities					
Long-term loans	17	14,657,840,218	14,387,961,223	336,511,427	364,982,721
Debentures	17	4,135,584,021	4,602,977,092	4,135,584,021	4,602,977,092
Retention payables		15,924,784	5,969,146	87,500	185,000
Lease liabilities	6, 17	552,532,255	17,022,188	37,132,462	10,487,263
Deferred tax liabilities	28	226,632,783	186,316,791	-	-
Provisions for employee benefit	18	86,538,736	76,991,751	54,463,259	49,064,855
Provision for decommissioning costs of buildings and power plants	19	319,889,987	209,434,134	-	-
Derivative liabilities		571,894,192	-	143,633,082	-
Other non-current financial liabilities		618,571	618,571	618,571	618,571
Other non-current liabilities		6,814,409	16,275,668	10,486	637,663
Total non-current liabilities		20,574,269,956	19,503,566,564	4,708,040,808	5,028,953,165
Total liabilities		33,556,843,009	27,708,625,895	11,962,621,269	7,745,775,020

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of financial position

		Consolidated financial statements		Separate financial statements	
		31 December		31 December	
Liabilities and equity	Note	2020	2019	2020	2019
(in Baht)					
Equity					
Share capital	20				
Authorised share capital		2,220,632,743	2,225,586,448	2,220,632,743	2,225,586,448
Issued and paid-up share capital		2,220,632,743	2,220,632,743	2,220,632,743	2,220,632,743
Treasury shares	21	(304,674,256)	(304,674,256)	(304,674,256)	(304,674,256)
Additional paid in capital:					
Premium on ordinary shares	22	5,179,473,454	5,179,473,454	5,179,473,454	5,179,473,454
Difference arising from business combination under common control		(467,953,968)	(464,752,542)	-	-
Deficit from changes in ownership interest in subsidiary	5	(205,957,015)	-	-	-
Retained earnings					
Appropriated					
Legal reserve	22, 30	222,559,000	222,559,000	222,559,000	222,559,000
Treasury shares reserve	21, 22	304,674,256	304,674,256	304,674,256	304,674,256
Unappropriated		5,781,434,415	4,134,470,833	2,702,479,550	1,907,839,036
Other components of equity	22	(380,345,758)	(580,176,332)	-	-
Equity attributable to owners of the parent		12,349,842,871	10,712,207,156	10,325,144,747	9,530,504,233
Non-controlling interests	5, 13	125,470,235	620,706,683	-	-
Total equity		12,475,313,106	11,332,913,839	10,325,144,747	9,530,504,233
Total liabilities and equity		46,032,156,115	39,041,539,734	22,287,766,016	17,276,279,253

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of comprehensive income

		Consolidated		Separate	
		financial statements		financial statements	
		Year ended 31 December		Year ended 31 December	
	Note	2020	2019	2020	2019
		(in Baht)			
Revenue					
Revenue from sale	6	1,495,877,402	1,526,498,126	1,673,022,476	1,430,662,575
Revenue from sale of electricity		2,896,952,073	2,928,425,222	-	-
Revenue from rendering of services	6	124,213,883	87,728,797	20,256,922	40,007,288
Revenue from construction services		2,022,418,375	979,945,647	-	-
Revenue from sale of assets under finance lease	9	913,476,986	-	-	-
Revenue from adder		1,196,404,375	1,575,971,477	-	-
Dividend income	6, 12, 13	-	-	2,577,185,095	1,162,637,144
Net foreign exchange gain		-	19,893,800	18,821,658	7,205,903
Interest income	6	10,854,877	18,476,841	29,124,441	40,290,683
Gain on change in fair value of derivatives		-	-	74,308,660	-
Gain on bargain purchase	5	259,273,007	-	-	-
Gain on sale of investment in subsidiary	13	1,977,595,728	-	-	-
Other income	6	77,474,322	58,319,381	940,353	39,204,126
Total revenue		10,974,541,028	7,195,259,291	4,393,659,605	2,720,007,719
Expenses					
Cost of sale	6, 11	1,110,665,621	1,040,341,624	1,369,403,789	1,086,502,988
Cost of sale of electricity	6	1,738,354,708	1,499,380,037	-	-
Cost of rendering of services	6	52,881,296	47,714,078	2,561,419	13,504,399
Cost of construction services		1,814,550,944	862,949,818	-	-
Cost of sale of assets under finance lease	9	891,847,931	-	-	-
Selling expenses		58,491,311	68,263,898	29,498,367	45,429,016
Administrative expenses and others	6, 24	896,785,305	771,916,944	423,580,484	390,233,897
Net foreign exchange loss		13,867,001	-	-	-
Loss on change in fair value of derivatives		13,219,384	-	-	-
Total expenses		6,590,663,501	4,290,566,399	1,825,044,059	1,535,670,300
Share of profit of associates and joint ventures					
accounted for using equity method	12	72,595,791	268,653,670	-	-
Profit before finance costs and income tax expense		4,456,473,318	3,173,346,562	2,568,615,546	1,184,337,419
Finance costs	6, 27	911,768,869	910,076,035	321,391,732	290,683,941
Profit before income tax expense		3,544,704,449	2,263,270,527	2,247,223,814	893,653,478
Tax expense (income)	28	119,411,606	40,981,213	50,072,144	(945,963)
Profit for the year		3,425,292,843	2,222,289,314	2,197,151,670	894,599,441

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of comprehensive income

		Consolidated		Separate	
		financial statements		financial statements	
		Year ended 31 December		Year ended 31 December	
		2020	2019	2020	2019
		(in Baht)			
Other comprehensive income					
<i>Items that will be reclassified</i>					
<i>subsequently to profit or loss</i>					
Exchange differences on translating financial statements		200,099,685	(270,009,246)	-	-
Loss on measurement of financial assets		(291,769)	(443,608)	-	(175,957)
Income tax relating to items that will be reclassified					
subsequently to profit or loss	28	22,658	(22,658)	-	-
Total items that will be reclassified					
subsequently to profit or loss		199,830,574	(270,475,512)	-	(175,957)
<i>Items that will not be reclassified to profit or loss</i>					
Defined benefit plan actuarial losses	18	-	(2,332,399)	-	(3,562,648)
Income tax relating to items that will not be reclassified	28	-	466,480	-	712,530
Total items that will not be					
reclassified to profit or loss		-	(1,865,919)	-	(2,850,118)
Other comprehensive income (expense)					
for the year, net of tax		199,830,574	(272,341,431)	-	(3,026,075)
Total comprehensive income (expense) for the year		3,625,123,417	1,949,947,883	2,197,151,670	891,573,366
Profit attributable to:					
Owners of parent		3,412,336,597	2,147,329,258	2,197,151,670	894,599,441
Non-controlling interests		12,956,246	74,960,056	-	-
Profit for the year		3,425,292,843	2,222,289,314	2,197,151,670	894,599,441
Total comprehensive income (expense) attributable to:					
Owners of parent		3,612,167,171	1,874,891,706	2,197,151,670	891,573,366
Non-controlling interests		12,956,246	75,056,177	-	-
Total comprehensive income (expense) for the year		3,625,123,417	1,949,947,883	2,197,151,670	891,573,366
Basic earnings per share (in Baht)					
	29	0.39	0.24	0.25	0.10

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

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Gunkul Engineering Public Company Limited and its Subsidiaries

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

Gunkul Engineering Public Company Limited and its Subsidiaries
Statement of changes in equity

Separate financial statements									
	Note	Issued and paid-up share capital	Retained earnings					Other components of equity	Total equity
			Treasury shares	Share premium	Legal reserve	Treasury shares reserve	Unappropriated		
Year ended 31 December 2019									
Balance at 1 January 2019		1,854,655,373	(304,674,256)	5,179,473,454	198,300,000	304,674,256	1,479,522,211	175,957	8,712,126,995
Transactions with owners, recorded directly in equity									
Distributions to owners									
Stock dividend	20, 30	365,977,370	-	-	-	-	(365,977,370)	-	-
Dividend paid to shareholders	30	-	-	-	-	-	(73,196,128)	-	(73,196,128)
Total distributions to owners		365,977,370	-	-	-	-	(439,173,498)	-	(73,196,128)
Total transactions with owners, recorded directly in equity		365,977,370	-	-	-	-	(439,173,498)	-	(73,196,128)
Comprehensive income (expense) for the year									
Profit		-	-	-	-	-	894,599,441	-	894,599,441
Other comprehensive income (expense)		-	-	-	-	-	(2,850,118)	(175,957)	(3,026,075)
Total comprehensive income (expense) for the year		-	-	-	-	-	891,749,323	(175,957)	891,573,366
Transfer to legal reserve	22, 30	-	-	-	24,259,000	-	(24,259,000)	-	-
Balance at 31 December 2019		2,220,632,743	(304,674,256)	5,179,473,454	222,559,000	304,674,256	1,907,839,036	-	9,530,504,233

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

Gunkul Engineering Public Company Limited and its Subsidiaries
Statement of changes in equity

Separate financial statements								
		Issued and paid-up share capital	Treasury shares	Share premium	Legal reserve (in Baht)	Treasury shares reserve	Unappropriated	Total equity
Note								
Year ended 31 December 2020								
	Balance at 31 December 2019 - as reported	2,220,632,743	(304,674,256)	5,179,473,454	222,559,000	304,674,256	1,907,839,036	9,530,504,233
	Impact of changes in accounting policies	-	-	-	-	-	(207,959,851)	(207,959,851)
3	Balance at 1 January 2020 - restated	2,220,632,743	(304,674,256)	5,179,473,454	222,559,000	304,674,256	1,699,879,185	9,322,544,382
Transactions with owners, recorded directly in equity								
Distributions to owners								
30	Dividend paid to shareholders	-	-	-	-	-	(1,194,551,305)	(1,194,551,305)
	Total distributions to owners	-	-	-	-	-	(1,194,551,305)	(1,194,551,305)
	Total transactions with owners, recorded directly in equity	-	-	-	-	-	(1,194,551,305)	(1,194,551,305)
Comprehensive income (expense) for the year								
	Profit	-	-	-	-	-	2,197,151,670	2,197,151,670
	Other comprehensive income (expense)	-	-	-	-	-	-	-
	Total comprehensive income (expense) for the year	-	-	-	-	-	2,197,151,670	2,197,151,670
	Balance at 31 December 2020	2,220,632,743	(304,674,256)	5,179,473,454	222,559,000	304,674,256	2,702,479,550	10,325,144,747

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of cash flows

	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	3,425,292,843	2,222,289,314	2,197,151,670	894,599,441
<i>Adjustments to reconcile profit to cash receipts (payments)</i>				
Tax expense (income)	119,411,606	40,981,213	50,072,144	(945,963)
Finance costs	911,768,869	910,076,035	321,391,732	290,683,941
Depreciation and amortisation	1,353,456,948	1,137,428,087	14,863,386	14,093,113
Provisions for employee benefits	10,772,722	23,144,731	6,400,674	11,718,991
Unrealised (gain) loss on foreign exchange	39,846,270	(13,419,138)	29,068,581	(7,830,297)
(Gain) loss on change in fair value of derivatives	13,219,384	-	(74,308,660)	-
Share of profit of associates and joint ventures accounted for using equity method	(72,595,791)	(268,653,670)	-	-
Dividend income	-	-	(2,577,185,095)	(1,162,637,144)
Impairment loss recognised in profit or loss	5,890,475	-	5,570,988	-
Bad and doubtful debts expenses	-	1,313,177	-	187,152
Loss on inventories devaluation	13,477,851	10,695,705	4,998,462	6,678,700
Loss on disposal of property, plant and equipment	1,587,372	44,305,310	873,794	6,463,359
Gain on disposal of other debts securities	(325,093)	(3,310,253)	(98,473)	(1,987,463)
Gain on bargain purchase	(259,273,007)	-	-	-
Gain on sale of investment in subsidiaries	(1,977,595,728)	-	-	-
Interest income	(41,977,557)	(18,476,841)	(29,124,441)	(40,290,683)
	3,542,957,164	4,086,373,670	(50,325,238)	10,733,147
Changes in operating assets and liabilities				
Short-term deposits from financial institution pledged as collateral	810,934,192	(877,150,637)	200,103,712	(200,103,712)
Trade and other current receivables	(1,206,422,843)	271,591,016	(591,632,671)	268,386,487
Lease receivables	84,971,942	-	-	-
Unbilled revenue	(600,101,336)	(399,995,777)	-	-
Revenue Department receivable	(165,331,707)	306,881,090	2,570,255	(2,570,255)
Inventories	1,893,548	(123,308,257)	(1,270,176)	(103,253,122)
Other current assets	(130,204,646)	(41,613,221)	(62,559,878)	(8,659,948)
Other non-current financial assets	(14,349,411)	87,008	132,622	(3,483)
Other non-current assets	(4,830,540)	(32,228,823)	-	(33,000,000)
Advance for land lease	-	10,020,198	-	-
Trade and other current payables	(1,628,468,385)	463,685,436	147,971,477	38,807,602
Unearned revenues	(2,647,085)	298,102,721	14,672,238	3,361,238
Retention payables	(34,646,551)	(224,342,050)	(2,801,043)	(249,493)
Other current liabilities	8,012,228	(27,149,582)	3,983,453	(34,490,854)
Provisions for employees benefits	(1,225,737)	(1,374,429)	(1,002,270)	(907,149)
Other non-current liabilities	28,861,999	(20,210,841)	(627,177)	40
Net cash generated from (used in) operating activities	689,402,832	3,689,367,522	(340,784,696)	(61,949,502)
Taxes paid	(77,931,180)	(115,875,436)	(9,532,177)	(12,854,435)
Net cash from (used in) operating activities	611,471,652	3,573,492,086	(350,316,873)	(74,803,937)

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of cash flows

	Consolidated financial statements		Separate financial statements	
	Year ended 31 December		Year ended 31 December	
	2020	2019	2020	2019
	(in Baht)			
<i>Cash flows from investing activities</i>				
Payment for incremental of capital in subsidiaries	-	-	(1,411,729,365)	(341,090,475)
Proceeds from reduction of shares in subsidiary	-	-	-	37,500,000
Acquisition of subsidiaries, net of cash acquired	(440,642,857)	-	(311,576,740)	-
Proceeds from disposal of subsidiaries	4,597,985,471	-	-	-
Proceeds from incremental of shares in non-controlling interest	70,065,000	500,000	-	-
Acquisition of non-controlling interests	(780,000,000)	-	(780,000,000)	-
Acquisition of business under common control	(2,535,975)	-	-	-
Payment for incremental of capital in joint ventures	-	(152,067,600)	-	(149,567,600)
Proceeds from sale of other debts securities	326,272,590	2,156,565,115	160,098,472	1,911,717,980
Acquisition of other debts securities	(465,001,000)	(1,571,162,230)	(242,000,000)	(1,380,000,000)
Payment for advance for shares subscription	-	(559,555,466)	-	-
Benefit received from advance payment of machinery for investment	-	7,744,373	-	7,744,373
Acquisition of property, plant and equipment	(3,496,709,518)	(743,056,656)	(7,643,276)	(2,922,677)
Acquisition of intangible assets	(8,720,885)	(32,849,993)	(2,846,680)	(2,684,535)
Proceeds from sale of property, plant and equipment	5,561,559	25,763,836	995,592	2,880,776
Proceeds from sale of intangible assets	-	73,008,746	-	-
Proceeds from loans to related parties	169,928,657	-	2,396,986,952	1,284,929,600
Payment for loans to related parties	-	(169,928,657)	(4,329,537,498)	(863,684,123)
Dividend received	197,985,034	181,968,242	2,586,224,693	1,162,637,144
Interest received	11,922,568	18,177,390	29,189,095	48,977,680
Net cash from (used in) investing activities	186,110,644	(764,892,900)	(1,911,838,755)	1,716,438,143
<i>Cash flows from financing activities</i>				
Proceeds from short-term loans	3,620,874,153	-	3,617,171,295	-
Repayment of short-term loans	-	(1,254,902,711)	-	(1,027,827,332)
Proceeds from loans from related parties	-	-	1,371,000,000	50,000,000
Repayment of loans from related parties	-	-	(1,489,537,147)	(232,523,205)
Proceeds from long-term loans	1,743,669,366	1,717,573,607	-	-
Repayment of long-term loans	(1,391,695,929)	(1,525,809,398)	(28,800,000)	(28,800,000)
Proceeds from debentures	1,343,837,657	2,783,042,500	1,343,837,657	2,783,042,500
Repayment of debentures	(1,000,000,000)	(2,765,500,000)	(1,000,000,000)	(2,765,500,000)
Payment of lease liabilities	(247,016,227)	(15,183,489)	(7,903,215)	(7,858,839)
Dividend paid to shareholders	(1,194,489,983)	(73,198,984)	(1,194,489,983)	(73,198,983)
Dividend paid to non-controlling interests	(5,218,784)	(44,385,799)	-	-
Interest paid	(905,271,702)	(904,612,822)	(304,724,370)	(306,749,747)
Net cash from (used in) financing activities	1,964,688,551	(2,082,977,096)	2,306,554,237	(1,609,415,606)

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

Gunkul Engineering Public Company Limited and its Subsidiaries

Statement of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2020	2019	2020	2019
	<i>(in Baht)</i>			
Net increase in cash and cash equivalents	2,762,270,847	725,622,090	44,398,609	32,218,600
Effect of exchange rate changes on cash and cash equivalents	29,434,199	(18,055,207)	(8,479,681)	(2,226,591)
Cash and cash equivalents as at 1 January	<u>1,600,219,537</u>	<u>892,652,654</u>	<u>303,754,822</u>	<u>273,762,813</u>
Cash and cash equivalents at 31 December	<u>4,391,924,583</u>	<u>1,600,219,537</u>	<u>339,673,750</u>	<u>303,754,822</u>
<i>Non-cash transactions</i>				
Receivable for sales of property, plant and equipment	-	1,896,902	-	185,032
Payables for purchases of property, plant and equipment	1,532,604,348	2,802,809,458	-	-
Acquisition of assets under finance lease contracts	10,038,242	14,918,000	42,054,486	11,448,000
Finance costs and front end fee capitalise as assets	1,290,836	-	-	-
Provisions for decommission costs capitalise as assets	-	7,787,223	-	-
Stock dividends	-	365,977,370	-	365,977,370
Dividend payable	61,322	-	61,322	-
Payables for share subscription	59,083,480	-	20,726,403	-

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

Gunkul Engineering Public Company Limited and its Subsidiaries
Notes to the financial statements
For the year ended 31 December 2020

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Gunkul Engineering 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 24 February 2021.

1 General information

Gunkul Engineering Public Company Limited, the “Company”, is incorporated in Thailand and was listed on the Stock Exchange of Thailand on 15 October 2010. The Company’s registered office at 1177 Pearl Bangkok Building, 8th floor, Phahonyothin Road, Phaya Thai district, Phaya Thai, Bangkok.

The Company’s major shareholder during the financial year was Gunkul Group Co., Ltd. (49.90% shareholding) which was incorporated in Thailand. The principal shareholder of the Company’s major shareholder is Dhumrongpiyawut family.

The principal activities of the Company are distribution of equipments for electrical systems, construction and investing in the generating and selling electricity business. Details of the Company’s subsidiaries as at 31 December 2020 and 2019 are given in note 13.

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

These 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 notes:

- 4(l) and 9 Leases:
- whether an arrangement contains a lease;
 - whether the Group is reasonably certain to exercise extension options;
 - whether the Group has transferred substantially all the risks and rewards incidental to the ownership of the assets to lessees/sub-lessees.

(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(l) Determining the incremental borrowing rate to measure lease liabilities;
- 4(s) and 10 Determination of stage of completion;
- 5(a) Acquisition of subsidiaries: fair value of the consideration transferred (including contingent consideration) and fair value of the assets acquired and liabilities assumed, measured on a provisional basis;
- 16 Impairment test of goodwill: key assumptions underlying recoverable amounts;
- 18 Measurement of defined benefit obligations: key actuarial assumptions;
- 19 Recognition and measurement of provision for decommissioning costs of buildings and power plant
- 28 Recognition of deferred tax assets: availability of future taxable profit against which deductible temporary differences and tax losses carried forward can be utilised.

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		Separate financial statements	
		Retained earnings	Other components of equity (in thousand Baht)	Retained earnings	Other components of equity
At 31 December 2019 - as reported		4,134,471	(580,177)	1,907,839	-
Increase (decrease) due to:					
Adoption of TFRS – Financial instruments standards					
Derivatives	(a.3)	(573,832)	-	(233,179)	-
Related tax	(a.3)	29,793	-	25,219	-
Adoption of TFRS 16 – net of tax	(b)	(26,783)	-	-	-
Net		(570,822)	-	(207,960)	-
At 1 January 2020 - restated		3,563,649	(580,177)	1,699,879	-

(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. The details of accounting policies are disclosed in note 4(d) and 4(m). 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, derivatives are measured at FVTPL. Previously, the Group recognised the derivatives when they were exercised.

The following table shows measurement categories under previous standards and TFRS 9, including reconciliation of the carrying amounts of each class of the Group financial assets and financial liabilities as at 1 January 2020.

Consolidated financial statements					
Classification under previous standards at 31 December 2019		Classification under TFRS 9 at 1 January 2020			
	Carrying amounts	Fair value – applied hedge accounting	Fair value through profit or loss (in thousand Baht)	Fair value through other comprehensive income	Amortised cost - net
Cash and cash equivalents	1,600,220	-	-	-	1,600,220
Short-term deposits from financial institution pledged as collateral	2,919,449	-	-	-	2,919,449
Trade and other current receivables	1,227,263	-	-	-	1,227,263
Unbilled revenue	625,172	-	-	-	625,172
Loan to related parties	169,929	-	-	-	169,929
Other current financial assets	23,553	-	-	23,553	-
Other non-current financial assets	127,479	-	-	-	127,479
Total	6,693,065	-	-	23,553	6,669,512
Short-term loans from financial institutions	1,051,088	-	-	-	1,051,088
Trade and other current payables	1,069,528	-	-	-	1,069,528
Payable for purchases of assets	2,802,810	-	-	-	2,802,810
Retention payables	420,673	-	-	-	420,673
Long-term loans	15,649,283	-	-	-	15,649,283
Debentures	5,602,977	-	-	-	5,602,977
Lease liabilities	32,532	-	-	-	32,532
Other non-current financial liabilities	618	-	-	-	618
Derivative liabilities	-	-	568,600	-	-
Total	26,629,509	-	568,600	-	26,629,509

Separate financial statements

Classification under previous standards at 31 December 2019		Classification under TFRS 9 at 1 January 2020			
	Carrying amounts	Fair value – applied hedge accounting	Fair value through profit or loss <i>(in thousand Baht)</i>	Fair value through other comprehensive income	Amortised cost - net
Cash and cash equivalents	303,755	-	-	-	303,755
Short-term deposits from financial institution pledged as collateral	200,104	-	-	-	200,104
Trade and other current receivables	395,843	-	-	-	395,843
Loan to related parties	1,333,206	-	-	-	1,333,206
Other non-current financial assets	120,533	-	-	-	120,533
Total	2,353,441	-	-	-	2,353,441
Short-term loans from financial institutions	984,644	-	-	-	984,644
Trade and other current payables	360,845	-	-	-	360,845
Retention payables	9,501	-	-	-	9,501
Long-term loans	393,487	-	-	-	393,487
Loan from related parties	286,306	-	-	-	286,306
Debentures	5,602,977	-	-	-	5,602,977
Lease liabilities	18,390	-	-	-	18,390
Other non-current financial liabilities	618	-	-	-	618
Derivative liabilities	-	-	233,179	-	-
Total	7,656,768	-	233,179	-	7,656,768

(a.2) Impairment – Financial assets and contract assets

TFRS 9 introduces the ‘expected credit loss’ (ECL) model whereas previously the Group estimated 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, contract assets, lease receivables and debt investments measured at FVOCI, except for investments in equity instruments.

The Group has determined that the application of TFRS 9’s impairment requirements at 1 January 2020 and does not have a significant effect on the financial statements.

(a.3) Derivatives

Under TFRS 9, all derivatives are measured at fair value in the statement of financial position through profit or loss. Previously, TFRS were silent on the requirements of derivatives held for risk management purposes. In 2019, the Group recognised the derivatives when they were exercised.

	Consolidated financial statements	Separate financial statements
<i>Impact of derivative as at 1 January 2020</i>	<i>(in thousand Baht)</i>	
Increase in deferred tax assets	29,793	25,219
Increase in derivatives	(568,600)	(233,179)
Decrease in investment in joint ventures	(5,232)	-
Decrease in retained earnings	544,039	207,960

(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 and relevant lease incentives 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 allocates the consideration in the contract based on stand-alone selling price (transaction price). As at 1 January 2020, the Group 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;
- 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.

	Consolidated financial statements	Separate financial statements
<i>Impact from the adoption of TFRS 16</i>	<i>(in thousand Baht)</i>	
<i>At 1 January 2020</i>		
Increase in right-of-use assets	501,657	-
Decrease in investment in joint ventures	(1,391)	-
Decrease in property, plant and equipment	(28,801)	-
Increase in deferred tax assets	14	-
Increase in lease receivables	40,147	-
Decrease in advance for land lease	(194,349)	-
Decrease in other current assets	(5,855)	-
Increase in lease liabilities	(341,365)	-
Decrease in other current liabilities	3,160	-
Decrease in retained earnings	26,783	-

	Consolidated financial statements (in thousand Baht)	Separate financial statements
Measurement of lease liability		
Operating lease commitment as disclosed at 31 December 2019	271,942	20,346
Long-term land lease agreement	230,730	-
Recognition exemption for leases	(20,524)	(20,346)
	482,148	-
Present value of remaining lease payments, discounted using the incremental borrowing rate at 1 January 2020	341,365	-
Finance lease liabilities recognised as at 31 December 2019	32,532	18,390
Lease liabilities recognised at 1 January 2020	373,897	18,390
Incremental borrowing rate (% per annum)	1.43 – 14.73	6.25 – 12.00

Right-of-use assets and lease liabilities shown above were presented as part of generating and selling electricity and manufacturing and selling of equipments for electrical systems segments, respectively.

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 the 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 and share-based payment awards of the acquiree that are replaced mandatorily in the business combination.

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

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

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

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period, or additional assets or liabilities are 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 combination under common control are accounted for using a method similar to the pooling of interest method. Under that method the acquirer recognizes assets and liabilities of the acquired businesses at their carrying amounts in the consolidated financial statements of the ultimate parent company at the moment of the transaction. The difference between the carrying amount of the acquired 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 loses control over a subsidiary, it derecognises the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Interests in equity-accounted investees

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

(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 reporting date.

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

Foreign 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 through other comprehensive income (FVOCI); or fair value through 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 which the election is non-cancellable.

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. The election is non-cancellable.

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.

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.
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.
Debt investments at FVOCI	These assets are subsequently measured at fair value. Interest income, calculated using the effective interest method, foreign exchange gains and losses and impairment are recognised in profit or loss. Other net gains and losses are recognised in OCI. On derecognition, gains and losses accumulated in OCI are reclassified to 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.

(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.

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.

Derivatives

Derivatives were recognised when they were exercised.

(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. Bank overdrafts that are repayable on demand are a component of financing activities for the purpose of the statement of cash flows.

(f) Trade and other accounts receivable

A receivable is recognised when the Group has an unconditional right to receive consideration.

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) Inventories

Inventories are measured at the lower of cost and net realisable value.

Cost is calculated using the first in first out principle, and comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. In the case of manufactured inventories and work-in-progress, cost includes an appropriate share of production overheads based on normal operating capacity.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs to complete and to make the sale.

(h) Unbilled revenue

Unbilled revenue represents the gross unbilled amount expected to be collected from customers for contract work performed to date. They are measured at costs incurred plus profits recognised to date (see note 10) less progress billings and recognised losses, presented as current asset in the statement of financial position.

(i) Investment properties

Investment properties are land which are held to earn rental income, for capital appreciation or for both, but not for sale in the ordinary course of business or for administrative purposes.

Investment properties are stated at cost less impairment losses.

(j) Property, plant and equipment

Recognition and measurement

Owned assets

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

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the assets to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located, and capitalised borrowing costs. 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 gain and losses on disposal of an 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.

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 property, plant and equipment. The estimated useful lives are as follows:

Building, building improvement and utility system	25 - 30 years
Machinery and equipment	5 - 25 years
Fixtures and office equipments	5 years
Vehicles	8 - 10 years

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

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

(k) 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 are as follows:

Software licences	3-5	years
Right to use electrical transmission line	20 and 25	years
Right to power purchase agreement and right to operate	20 and 25	years

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

(l) 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.

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 incremental borrowing rate is applied. The lease payments included fixed payments less any lease incentive receivable, lease payments also include amount under purchase option, 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.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption, then it classifies the sub-lease as 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(m)). 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 from investment property 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.

(m) 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), debt investments measured at FVOCI, contract assets, 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, lease receivables and contract assets 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 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.

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 more than 30 days past due, significant deterioration in financial instruments' 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 more than 90 days past due.

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. Evidence of credit-impairment includes significant financial difficulty, a breach of contract such as more than 90 days past due, probable the debtor will enter bankruptcy.

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 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.

Reversal of impairment

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

(n) 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.

(o) Employee benefits

Defined contribution plans

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

Defined benefit plans

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

The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognised asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any application minimum funding requirements.

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

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

Other long-term employee benefits

The Group's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognised in profit or loss in the period in which they arise.

Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognizes costs for a restructuring. If benefits are not expected to be settled wholly within 12 months of the end of the reporting period, then they are discounted.

Short-term employee benefits

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.

(p) Provisions

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance cost.

Provision for decommissioning costs of buildings and power plants

The Group recognises provision for decommissioning costs of the buildings or structures with the present value of the estimate of the eventual costs at the lease end date. The recognised provision for decommissioning costs are based on removal cost estimates, removal period, discount rate and future inflation rate. Provision for decommissioning and restoration are discounted to be present value, and are included as part of the assets.

(q) Fair value measurement

'Fair value' is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or, in its absence, the most advantageous market to which the Group has access at that date. The fair value of a liability reflects its non-performance risk.

A number of the Group 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.

The Group recognises transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

(r) Treasury Shares

When share capital recognised as equity is repurchased, the amount of consideration paid, including directly attributable costs, is classified as treasury shares and recognised as a deduction from equity. An equal amount is appropriated from retained earnings and taken to a reserve for treasury shares within equity. When treasury shares are sold, the amount received is recognised as an increase in equity by crediting the cost of the treasury shares sold, calculated using the weighted average method, to the treasury shares account and transferring the equivalent amount back from reserve for treasury shares to retained earnings. Surpluses on the sale of treasury shares are taken directly to a separate category within equity, 'Share premium on treasury shares'. Net deficits on sale or cancellation of treasury shares are debited to retained earnings after setting off against any remaining balance of surplus on treasury shares.

(s) Revenue

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

Sale of goods and services

Revenue from sales of goods is recognised when a customer obtains control of the goods, generally on delivery of the goods to the customers. For contracts that permit the customers to return the goods, revenue is recognised to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur. Therefore, the amount of revenue recognised is adjusted for estimated returns, which are estimated based on the historical data. Revenue for rendering of services is recognised over time as the services are provided.

For bundled packages, the Group accounts for individual products and services separately if they are distinct (i.e. if a product or service is separately identifiable from other items and a customer can benefit from it) or the multiple services are rendered in different reporting periods. The consideration received is allocated based on their relative stand-alone selling prices.

Revenue from sale of electricity

Revenue from sale of electricity is recognised in profit or loss based on the units of sales delivered at the applicable tariff rates.

Revenue from construction contracts

Contract revenue includes the initial amount agreed in the contract plus any variations in contract work, claims and incentive payments to the extent that it is probable that they will result in revenue and can be measured reliably. As soon as the outcome of a construction contract can be estimated reliably, contract revenue and expenses are recognised in profit or loss in proportion to the stage of completion of the contract.

The stage of completion is assessed by reference to surveys of work performed. When the outcome of a construction contract cannot be estimated reliably, contract revenue is recognised only to the extent of contract costs incurred that are likely to be recoverable. An expected loss on a contract is recognised immediately in profit or loss.

(t) 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.

(u) 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.

(v) *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.

(w) 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 period, adjusted for own shares held.

(x) Related parties

Related parties are a person or entity that has direct or indirect control or joint control, or has significant influence over the financial and managerial decision-making of the Group; a person or entity that are under common control or under the same significant influence as the Group; or the Group has direct or indirect control or joint control or has significant influence over the financial and managerial decision-making of a person or entity.

(y) 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 Acquisitions of subsidiaries and non-controlling interests

(a) Acquisitions of subsidiaries

(a.1) Singapore An Yang Pte. Ltd. and Singapore Yun Yang Pte. Ltd

On 4 February 2020, Bright Green Power Co., Ltd., the Company's subsidiary, acquired all ordinary shares of Singapore An Yang Pte. Ltd. ("An Yang") and Singapore Yun Yang Pte. Ltd. ("Yun Yang") which is incorporated in Singapore and invest in 2 solar power plant projects in Vietnam with a total capacity of 60 megawatts. As a result of this acquisition, the Group has obtain control over indirect subsidiaries of Tri Viet Hoa Binh Joint Stock Company ("TVHB"), Bach Khoa A Chau Hoa Binh Joint Stock Company ("BKHB"), Tri Viet Tay Ninh Joint Stock Company ("TVTN") and Bach Khoa A Chau Tay Ninh Joint Stock Company ("BKTN").

The acquisition of An Yang and Yun Yang's ordinary shares for the purpose of investing in a solar power plant in Vietnam, which has started to sell electricity commercially. This will help expand the Company's base of operations in Southeast Asia and also promote the Company's growth both in terms of assets and operating results. The Company is able to recognise income and returns from the power plant operations immediately after investing.

During the period from acquisition date to 31 December 2020, Singapore An Yang Pte. Ltd. ("An Yang") and Singapore Yun Yang Pte. Ltd. ("Yun Yang") contributed revenue of Baht 249.2 million and profit of Baht 4.97 million to the Group's results. If the acquisition had occurred on 1 January 2020, management estimates that consolidated revenue would have increased by Baht 75.4 million and consolidated loss for the year ended 31 December 2020 would have increased by Baht 1.2 million. In determining these amounts, management has assumed that the fair value adjustments, determined provisionally, that arose on the date of acquisition would have been the same if the acquisition had occurred on 1 January 2020.

Purchase consideration transferred

	Note	Singapore Yun Yang Pte. Ltd.	Fair value Singapore An Yang Pte. Ltd. (in thousand Baht)	Total
Cash and cash equivalents		279,778	279,777	559,555
Payables for share subscription		8,691	39,899	48,590
		288,469	319,676	608,145

Identifiable assets acquired and liabilities assumed

Cash and cash equivalents		83,418	97,037	180,455
Trade receivables		40,734	40,100	80,834
Other current receivables		755	161	916
Property, plant and equipment	14	897,130	875,288	1,772,418
Right-of-use assets		13,000	13,888	26,888
Payable for purchases of assets and other payables		(679,803)	(658,221)	(1,338,024)
Income tax payable		(2,842)	(4,909)	(7,751)
Loans and borrowings		(94)	(162)	(256)
Total identifiable net assets		352,298	363,182	715,480
Less Non-controlling interests		(228)	(229)	(457)
Total identifiable net assets received		352,070	362,953	715,023
Gain on bargain purchase		(63,601)	(43,277)	(106,878)
Purchase consideration transferred		288,469	319,676	608,145
Acquisition value - payables		(8,691)	(39,899)	(48,590)
Net cash acquired with the subsidiaries		83,418	97,037	180,455
Cash paid		(279,778)	(279,777)	(559,555)
Net cash outflows		(205,051)	(222,639)	(427,690)

The fair value of identifiable assets acquired and liabilities assumed have been determined provisionally pending completion of an independent valuation.

The Group is continuing its review of these matters during the measurement period. If new information obtained within one year from the acquisition date about facts and circumstances that existed at the acquisition date identifies adjustments to the above provisional fair values, or any additional assets or liabilities that existed at the acquisition date, then the acquisition accounting will be revised.

This business combination resulted in a bargain purchase transaction of Baht 106.9 million due to the fair value of assets acquired and liabilities assumed exceeded the consideration paid.

Acquisition-related costs

The Group incurred acquisition-related costs of Baht 12.92 million related to legal fee and bank guarantee fee which have been included in administrative expenses in the Group's consolidated statement of comprehensive income.

(a.2) Doan Son Thuy Investment Joint Stock Company

On 25 November 2020, the Company acquired all ordinary shares of Doan Son Thuy Investment Joint Stock Company (“DST”) which is incorporated in Vietnam to invest in solar power plant project with a total capacity of 50 megawatts.

The acquisition of Doan Son Thuy Investment Joint Stock Company’s ordinary shares for the purpose of investing in a solar power plant in Vietnam, which will start to sell electricity commercially in December 2020. This will help expand the Company’s base of operations in Southeast Asia and also promote the Company’s growth both in terms of assets and operating results. The Company is able to recognise income and returns from the power plant operations immediately after investing.

During the period from acquisition date to 31 December 2020, Doan Son Thuy Investment Joint Stock Company contributed revenue of Baht 1.80 million and loss of Baht 0.71 million to the Group’s results. If the acquisition had occurred on 1 January 2020, management estimates that consolidated revenue would have increased by Baht 0.004 million and consolidated loss for the year ended 31 December 2020 would have increased by Baht 1.17 million. In determining these amounts, management has assumed that the fair value adjustments, determined provisionally, that arose on the date of acquisition would have been the same if the acquisition had occurred on 1 January 2020.

<i>Purchase consideration transferred</i>	<i>Note</i>	Fair value Doan Son Thuy Investment Joint Stock Company (in thousand Baht)
Cash and cash equivalents		311,577
Payables for share subscription		20,917
		332,494
<i>Identifiable assets acquired and liabilities assumed</i>		
Cash and cash equivalents		4,490
Trade and other receivables		299,717
Other current receivables		49,405
Property, plant and equipment	14	602,044
Right-of-use assets		4,200
Intangible assets	16	5,240
Payable for purchases of assets and other payables		(565,703)
Loans and borrowings		(4,790)
Deferred tax liabilities	28	(301)
Provision for decommissioning costs of power plants	19	(28,646)
Total identifiable net assets		365,656
Less Non-controlling interests		-
Total identifiable net assets received		365,656
Gain on bargain purchase		(33,162)
Purchase consideration transferred		332,494
Acquisition value - payables		(20,917)
Net cash acquired with the subsidiaries		4,490
Cash paid		(311,577)
Net cash outflows		(328,004)

The fair value of identifiable assets acquired and liabilities assumed have been determined provisionally pending completion of an independent valuation.

The Group is continuing its review of these matters during the measurement period. If new information obtained within one year from the acquisition date about facts and circumstances that existed at the acquisition date identifies adjustments to the above provisional fair values, or any additional assets or liabilities that existed at the acquisition date, then the acquisition accounting will be revised.

This business combination resulted in a bargain purchase transaction of Baht 33.16 million due to the fair value of assets acquired and liabilities assumed exceeded the consideration paid.

Acquisition-related costs

The Group incurred acquisition-related costs of Baht 3.30 million related to legal fee and bank guarantee fee which have been included in administrative expenses in the Group's consolidated statement of comprehensive income.

(a.3) INT Energy Pte. Ltd.

On 7 December 2020, Bright Green Power Co., Ltd., the Company's subsidiary, acquired all ordinary shares of INT Energy Pte. Ltd. ("INT") which is incorporated in Singapore and invest in Tan Chau Energy Joint Stock Company ("TCE") which is solar power plant project in Vietnam with a total capacity of 50 megawatts.

The acquisition of INT Energy Pte. Ltd.'s ordinary shares for the purpose of investing in a solar power plant in Vietnam, which has started to sell electricity commercially. This will help expand the Company's base of operations in Southeast Asia and also promote the Company's growth both in terms of assets and operating results. The Company is able to recognise income and returns from the power plant operations immediately after investing.

During the period from acquisition date to 31 December 2020, INT Energy Pte. Ltd. ("INT") contributed revenue of Baht 10.48 million and profit of Baht 0.91 million to the Group's results. If the acquisition had occurred on 1 January 2020, management estimates that consolidated revenue would have increased by Baht 25.27 million and consolidated loss for the year ended 31 December 2020 would have increased by Baht 13.73 million. In determining these amounts, management has assumed that the fair value adjustments, determined provisionally, that arose on the date of acquisition would have been the same if the acquisition had occurred on 1 January 2020.

Purchase consideration transferred

	Fair value
	INT Energy
	Pte. Ltd.
	<i>(in thousand Baht)</i>
Cash and cash equivalents	409,016
Payables for share subscription	38,357
	447,373

<i>Identifiable assets acquired and liabilities assumed</i>	<i>Note</i>	Fair value INT Energy Pte. Ltd. <i>(in thousand Baht)</i>
Cash and cash equivalents		84,320
Trade and other receivables		62,324
Other current receivables		3,953
Property, plant and equipment	14	1,071,917
Intangible assets	16	377,845
Payable for purchases of assets and other payables		(969,488)
Deferred tax liabilities	28	(34,040)
Provision for decommissioning costs of power plants	19	(29,678)
Total identifiable net assets		567,153
Less Non-controlling interests		(547)
Total identifiable net assets received		566,606
Gain on bargain purchase		(119,233)
Purchase consideration transferred		447,373
Acquisition value - payables		(38,357)
Net cash acquired with the subsidiaries		84,320
Cash paid		(409,016)
Net cash outflows		(363,053)

The fair value of identifiable assets acquired and liabilities assumed have been determined provisionally pending completion of an independent valuation.

The Group is continuing its review of these matters during the measurement period. If new information obtained within one year from the acquisition date about facts and circumstances that existed at the acquisition date identifies adjustments to the above provisional fair values, or any additional assets or liabilities that existed at the acquisition date, then the acquisition accounting will be revised.

This business combination resulted in a bargain purchase transaction of Baht 119.23 million due to the fair value of assets acquired and liabilities assumed exceeded the consideration paid.

Acquisition-related costs

The Group incurred acquisition-related costs of Baht 2.39 million related to legal fee and bank guarantee fee which have been included in administrative expenses in the Group's consolidated statement of comprehensive income.

(b) Acquisition of non-controlling interests

On 6 January 2020, the Company acquired ordinary shares in Infinite Alternative Energy Co., Ltd. which is the Company's subsidiary at the proportion of 33% of paid-up capital from the existing shareholder. This is result in an increasing of the Company's interest in Infinite Alternative Energy Co., Ltd. from 67% to 100%. The Company paid for share capital amounting to Baht 780 million. The carrying amount of Infinite Alternative Energy Co., Ltd.'s net assets in the Group's financial statements on the date of the acquisition was Baht 1,780.46 million. The Group recognised a decrease in non-controlling interests of Baht 574 million and recognised deficit from changes in ownership interest in subsidiary of Baht 205.95 million.

6 Related parties

Relationships with subsidiaries, associates and joint ventures are described in notes 12 and 13. Other related parties during the year were as follows:

Name of entities	Country of Incorporation	Nature of relationships
Gunkul Group Co., Ltd.	Thailand	Major shareholder
Rang-Ngern Solution Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Outgrow A Co.,Ltd. ⁽¹⁾	Thailand	Indirect subsidiary and/or common directors
Outgrow D Co.,Ltd.	Thailand	Indirect subsidiary and/or common directors
Outgrow E Co.,Ltd. ⁽¹⁾	Thailand	Indirect subsidiary and/or common directors
Gunkul Solar Power 1 Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Gunkul Solar Power 2 Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Future Electrical Control Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Joint Venture GPD & TEECL Co.,Ltd.	Thailand	Indirect subsidiary and/or common directors
Joint Venture FEC & PPB Co.,Ltd. ⁽³⁾	Thailand	Indirect subsidiary and/or common directors
Future Energy Corporation Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Gunkul B2B Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Gunkul Investment (Singapore) Pte. Ltd. ⁽¹⁾	Singapore	Indirect subsidiary and/or common directors
Gunkul International Investment (Singapore) Pte. Ltd.	Singapore	Indirect subsidiary and/or common directors
Gunkul Myanmar Central Power 1 Company Limited	Myanmar	Indirect subsidiary and/or common directors
Singapore An Yang Pte. Ltd.	Singapore	Indirect subsidiary and/or common directors
Singapore Yun Yang Pte. Ltd.	Singapore	Indirect subsidiary and/or common directors
Sendai Okura GD Daiichi Godo Kaisha	Japan	Indirect subsidiary
Kimitsu Mega Solar Godo Kaisha	Japan	Indirect subsidiary
Future Asset Management Kabushiki Kaisha	Japan	Indirect subsidiary
GD Solar Utsunomiya Godo Kaisha ⁽²⁾	Japan	Indirect subsidiary
East Japan Solar 13 Godo Kaisha ⁽²⁾	Japan	Indirect subsidiary
Tri Viet Hoa Binh Joint Stock Company	Vietnam	Indirect subsidiary
Bach Khoa A Chau Hoa Binh Joint Stock Company	Vietnam	Indirect subsidiary
Tri Viet Tay Ninh Joint Stock Company	Vietnam	Indirect subsidiary
Bach Khoa A Chau Tay Ninh Joint Stock Company	Vietnam	Indirect subsidiary
Tan Chau Energy Joint Stock Company	Vietnam	Indirect subsidiary
INT Energy Pte. Ltd.	Singapore	Indirect subsidiary
Gunkul Trading and Agency Co., Ltd.	Thailand	Common directors
G.M.Supply and Construction Co., Ltd.	Thailand	Common directors
Gunkul Engineering (2000) Co., Ltd.	Thailand	Common directors
Great Miracle Asset Co., Ltd.	Thailand	Common directors
Great Miracle Asset 2 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 3 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 4 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 5 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 7 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 8 Co., Ltd.	Thailand	Common directors

Name of entities	Country of Incorporation	Nature of relationships
Great Miracle Asset 9 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 10 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 11 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 13 Co., Ltd.	Thailand	Common directors
Great Miracle Asset 14 Co., Ltd.	Thailand	Common directors
Pranburi Boulevard Co., Ltd.	Thailand	Common directors
Noprakul Co., Ltd.	Thailand	Holding by the director
Gunkul Marine Line Co., Ltd.	Thailand	Holding by the director
Green Filed Energy Co., Ltd.	Thailand	Holding by the director
Kulnatee Co., Ltd.	Thailand	Holding by close relative of a director
P.M. Building Group Co., Ltd.	Thailand	Holding by close relative of a director
Thonglor 9 Co., Ltd. ⁽²⁾	Thailand	Holding by major shareholder
Tech-Green Co., Ltd. ⁽³⁾	Thailand	Holding by major shareholder
Siam Future Co., Ltd.	Thailand	Holding by major shareholder
Entirety Sap Co., Ltd. ⁽³⁾	Thailand	Holding by major shareholder
Happy Green 2558 Co., Ltd.	Thailand	Holding by major shareholder
Key management personnel	Thailand	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.

⁽¹⁾ The liquidation was completed during the year 2019.

⁽²⁾ Sale of investment during the year 2020.

⁽³⁾ The liquidation was completed during the year 2020.

The pricing policies for particular types of transactions are explained further below:

Transactions	Pricing policies
Purchase and sale of goods	Cost plus 5% to 30%
Services fee	Contractually agreed prices
Interest income and expense	Interest rate equal to interest rate of loan from financial institution
Rental	Contractually agreed prices
Purchase and sales of assets	Net book value
Construction expense	Contractually agreed prices

Significant transactions for the years ended 31 December with related parties were as follows:

Year ended 31 December	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
<i>(in thousand Baht)</i>				
Subsidiaries				
Revenue from sale	-	-	353,915	107,422
Revenue from rendering of services	-	-	2,242	1,585
Management service income	-	-	5,805	5,429
Rental income	-	-	255	255
Interest income	-	-	27,541	37,057
Dividend income	-	-	2,379,200	980,669
Purchase of goods and services	-	-	387,193	509,889

<i>Year ended 31 December</i>	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Administrative expenses	-	-	3	-
Interest expense	-	-	3,805	3,420
Training expense	-	-	438	1,607
Sale of assets	-	-	77	232
Associates				
Revenue from sale	-	401	-	387
Revenue from rendering of services	44,456	26,396	-	-
Dividend income	-	-	61,938	48,769
Joint ventures				
Revenue from sale	640	980	378	-
Revenue from rendering of services	55,717	24,661	-	-
Management service income	5,527	5,314	5,527	5,314
Interest income	342	900	342	900
Dividend income	-	-	136,047	133,200
Training expense	3	13	-	-
Other related parties				
Revenue from rendering of services	10	70	-	-
Purchase of goods and services	-	10	-	10
Office and warehouse rental fee	6,438	7,954	6,438	6,438
Interest of lease liabilities	28	-	-	-
Key management personnel				
Key management personnel compensation				
Short-term employee benefit	181,310	137,955	145,486	109,907
Post-employment benefits	3,225	5,594	2,901	4,737
Total	184,535	143,549	148,387	114,644

Balances as at 31 December with related parties were as follows:

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Trade accounts receivable				
Subsidiaries	-	-	448,316	85,952
Associate	1,586	1,586	-	-
Joint ventures	455	1,242	-	-
Other related parties	2	5	-	-
Total	2,043	2,833	448,316	85,952
Other receivables				
Subsidiaries	-	-	9,703	10,581
Joint venture	68,712	1,374	493	1,374
Total	68,712	1,374	10,196	11,955

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Other non-current financial assets				
Associates	<u>106,764</u>	<u>115,803</u>	<u>106,764</u>	<u>115,803</u>
Right-of-use assets				
Other related parties	<u>22,740</u>	<u>-</u>	<u>18,299</u>	<u>-</u>

Loans to related parties

Movements during the years ended 31 December of loans to related parties were as follows:

	Interest rate 31 December (% per annum)	1 January	Consolidated financial statements		31 December
			Increase	Decrease	
			(in thousand Baht)		
2020					
Joint venture - Current portion					
Kenyir Gunkul Solar Sdn Bhd.	-	169,929	-	(169,929)	-
Less allowance for expected credit loss		-	-	-	-
Total		<u>169,929</u>	<u>-</u>	<u>(169,929)</u>	<u>-</u>

2019					
Joint venture - Current portion					
Kenyir Gunkul Solar Sdn Bhd.	3.50	-	169,929	-	169,929
Less allowance for expected credit loss		-	-	-	-
Total		<u>-</u>	<u>169,929</u>	<u>-</u>	<u>169,929</u>

	Interest rate 31 December (% per annum)	1 January	Separate financial statements		31 December
			Increase	Decrease	
			(in thousand Baht)		
2020					
Current portion					
Subsidiaries					
Bright Green Power Co., Ltd.	3.00	603,383	2,368,880	(2,021,088)	951,175
Gunkul Energy Solution and Lighting Co., Ltd.	-	34,337	-	(34,337)	-
BMP Solar Co., Ltd.	3.73	20,000	-	-	20,000
Gunkul Power Development Co., Ltd.	-	117,075	-	(117,075)	-
Solar Energy Society Co., Ltd.	2.14 - 2.61	40,000	491,000	(31,000)	500,000
Gunkul International (Mauritius)	2.20	-	1,321,726	(6,072)	1,315,654
Future Asset Management Kabushiki Kaisha	2.20	-	57,640	(265)	57,375
Doan Son Thuy Investment Joint Stock Company	-	-	90,291	(689)	89,602
Joint venture					
Kenyir Gunkul Solar Sdn Bhd.	-	169,929	-	(169,929)	-
Total current portion		<u>984,724</u>	<u>4,329,537</u>	<u>(2,380,455)</u>	<u>2,933,806</u>

	Interest rate 31 December (% per annum)	1 January	Separate financial statements		31 December
			Increase	Decrease	
			(in thousand Baht)		
Non-current portion					
Subsidiary					
BMP Solar Co., Ltd.	3.73	348,483	-	(23,558)	324,925
Total non-current portion		348,483	-	(23,558)	324,925
Less allowance for expected credit loss		-	-	-	-
Total		1,333,207	4,329,537	(2,404,013)	3,258,731

2019

Current portion

Subsidiaries

Bright Green Power Co., Ltd.	2.51 - 3.10	43,828	559,555	-	603,383
Gunkul Energy Solution and Lighting Co., Ltd.	2.62 - 3.11	54,000	-	(19,663)	34,337
BMP Solar Co., Ltd.	3.73	388,483	-	(368,483)	20,000
Korat Wind Energy Co., Ltd.	-	1,069,067	-	(1,069,067)	-
Future Electrical Control Co., Ltd.	-	10,000	-	(10,000)	-
Gunkul Power Development Co., Ltd.	2.57 - 2.59	57,075	93,700	(33,700)	117,075
Greenovation Power Co., Ltd.	-	132,000	-	(132,000)	-
Solar Energy Society Co., Ltd.	2.50 - 2.61	-	40,000	-	40,000
Gunkul Solar Community Co., Ltd.	-	-	500	(500)	-

Joint venture

Kenyir Gunkul Solar Sdn Bhd.	3.50	-	169,929	-	169,929
Total current portion		1,754,453	863,684	(1,633,413)	984,724

Non-current portion

Subsidiary

BMP Solar Co., Ltd.	3.73	-	348,483	-	348,483
Total non-current portion		-	348,483	-	348,483
Total		1,754,453	1,212,167	(1,633,413)	1,333,207

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Trade accounts payable				
Subsidiaries	-	-	70,033	148,388
Other current payables				
Subsidiaries	-	-	424	148
Associates	1,301	1,230	-	-
Joint venture	3,126	3,126	-	-
Total	4,427	4,356	424	148
Retention payables				
Subsidiaries	-	-	-	1,763
Lease liabilities				
Other related parties	22,740	-	18,299	-

Short-term loans from related parties

Movements during the years ended 31 December of loans from related parties were as follows

	Interest rate		Separate financial statements		
	At 31 December (% per annum)	1 January	Increase (in thousand Baht)	Decrease	31 December
2020					
Subsidiaries					
Gunkul International (Mauritius)	-	193,541	1,079,231	(1,272,772)	-
Gunkul Solar Power Co., Ltd.	2.14 - 2.85	80,000	41,000	(11,000)	110,000
K.N.P. Supply Co., Ltd.	2.65	12,765	-	(4,765)	8,000
Siam Gunkul Solar Energy Co., Ltd.	2.14	-	16,000	(1,000)	15,000
Infinite Alternative Energy Co., Ltd.	2.14	-	17,000	-	17,000
Bright Green Power Co., Ltd.	2.11	-	10,000	-	10,000
Gunkul Energy Solution and Lighting Co., Ltd.	2.11	-	10,000	-	10,000
Gunkul Solar Community Co., Ltd.	2.11	-	7,000	-	7,000
Gunkul Solar Roof 1 Co., Ltd.	2.11	-	5,000	-	5,000
Total		286,306	1,185,231	(1,289,537)	182,000
2019					
Subsidiaries					
Gunkul International (Mauritius)	-	349,631	-	(156,090)	193,541
Solar Energy Society Co., Ltd.	-	54,000	-	(54,000)	-
Gunkul Solar Power Co., Ltd.	2.85	80,000	-	-	80,000
K.N.P. Supply Co., Ltd.	2.65	-	50,000	(37,235)	12,765
Total		483,631	50,000	(247,325)	286,306

Significant agreements with related parties

As at 31 December 2020, the Group had agreements with related parties as follows:

Land building and properties lease/sublease agreements

The Company has land lease agreement for power plants construction with a subsidiary for the period of 26 years expiring in September 2039. The subsidiary has committed to pay rental fee as stipulated in the agreement.

The Company and certain subsidiaries have land lease, sublease of land, building and properties with certain related parties. The agreements are for period of 2-3 years and shall be renewable. The Company and subsidiaries have committed to pay rental fee as stipulated in the agreements.

The Company and certain subsidiaries have lease/sublease of land, building, property and rooftop space with its subsidiaries in the Group. The agreements are for period of 2 to 26 years and shall be renewable. The Company and subsidiaries have committed to pay rental fee as stipulated in the agreements.

Operation and maintenance agreements

The Company and a subsidiary had several operation and maintenance agreements with subsidiaries, associate and joint ventures whereby the service fees are stipulated in the agreements. These agreements expire in December 2023 to May 2037.

Service agreements

Joint ventures and subsidiaries had several service agreements with the company whereby the agreements is for a period of 5 years and shall be renewable. The service fees are stipulated in the agreements. These agreements expire in January 2022 to December 2022.

Construction service agreements

The certain subsidiaries had several construction service agreements with its subsidiaries in the Group. The subsidiaries have committed to pay services fee as stipulated in the agreements.

Asset management service agreements

Two subsidiaries in Japan have asset management service agreements with a subsidiary in Japan. These agreements have a period of 20 years commencing from commercial operation date. The agreements expire during April 2038 to December 2041. The services fees are stipulated in the agreements.

Security

At 31 December 2020, the Company has pledged promissory notes of loan to related party with a book value of Baht 344.93 million as collateral to secure long-term loan received from a commercial bank.

7 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Cash on hand	855	853	200	200
Cash at banks-current accounts	350,887	200,946	34,719	13,219
Cash at banks-savings accounts	3,904,377	1,253,265	303,176	287,377
Highly liquid short-term investments	-	555	-	25
Cheques on hand	135,805	144,600	1,579	2,934
Cash and cash equivalents in the statement of financial position	4,391,924	1,600,219	339,674	303,755

8 Trade and other current receivables

		Consolidated financial statements		Separate financial statements	
	Note	2020	2019	2020	2019
		<i>(in thousand Baht)</i>			
Trade accounts receivable					
Related parties	6	2,043	2,833	448,316	85,952
Other parties		1,601,930	1,062,813	404,825	203,042
Less allowance for expected credit loss		(8,154)	(2,264)	(6,654)	(1,083)
Net		1,595,819	1,063,382	846,487	287,911
Other current receivables					
Related parties	6	68,712	1,374	10,196	11,955
Other parties		248,017	162,507	110,220	95,977
Deposit		951,175	-	-	-
		1,267,904	163,881	120,416	107,932
Total		2,863,723	1,227,263	966,903	395,843
Allowance for expected credit loss for the year		5,890	1,368	5,571	187

In December 2020, the Group has a deposit relate to the share purchase agreement in Vietnam which will be refunded on the last payment date according to the term and conditions in the agreement.

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Within credit terms	1,452,905	1,003,235	737,094	194,727
Overdue:				
Less than 3 months	113,366	28,318	102,332	23,907
3 - 6 months	19,520	1,319	-	43,577
6 - 12 months	2,929	3,546	607	13,010
Over 12 months	15,253	29,228	13,108	13,773
	1,603,973	1,065,646	853,141	288,994
Less allowance for expected credit loss	(8,154)	(2,264)	(6,654)	(1,083)
Net	1,595,819	1,063,382	846,487	287,911

The normal credit term granted by the Group ranges from 30 days to 180 days.

9 Lease receivables

	31 December 2020				31 December 2019			
	Within 1 year	After 1 year but within 5 years	After 5 years	Total	Within 1 year	After 1 year but within 5 years	After 5 years	Total
	(in thousand Baht)							
Lease receivables	162,326	483,427	1,304,490	1,950,243	-	-	-	-
Less unearned interest income	(103,787)	(398,873)	(567,259)	(1,069,919)	-	-	-	-
Total	58,539	84,554	737,231	880,324	-	-	-	-
Less allowance for expected credit loss	-	-	-	-	-	-	-	-
Net	58,539	84,554	737,231	880,324	-	-	-	-

10 Unbilled revenue

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Cost and attributable profit	2,656,183	1,774,843	-	-
Progress billings	(1,430,910)	(1,149,671)	-	-
Net	1,225,273	625,172	-	-

11 Inventories

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Finished goods	442,261	479,736	341,285	378,762
Work in progress	411	485	-	-
Raw materials	171,205	136,397	-	-
Factory supplies	1,885	1,700	-	-
Construction in progress	9,633	28,747	-	-
Goods in transit	59,004	39,315	57,143	18,396
Total	684,399	686,380	398,428	397,158
Less allowance for declining in value of inventories	(46,991)	(33,600)	(21,249)	(16,251)
Net	637,408	652,780	377,179	380,907
Inventories recognised in 'cost of sales of goods':				
- Cost	1,097,275	1,029,646	1,364,405	1,079,824
- Write-down to net realisable value	13,762	12,226	5,062	6,946
- Reversal of write-down	(371)	(1,530)	(63)	(267)
Net	1,110,666	1,040,342	1,369,404	1,086,503

12 Investments in associates and joint ventures

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
At 1 January	1,731,032	1,505,617	1,123,773	974,205
Share of net profit of associates and joint ventures	72,596	268,654	-	-
Increase in share capital	-	152,068	-	149,568
Dividend income	(197,985)	(181,968)	-	-
Impact of changes in accounting policies	(6,623)	-	-	-
Elimination of unrealised profit on downstream sales	(35,924)	-	-	-
Exchange differences on translating financial statements	2,649	(13,339)	-	-
At 31 December	1,565,745	1,731,032	1,123,773	1,123,773

Investment in associates and joint ventures as at 31 December 2020 and 2019, and dividend income for the years then ended were as follows:

Consolidated financial statements									
	Type of business	Ownership interest		Paid-up capital		Cost		Equity	Dividend income for the year
		2020	2019	2020	2019	2020	2019		
		(%)				(in thousand Baht)			
<i>Associate</i>									
G-Power Source Co., Ltd.	Generating and selling electricity	40.00	40.00	930,000	930,000	397,595	397,595	481,895	48,769
						397,595	397,595	481,895	48,769
<i>Direct joint ventures</i>									
Gunkul Chubu Powergen Co., Ltd.	Generating and selling electricity	51.00	51.00	992,000	992,000	505,920	505,920	1,067,054	131,589
WHA Gunkul Green Solar Roof 1 Co., Ltd.	Generating and selling electricity	25.01	25.01	11,500	11,500	2,876	2,876	2,222	144
WHA Gunkul Green Solar Roof 3 Co., Ltd.	Generating and selling electricity	25.01	25.01	14,500	14,500	3,626	3,626	3,036	363
WHA Gunkul Green Solar Roof 6 Co., Ltd.	Generating and selling electricity	25.01	25.01	14,500	14,500	3,626	3,626	3,037	363
WHA Gunkul Green Solar Roof 17 Co., Ltd.	Generating and selling electricity	25.01	25.01	16,000	16,000	4,002	4,002	1,982	740
Kenyir Gunkul Solar Sdn Bhd.	Generating and selling electricity	70.00	70.00	4,035	4,035	206,128	206,128	171,436	-
						726,178	726,178	1,248,532	133,199
<i>Indirect joint venture</i>									
Joint venture SPI & GPD	Provide cleaning services and goods shipping	50.00	50.00	5,000	5,000	2,500	2,500	605	-
						2,500	2,500	605	-
Total						1,126,273	1,126,273	1,731,032	181,968

Separate financial statements

	Ownership interest 2020	Paid-up capital 2020	Cost 2020	Impairment 2020 (in thousand Baht)	At cost - net		Dividend income for the year	
					2020	2019	2020	2019
Associate								
G-Power Source Co., Ltd.	40.00	930,000	397,595	-	397,595	397,595	61,938	48,769
			397,595	-	397,595	397,595	61,938	48,769
Joint ventures								
Gunkul Chubu Powergen Co., Ltd.	51.00	992,000	505,920	-	505,920	505,920	134,575	131,589
WHA Gunkul Green Solar Roof 1 Co., Ltd.	25.01	11,500	2,876	-	2,876	2,876	158	144
WHA Gunkul Green Solar Roof 3 Co., Ltd.	25.01	14,500	3,626	-	3,626	3,626	417	363
WHA Gunkul Green Solar Roof 6 Co., Ltd.	25.01	14,500	3,626	-	3,626	3,626	417	363
WHA Gunkul Green Solar Roof 17 Co., Ltd.	25.01	16,000	4,002	-	4,002	4,002	480	740
Kenyir Gunkul Solar Sdn Bhd.	70.00	4,305	206,128	-	206,128	206,128	-	-
			726,178	-	726,178	726,178	136,047	133,199
Total			1,123,773	-	1,123,773	1,123,773	197,985	181,968

All associate and joint ventures were incorporated in Thailand, except Kenyir Gunkul Solar Sdn Bhd. which was incorporated and operated in Malaysia.
None of the Group's associate and joint ventures are publicly listed and consequently do not have published price quotations.

Associates and joint ventures

The following table summarises the financial information of the associates and 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.

	Associates		Joint ventures	
	G-Power Source Co., Ltd. 2020	2019	Gunkul Chubu Powergen Co., Ltd. 2020	2019
		(in thousand Baht)		
Revenue	494,111	456,928	565,262	594,251
Profit for the year	307,997	250,137	354,754	369,810
Less allowance for impairment losses	(342,739)	-	(206,602)	-
Net profit (loss)	(34,742)	250,137	148,152	369,810
Other comprehensive income (expense)	-	-	-	-
Total comprehensive income (expense) (100%)	(34,742)	250,137	148,152	369,810
Total comprehensive income (expense) of the Group's interest (40% and 51% hold)	(13,897)	100,055	75,558	188,603
Elimination of unrealised profit on sales of assets	8,140	8,140	7,251	7,251
Power purchase agreement	(4,384)	(4,384)	(11,394)	(11,394)
Group's share of total comprehensive income (expense)	(10,141)	103,811	71,415	184,460
Current assets	210,080	139,862	248,867	276,958
Non-current assets	1,713,353	2,170,289	1,973,969	2,299,146
Current liabilities	(566,333)	(532,988)	(213,693)	(267,684)
Non-current liabilities	(176,461)	(406,938)	(186,627)	(359,669)
Net assets (100%)	1,180,639	1,370,225	1,822,516	1,948,751
Group's share of net assets (40% and 51% hold)	472,256	548,091	929,483	993,863
Elimination of unrealised profit on sales of assets	(134,349)	(142,489)	(127,771)	(135,022)
Power purchase agreement	71,909	76,293	196,819	208,213
Carrying amount of interest in associate and joint venture	409,816	481,895	998,531	1,067,054

	Joint venture	
	Gunkul Chubu Powergen Co., Ltd.	
	2020	2019
	(in thousand Baht)	
Remark:		
a. Includes:		
– depreciation and amortisation	123,430	123,084
– interest expense	25,137	39,595
– income tax expense	3,422	4,502
b. Includes cash and cash equivalents	10	20
c. Includes current financial liabilities (excluding trade, other payables and provisions)	199,168	250,333
d. Includes non-current financial liabilities (excluding trade, other payables and provisions)	179,243	259,236

Immaterial joint ventures

The following is summarised financial information for the Group's interest in immaterial joint ventures based on the amounts reported in the Group's consolidated financial statements:

		Immaterial joint ventures	
		2020	2019
		<i>(in thousand Baht)</i>	
Carrying amount of interests in immaterial joint ventures		157,397	182,083
Group's share of:			
- Profit (loss) from continuing operations		11,322	(19,617)
- Other comprehensive income (expense)		-	-
- Total comprehensive income (expense)		<u>11,322</u>	<u>(19,617)</u>

13 Investments in subsidiaries

		Separate financial statements	
		2020	2019
		<i>(in thousand Baht)</i>	
At 1 January		13,188,215	12,884,624
Acquisition of subsidiaries	5	332,494	-
Increase in share capital of subsidiaries		1,411,729	341,091
Acquisition of non-controlling interests	5	780,000	-
Decrease in share capital		-	(37,500)
At 31 December		<u>15,712,438</u>	<u>13,188,215</u>

Increase in share capital of subsidiaries

Solar Energy Society Co., Ltd.

During the year ended 31 December 2020, the Company paid for the additional share capital amounting to Baht 52.79 million, totalling paid-up share capital amount of Baht 368.46 million.

Bright Green Power Co., Ltd.

During the year ended 31 December 2020, the Company paid for the additional share capital amounting to Baht 1,135.16 million, totalling paid-up share capital amount of Baht 1,306.41 million.

Gunkul Infinite Group Co., Ltd.

During the year ended 31 December 2020, the Company paid for the additional share capital amounting to Baht 210.20 million, totalling paid-up share capital amount of Baht 282.26 million.

Joint venture GKE & FEC

During the year ended 31 December 2020, the Company paid for the additional share capital amounting to Baht 12.00 million, totalling paid-up share capital amount of Baht 26.00 million.

Establishment of subsidiary***Gunkul Engineering (Myanmar) Company Limited***

On 10 June 2020, the Company established Gunkul Engineering (Myanmar) Company Limited in order to import and selling equipment for electrical systems in Myanmar with registered capital of U.S. Dollars 0.05 million and 100% shareholding in such subsidiary. During the year ended 31 December 2020, the Company paid for the share capital amounting to Baht 1.59 million.

Acquisitions of subsidiaries (Note 5(a))***Doan Son Thuy Investment Joint Stock Company***

On 25 November 2020, the Company acquired 99.99% of ordinary shares of Doan Son Thuy Investment Joint Stock Company (“DST”) which is incorporated in Vietnam for the purpose of investing in a solar power project with a total capacity of 50 megawatts. Total investment is amounting to 332.49 million

Acquisition of non-controlling interests (Note 5(b))***Infinite Alternative Energy Co., Ltd.***

On 6 January 2020, the Company acquired ordinary shares in Infinite Alternative Energy Co., Ltd. which is the Company’s subsidiary at the proportion of 33% of paid-up capital from the existing shareholder. The Company paid for share capital amounting to Baht 780 million, resulting in an increasing of the Company’s interest in Infinite Alternative Energy Co., Ltd. from 67% to 100%.

Sale of investment in indirect subsidiaries

(a) GD Solar Utsunomiya Godo Kaisha

On 18 September 2020, the Group sold 100% investment in GD Solar Utsunomiya Godo Kaisha which is the company's indirect subsidiary at the amount of JPY 5,964.93 million to increase liquidity and leverage to be used for turnover and new investments. The indirect subsidiary is a solar power plant project in Japan with a total capacity under the power purchase agreement of 66.78 megawatts and the installation capacity of 69.83 megawatts, which has been granted a 20-year concession to sell electricity at a Feed-in tariff (FIT) at the rate of 36 yen per unit. It is expected that the construction and commercialisation of electricity will be completed by February 2023.

Net assets of such indirect subsidiary at the selling date is JPY 3,249.69 million which comprise of asset under construction and permits for power plant project. The Group recognised gain on sale of the investment in the consolidated statements of comprehensive income for the year ended 31 December 2020 amounting to Baht 806.53 million.

(b) East Japan Solar 13 Godo Kaisha

On 28 December 2020, the Group sold 100% investment in East Japan Solar 13 Godo Kaisha which is the company's indirect subsidiary at the amount of JPY 9,942.65 million to increase liquidity and leverage to be used for turnover and new investments. The indirect subsidiary is a solar power plant project in Japan with a total capacity under the power purchase agreement of 75 megawatts and the installation capacity of 98 megawatts, which has been granted a 20-year concession to sell electricity at a Feed-in tariff (FIT) at the rate of 32 yen per unit.

Net assets of such indirect subsidiary at the selling date is JPY 5,919.02 million which comprise of asset under construction and permits for power plant project. The Group recognised gain on sale of the investment in the consolidated statements of comprehensive income for the year ended 31 December 2020 amounting to Baht 1,171.06 million.

Separate financial statements

	Type of business	Country of operation	Ownership interest (%)		Paid-up capital		Cost		Impairment (in thousand Baht)		At cost - net		Dividend income for the year	
			2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
Subsidiaries														
G.K. Power Product Co., Ltd.	Manufacturing and selling of equipments for electrical systems	Thailand	100.00	100.00	100,000	100,000	80,425	80,425	-	-	80,425	80,425	-	15,000
		Thailand	100.00	100.00	200,000	200,000	163,188	163,188	-	-	163,188	163,188	-	-
G.K. Assembly Co., Ltd.	Manufacturing and selling of equipments for electrical systems	Thailand	100.00	100.00	12,500	12,500	3,908	3,908	-	-	3,908	3,908	-	700
		Thailand	100.00	100.00	1,485,000	1,485,000	1,916,500	1,916,500	-	-	1,916,500	1,916,500	307,395	629,640
Greenovation Power Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00	1,575,000	1,575,000	2,226,150	2,226,150	-	-	2,226,150	2,226,150	148,837	200,025
		Thailand	100.00	100.00	2,600	2,600	40,854	40,854	-	-	40,854	40,854	9,001	11,001
Wind Energy Development Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00	21,000	21,000	21,000	21,000	-	-	21,000	21,000	-	1,201
		Thailand	100.00	100.00	1,000	1,000	1,000	1,000	-	-	1,000	1,000	-	2,999
NK Power Sola Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00	368,464	315,678	368,464	315,678	-	-	368,464	315,678	-	-
		Thailand	100.00	100.00	1,306,410	171,250	1,306,410	171,250	-	-	1,306,410	171,250	-	-
Gunkul Solar Roof 1 Co., Ltd.	Provide training services	Thailand	100.00	100.00	1,306,410	171,250	1,306,410	171,250	-	-	1,306,410	171,250	-	-
Gunkul Training Center Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00	1,306,410	171,250	1,306,410	171,250	-	-	1,306,410	171,250	-	-
Solar Energy Society Co., Ltd.	Investing in companies	Thailand	100.00	100.00	1,306,410	171,250	1,306,410	171,250	-	-	1,306,410	171,250	-	-
Bright Green Power Co., Ltd.		Thailand	100.00	100.00	1,306,410	171,250	1,306,410	171,250	-	-	1,306,410	171,250	-	-

Separate financial statements

Type of business	Country of operation	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
		(in thousand Baht)											
Gunkul Power Development Co., Ltd.	Thailand	100.00	100.00	300,000	300,000	300,000	300,000	-	-	300,000	300,000	-	-
Gunkul Solar Community Co., Ltd.	Thailand	100.00	100.00	20,000	20,000	20,000	20,000	-	-	20,000	20,000	-	-
Siam Gunkul Solar Energy Co., Ltd.	Thailand	100.00	100.00	40,900	40,900	40,899	40,899	-	-	40,899	40,899	4,123	8,589
Korat Wind Energy Co., Ltd.	Thailand	100.00	100.00	1,107,000	1,107,000	1,538,750	1,538,750	-	-	1,538,750	1,538,750	946,817	-
Gunkul Energy Solution and Lighting Co., Ltd.	Thailand	100.00	100.00	40,600	40,600	40,600	40,600	-	-	40,600	40,600	-	-
GO Bioenergy Co., Ltd.	Thailand	74.90	74.90	34,300	34,300	25,690	25,690	-	-	25,690	25,690	-	-
Infinite Alternative Energy Co., Ltd.	Thailand	100.00	67.00	1,564,000	1,564,000	1,868,576	1,868,576	-	-	1,868,576	1,088,576	232,880	80,687
Eco Thaienergy Co., Ltd.	Thailand	51.00	51.00	76,500	76,500	42,015	42,015	-	-	42,015	42,015	5,396	4,830
Gunkul Infinite Group Co., Ltd.	Thailand	75.00	75.00	282,259	2,000	211,694	1,499	-	-	211,694	1,499	-	-
Gunkul International (Mauritius)	Mauritius	100.00	100.00	4,740,445	4,740,445	4,740,445	4,740,445	-	-	4,740,445	4,740,445	699,454	-
Gunkul Solar Power Co., Ltd.	Thailand	100.00	100.00	179,250	179,250	179,250	179,250	-	-	179,250	179,250	-	-
BMP Solar Co., Ltd.	Thailand	100.00	100.00	980	980	216,938	216,938	-	-	216,938	216,938	25,297	25,997
Joint venture GKE & GPD Company Limited	Thailand	50.00	50.00	20,000	20,000	10,000	10,000	-	-	10,000	10,000	-	-

Separate financial statements										
	Type of business	Country of operation	Ownership interest		Paid-up capital		Cost		Impairment	
			2020	2019	2020	2019	2020	2019	2020	2019
			(%)						(in thousand Baht)	
Joint venture GKE & FEC	Construction	Thailand	60.00	60.00	26,000	6,000	15,600	3,600	-	3,600
Gunkul Engineering (Myanmar) Company Limited	Import and selling equipments for electric systems	Myanmar	100.00	-	1,588	-	1,588	-	-	-
Doan Son Thuy Investment Joint Stock Company	Generating and selling electricity	Vietnam	100.00	-	332,494	-	332,494	-	-	-
Total							15,712,438	13,188,215	-	13,188,215
							15,712,438	15,712,438	2,379,200	980,669
										At cost - net
										2020
										2019
										Dividend income for the year
										2020
										2019

None of the Company's subsidiaries are publicly listed and consequently do not have published price quotations.

14 Property, plant and equipment

Consolidated financial statements

	Land	Building, building improvement and utility system	Machinery and equipment	Furniture, fixtures and office equipment <i>(in thousand Baht)</i>	Vehicles	Assets under construction	Total
Cost							
At 1 January 2019	1,065,981	1,059,669	20,080,901	90,979	126,338	2,167,933	24,591,801
Additions	400	1,728	53,024	4,933	15,216	3,064,675	3,139,976
Transfers	662,256	-	2,843,464	(6,377)	917	(3,500,260)	-
Disposals	-	-	(47,662)	(2,707)	(15,894)	(252,613)	(318,876)
Effect of movements in exchange rates	-	-	(185,363)	(98)	-	(124,518)	(309,979)
At 31 December 2019 and 1 January 2020	1,728,637	1,061,397	22,744,364	86,730	126,577	1,355,217	27,102,922
Additions	-	67,923	22,677	13,871	9,835	2,262,257	2,376,563
Acquisitions of subsidiaries <i>(See note 5(a))</i>	-	364,046	2,609,867	-	-	578,329	3,552,242
Transfers	-	386,758	823,515	-	-	(1,210,273)	-
Disposals	-	(1,342)	(242,206)	(358)	(3,865)	(435,012)	(682,783)
Sale of investment in subsidiaries	-	-	-	-	-	(2,027,345)	(2,027,345)
Effect of movements in exchange rates	35,376	(1,642)	269,737	246	-	128,948	432,665
At 31 December 2020	1,764,013	1,877,140	26,227,954	100,489	132,547	652,121	30,754,264

Consolidated financial statements

	Land	Building, building improvement and utility system	Machinery and equipment	Furniture, fixtures and office equipment (in thousand Baht)	Vehicles	Assets under construction	Total
<i>Accumulated depreciation and impairment losses</i>							
At 1 January 2019	-	(153,351)	(1,300,621)	(57,989)	(61,425)	(322)	(1,573,708)
Depreciation charge for the year	-	(41,649)	(929,362)	(9,483)	(10,198)	-	(990,692)
Transfers	-	(20)	(431)	461	(10)	-	-
Disposals	-	-	6,217	2,763	9,803	-	18,783
Effect of movements in exchange rates	-	-	9,761	71	-	-	9,832
At 31 December 2019							
and 1 January 2020	-	(195,020)	(2,214,436)	(64,177)	(61,830)	(322)	(2,535,785)
Depreciation charge for the year	-	(54,121)	(1,098,588)	(9,633)	(10,156)	-	(1,172,498)
Acquisitions of subsidiaries	-	(7,868)	(97,995)	-	-	-	(105,863)
(See note 5(a))	-	-	-	-	-	-	-
Transfers	-	412	4,930	346	1,996	-	7,684
Disposals	-	-	-	-	-	-	-
Effect of movements in exchange rates	-	866	(5,621)	(76)	-	-	(4,831)
At 31 December 2020	-	(255,731)	(3,411,710)	(73,540)	(69,990)	(322)	(3,811,293)
<i>Net book value</i>							
At 31 December 2019							
Owned assets	1,728,637	866,377	20,528,818	22,553	13,590	1,354,895	24,514,870
Assets under finance leases	-	-	1,110	-	51,157	-	52,267
	1,728,637	866,377	20,529,928	22,553	64,747	1,354,895	24,567,137
At 31 December 2020							
Owned assets	1,764,013	1,621,409	22,816,244	26,949	34,001	651,799	26,914,415
Right-of-use assets	-	-	-	-	28,556	-	28,556
	1,764,013	1,621,409	22,816,244	26,949	62,557	651,799	26,942,971

	Separate financial statements					
	Building and building improvement	Machinery and equipment	Furniture, fixtures and office equipment (in thousand Baht)	Vehicles	Assets under construction	Total
Cost						
At 1 January 2019	32,608	21,772	53,757	79,374	2,778	190,289
Additions	-	27	2,714	11,629	-	14,370
Transfers	-	(3,255)	(1,742)	(15,893)	-	(20,890)
At 31 December 2019 and 1 January 2020	32,608	18,544	54,729	75,110	2,778	183,769
Additions	-	537	6,648	458	-	7,643
Transfers	-	-	(322)	(3,864)	-	(4,186)
At 31 December 2020	32,608	19,081	61,055	71,704	2,778	187,226
Accumulated depreciation						
At 1 January 2019	(29,279)	(17,432)	(32,493)	(36,900)	-	116,104
Depreciation charge for the year	(487)	(531)	(6,343)	(5,252)	-	(12,613)
Disposals	-	64	1,494	9,803	-	11,361
At 31 December 2019 and 1 January 2020	(29,766)	(17,899)	(37,342)	(32,349)	-	(117,356)
Depreciation charge for the year	(488)	(426)	(6,791)	(5,014)	-	(12,719)
Disposals	-	-	321	1,996	-	2,317
At 31 December 2020	(30,254)	(18,325)	(43,812)	(35,367)	-	(127,758)
Net book value						
At 31 December 2019						
Owned assets	2,842	645	17,387	11,562	2,778	35,214
Assets under finance leases	-	-	-	31,199	-	31,199
	2,842	645	17,387	42,761	2,778	66,413
At 31 December 2020						
Owned assets	2,354	756	17,243	23,726	2,778	46,857
Right-of-use assets	-	-	-	12,611	-	12,611
	2,354	756	17,243	36,337	2,778	59,468

The gross amount of the Group's fully depreciated property, plant and equipment that was still in use as at 31 December 2020 amounting to Baht 257.45 million (2019: Baht 229.08 million).

Security

At 31 December 2020, the Group has pledged land, building and machinery with a net book value of Baht 28,287.20 million as collateral to secure long-term loans (See note 17) (2019: Baht 19,718.13 million).

15 Leases

As a lessee

	Consolidated financial statements	Separate financial statements
At 31 December 2020	<i>(in thousand Baht)</i>	
Right-of-use assets		
Land	608,699	-
Buildings	43,571	35,761
Warehouse	12,622	6,293
Rooftop for solar power plant	17,453	-
Total	682,345	42,054

In 2020, additions to the right-of-use assets of the Group and the Company were Baht 737.25 million and Baht 42.05 million, respectively.

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.

	Consolidated financial statements		Separate financial statements	
For the year ended 31 December	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Amounts recognised in profit or loss				
Depreciation of right-of-use assets:				
- Land	22,735	-	-	-
- Buildings	660	-	-	-
- Warehouse	2,820	-	-	-
- Rooftop for solar power plant	906	-	-	-
Interest on lease liabilities	18,149	-	-	-
Expenses relating to short-term leases and leases of low-value assets	27,918	24,950	21,949	21,682
Lease expense	-	27,443	-	-

In 2020, total cash outflow for leases of the Group and the Company were Baht 247.02 million and Baht 7.9 million respectively.

16 Intangible assets and goodwill

Consolidated financial statements						
	Software licences	Right to use electrical transmission line	Right to power purchase agreement and right to operate (in thousand Baht)	Goodwill	Software under installation	Total
Cost						
At 1 January 2019	14,727	888,197	3,507,225	163,476	780	4,574,405
Additions	9,300	860	22,170	-	520	32,850
Transfer	1,300	-	-	-	(1,300)	-
Disposals	-	-	(73,009)	-	-	(73,009)
Effect of movements in exchange rates	-	-	(74,082)	-	-	(74,082)
At 31 December 2019 and 1 January 2020	25,327	889,057	3,382,304	163,476	-	4,460,164
Additions	6,004	2,722	-	-	-	8,726
Acquisitions of subsidiaries (See note 5(a))	3,180	-	380,004	-	-	383,184
Sale of investment in subsidiaries	-	-	(857,492)	-	-	(857,492)
Disposals	(66)	(975)	-	-	-	(1,041)
Effect of movements in exchange rates	-	-	80,048	-	-	80,055
At 31 December 2020	34,452	890,804	2,984,864	163,476	-	4,073,596
Accumulated amortisation and impairment losses						
At 1 January 2019	(7,173)	(44,527)	(146,000)	-	-	(197,700)
Amortisation charge for the year	(3,658)	(35,649)	(106,612)	-	-	(145,919)
At 31 December 2019 and 1 January 2020	(10,831)	(80,176)	(252,612)	-	-	(343,619)
Acquisitions of subsidiaries (See note 5(a))	(98)	-	-	-	-	(98)
Amortisation charge for the year	(4,859)	(35,733)	(110,206)	-	-	(150,798)
Disposals	43	6	-	-	-	49
Effect of movements in exchange rates	-	-	(1,004)	-	-	(1,004)
At 31 December 2020	(15,745)	(115,903)	(363,822)	-	-	(495,470)
Net book value						
At 31 December 2019	14,496	808,881	3,129,692	163,476	-	4,116,545
At 31 December 2020	18,707	774,901	2,621,042	163,476	-	3,578,126

Impairment testing for cash-generating units containing goodwill

The recoverable amounts of the power plant asset containing goodwill have been determined using the value in use models. The key assumptions used in the estimation of the recoverable amount included the discount rate which was a post-tax measure estimated based on 18 -23 years government bond rate as a proxy for the risk free rate with debt leveraging of 60% - 70%. The cash flow projections were prepared using the external information, which included sales volumes, prices, operating costs, inflation rate and long-term growth rates for the period over the remaining of the power purchase agreements.

The key assumptions used in the estimation of the recoverable amount are set out below. 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		Separate financial statements	
	2020	2019	2020	2019
				(%)
Discount rate-Solar power stations	6.17 – 7.09	5.39 – 7.49	-	-
Discount rate-Wind Farm power stations	6.18 – 6.34	7.07 – 7.23	-	-

The discount rate was a post-tax measure based on the rate of 18 – 23 years government bonds issued by the government in the relevant market and in the same currency as the cash flows, adjusted for a risk premium to reflect both the increased risk of investing in equities generally and the systematic risk of the specific CGU.

Revenue projection

Projections of all revenues for each power plant assets have been made as stated in the Power Purchase Agreements while applying the projections of revenue from external information for the post power purchase agreement periods. Assumptions included tariff from solar power plants and wind farms, inflation and other related factors.

The impairment test has been prepared by the management from information of the contracts entered with the counterparties while forecasting revenue and expenses from the external source and the possible together with systematic parameters and conservative approaches are used for its calculation and no impairment charges are required for goodwill.

Management believes that any reasonably possible change in the key assumptions such as discounted rates, adder and growth rate on which recoverable amount is based would not cause the carrying amount to exceed its recoverable amount.

	Separate financial statements
	Software licences
	(in thousand Baht)
Cost	
At 1 January 2019	7,969
Additions	2,685
At 31 December 2019 and 1 January 2020	10,654
Additions	2,846
At 31 December 2020	13,500
Accumulated amortisation	
At 1 January 2019	(3,041)
Amortisation charge for the year	(1,480)
At 31 December 2019 and at 1 January 2020	(4,521)
Amortisation charge for the year	(2,144)
At 31 December 2020	(6,665)
Net book value	
At 31 December 2019	6,133
At 31 December 2020	6,835

17 Interest-bearing liabilities

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Current				
Short-term loans from financial institutions - secured	4,662,626	1,052,141	4,593,504	985,696
Less unamortised discount	(3,344)	(1,053)	(3,344)	(1,053)
	<u>4,659,282</u>	<u>1,051,088</u>	<u>4,590,160</u>	<u>984,643</u>
Current portion of long-term loans from financial institutions				
- secured	1,535,013	1,297,337	28,800	28,800
Less unamortised deferred financing fees	(38,747)	(36,015)	(318)	(296)
	<u>1,496,266</u>	<u>1,261,322</u>	<u>28,482</u>	<u>28,504</u>
Current portion of debentures				
- unsecured	1,819,000	1,000,000	1,819,000	1,000,000
Current portion of lease liabilities (2019: Finance lease liabilities)	42,155	15,510	15,409	7,903
Total current interest-bearing liabilities	<u>8,016,703</u>	<u>3,327,920</u>	<u>6,453,051</u>	<u>2,021,050</u>

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Non-current				
Long-term loans from financial Institutions- secured	14,818,582	14,554,220	338,400	367,200
Less unamortised deferred financing fees	(160,742)	(166,259)	(1,889)	(2,217)
	14,657,840	14,387,961	336,511	364,983
Debtentures - unsecured	4,148,700	4,619,000	4,148,700	4,619,000
Less unamortised deferred financing fees	(13,116)	(16,023)	(13,116)	(16,023)
	4,135,584	4,602,977	4,135,584	4,602,977
Lease liabilities (2019: Finance lease liabilities)	552,532	17,022	37,133	10,487
Total non-current interest-bearing liabilities	19,345,956	19,007,960	4,509,228	4,978,447
Total	27,362,659	22,335,880	10,962,279	6,999,497

Guarantee

As at 31 December 2020, The Company has pledged ordinary shares of certain subsidiaries, together with land and buildings, machinery and equipment and deposits of the said subsidiaries, including the right of land sublease and building lease agreements, land lease agreements, Power Purchase Agreement and the right of power plant project agreement in Japan and Vietnam as collateral against the credit facilities those entities received from commercial banks in amount of Baht 18,881.45 million, U.S. Dollars 254.78 million, JPY 11,699 million and VND 202,000 million (31 December 2019: Baht 18,479.45 million, U.S. Dollars 220 million and JPY 11,699 million).

Finance lease liabilities

	Consolidated financial statements			Separate financial statements		
	Minimum lease payments	Interest	Present value of minimum lease payments	Minimum lease payments	Interest	Present value of minimum lease payments
	<i>(in thousand Baht)</i>					
At 31 December 2019						
Within 1 year	16,568	(1,058)	15,510	8,526	(623)	7,903
1 - 5 years	18,393	(1,371)	17,022	11,433	(946)	10,487
After 5 years	-	-	-	-	-	-
Total	34,961	(2,429)	32,532	19,959	(1,569)	18,390

Long-term borrowings

Details of principal features of the Group's long-term borrowings as at 31 December 2020 and 2019 were as follows:

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Subsidiaries :				
1) Baht 3,730 million and U.S. Dollars 81 million Loan Facility Agreement at interest BIBOR 3M plus a margin, payable in three-months installments commencing in February 2017	2,321,879	2,647,536	-	-
2) Baht 4,080 million Loan Facility Agreement at interest THBFIX 6M plus a margin, payable in three-months installments commencing in November 2016	3,142,838	3,375,022	-	-
3) JPY 11,007 million Loan Facility Agreement at interest TIBOR 6M plus a margin, payable in six-months installments commencing in December 2018	2,753,861	2,761,197	-	-
4) Baht 4,522 million and U.S. Dollars 82 million Loan Facility Agreement at interest THBFIX 6M plus a margin, payable in three-months installments commencing in August 2018	3,533,317	3,865,028	-	-
5) Baht 207 million Loan Facility Agreement at interest rate 4.43%, payable in three-months installments commencing in September 2017	151,808	164,951	-	-
6) Baht 3,048 million Loan Facility Agreement at interest rate THBFIX 6M plus a margin, payable in three-months installments commencing in December 2018	2,248,666	2,442,062	-	-
7) Baht 432 million Loan Facility Agreement at interest MLR less a discount, payable in monthly installments commencing in October 2018	364,994	393,487	364,994	393,487
8) Baht 402 million Loan Facility Agreement at interest rate THBFIX 6M plus a margin, payable in three-months installments commencing in May 2020	289,502	-	-	-
9) U.S. Dollars 17 million Loan Facility Agreement at interest rate LIBOR 3M, payable in three-months installments commencing in May 2020	1,188,675	-	-	-

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
10) Baht 430 million Loan Facility Agreement at interest rate THBFIX 6M plus a margin, payable in monthly installments commencing in August 2020	158,566	-	-	-
Total	16,154,106	15,649,283	364,994	393,487

Debentures

As at 31 December 2020, the Company has outstanding balances of issued unsecured, name registered, unsubordinated debentures. The details of issuance of debentures were as below:

Debenture issued on	27 April 2018
Unit and value	1,819,000 units at par value of Baht 1,000 each
Total debenture value	Baht 1,819 million
Period and maturity date	3 years will mature on 27 April 2021
Interest rate	Fixed rate of 4.50% per annum
Interest payment due	Every 3 months
Debenture issued on	3 October 2019
Unit and value	2,800,000 units at par value of Baht 1,000 each
Total debenture value	Baht 2,800 million
Period and maturity date	2 years 9 months will mature on 3 July 2022
Interest rate	Fixed rate of 4.50% per annum
Interest payment due	Every 3 months
Debenture issued on	30 April 2020
Unit and value	907,100 units at par value of Baht 1,000 each
Total debenture value	Baht 907.10 million
Period and maturity date	3 years will mature on 30 April 2023
Interest rate	Fixed rate of 3.7 % per annum
Interest payment due	Every 3 months
Debenture issued on	30 April 2020
Unit and value	441,600 units at par value of Baht 1,000 each
Total debenture value	Baht 441.60 million
Period and maturity date	5 years will mature on 30 April 2025
Interest rate	Fixed rate of 4.2 % per annum
Interest payment due	Every 3 months

As at 31 December 2020, the Group had unutilised credit facilities totalling Baht 5,786.05 million and VND 38,967 million. (31 December 2019 : Baht 4,710.75 million).

The Group has to comply with certain conditions in accordance with those agreements including maintaining certain key financial ratios.

18 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.

<i>Present value of the defined benefit obligations</i>	Consolidated financial statements		Separate financial statements	
	2020	2019 (in thousand Baht)	2020	2019
At 1 January	76,992	52,889	49,065	34,690
Include in profit or loss:				
Current service cost	8,794	10,931	5,192	5,092
Past service cost	-	10,483	-	5,561
Interest on obligation	1,979	1,731	1,208	1,066
	10,773	23,145	6,400	11,719
Included in other comprehensive income				
Actuarial gain (loss)				
- Demographic assumptions	-	375	-	236
- Financial assumptions	-	1,198	-	984
- Experience adjustment	-	759	-	2,343
	-	2,332	-	3,563
Benefits paid	(1,226)	(1,374)	(1,002)	(907)
At 31 December	86,539	76,992	54,463	49,065

<i>Principal actuarial assumptions</i>	Consolidated financial statements and Separate financial statements	
	2020	2019
	(%)	
Discount rate	2.84	2.84
Future salary growth	4.0 - 8.0	4.0 - 8.0
Turnover rate	0.0 - 30.0	0.0 - 30.0

Assumptions regarding future mortality have been based on published statistics and mortality tables.

At 31 December 2020, the weighted-average duration of the defined benefit obligation was 11.4 years (2019: 12.4 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 employee benefit obligations by the amounts shown below.

<i>Effect to the defined benefit obligation at 31 December</i>	Consolidated financial statements			
	1% increase in assumption		1% decrease in assumption	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Discount rate	(6,898)	(6,522)	7,932	7,509
Future salary growth	9,320	7,947	(8,215)	(7,031)

<i>Effect to the defined benefit obligation at 31 December</i>	Separate financial statements			
	1% increase in assumption		1% decrease in assumption	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Discount rate	(3,661)	(3,568)	4,172	4,065
Future salary growth	5,085	4,376	(4,531)	(3,915)

19 Provisions for decommissioning costs of building and power plants

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
At 1 January	209,434	203,979	-	-
Additions	46,284	11,782	-	-
Acquisitions of subsidiaries (See note 5(a))	58,324	-	-	-
Effect of movements in exchange rates	5,848	(6,327)	-	-
At 31 December	319,890	209,434	-	-

20 Share capital

	Par value per share (in Baht)	2020		2019	
		Number	Baht	Number	Baht
		<i>(thousand shares / thousand Baht)</i>			
Authorised					
At 1 January					
- ordinary shares	0.25	8,902,344	2,225,586	7,418,620	1,854,655
Increase of new shares					
- ordinary shares	0.25	-	-	1,483,724	370,931
Reduction of shares	0.25	(19,813)	(4,953)	-	-
At 31 December					
- ordinary shares	0.25	8,882,531	2,220,633	8,902,344	2,225,586
Issued and paid-up					
At 1 January					
- ordinary shares	0.25	8,882,531	2,220,633	7,418,620	1,854,655
Additional paid-up					
- ordinary shares	0.25	-	-	1,463,911	365,978
At 31 December					
- ordinary shares	0.25	8,882,531	2,220,633	8,882,531	2,220,633

At the annual general meeting of the shareholders of the Company held on 21 April 2020, the shareholders approved the decrease of the Company's registered capital in the amount of Baht 4.95 million from the existing registered capital of Baht 2,225.59 million to Baht 2,220.63 million, by cancelling the unissued registered ordinary shares in the amount of 19.81 million shares at a par value of Baht 0.25 per share.

At the annual general meeting of the shareholders of the Company held on 18 April 2019, the shareholders approved the increase of the Company's registered capital by the number of 1,483.72 million shares at a par value of Baht 0.25 per share from the existing registered capital of Baht 1,854.66 million to Baht 2,225.59 million to be reserved for the stock dividend payment.

21 Treasury shares

At the Board of Directors' meeting of the Company held on 10 April 2018, the Board approved the Share Repurchase Program (Treasury stock) for financial management purpose. The maximum amount for the share repurchase is not exceeding Baht 1,000 million. Number of shares repurchase is not exceeding 300 million shares at the par value of Baht 0.25 per share which is equal to 4.04% of total paid-up capital. The repurchase period will be started from 24 April 2018 to 22 October 2018. The shares purchased may be resold after 6 months from the date of purchase but must not exceed 3 years from such completion.

As at 22 October 2018, the Company has repurchased the shares under the program totalling 99.04 million units at a total cost of Baht 304.67 million is presented as a separate category within equity and recognised as a deduction from equity in the consolidated and separate financial statements with an equivalent amount had been appropriated from retained earnings to treasury shares reserve.

22 Additional paid-in capital 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.

Treasury shares reserve

The treasury shares reserve represents the amount appropriated from retained earnings equal to the cost of the Company's own shares held by the Group. The treasury shares reserve is not available for dividend distribution.

Other components of equity**Translation reserve**

The translation reserves comprises all foreign currency differences arising from the translation of the financial statements of foreign operations

Fair value reserve

The fair value reserve comprise the cumulative net change in fair value of debt securities at FVOCI until the assets are derecognised or reclassified. This amount is adjusted by the amount of loss allowance.

23 Segment information

Management determined that the Group has four reportable segments which are the Group's strategic divisions for products and services, and are managed separately because they require different technology and marketing strategies. For each of the strategic divisions, the chief operating decision maker (CODM) reviews internal management reports on at least a quarterly basis. The following summary describes the operations in each of the Group's reportable segments.

- Segment 1 Manufacturing and selling of equipments for electrical systems
- Segment 2 Generating and selling electricity
- Segment 3 Construction service
- Segment 4 Maintenance service and others

Each segment's performance is measured based on segment gross profit, as included in the internal management reports that are reviewed by the Group's CODM. Segment gross profit is used to measure performance as management believes that such information is the most relevant in evaluating the results of certain segments relative to other entities that operate within these industries. Inter-segment pricing is determined on an arm's length basis.

	Manufacturing and selling of equipments for electrical systems											
	2020		2019		Generating and selling electricity		Construction service		Maintenance Service and others		Eliminations	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
For the year ended 31 December	<i>(in thousand Baht)</i>											
Information about reportable segments												
External revenues	1,495,878	1,526,498	4,301,112	4,504,397	2,022,418	979,946	829,935	87,729	-	-	8,649,343	7,098,570
Inter-segment revenue	801,862	667,750	-	-	455,494	161,894	80,503	72,132	(1,337,859)	(901,776)	-	-
Total revenue	2,297,740	2,194,248	4,301,112	4,504,397	2,477,912	1,141,840	910,438	159,861	(1,337,859)	(901,776)	8,649,343	7,098,570
Disaggregation of revenue												
Primary geographical markets												
Thailand	2,216,890	2,181,764	3,164,385	3,695,802	2,477,912	1,141,840	910,438	159,861	(1,337,859)	(901,776)	7,431,766	6,277,491
Japan	-	-	876,851	808,595	-	-	-	-	-	-	876,851	808,595
Vietnam	-	-	259,876	-	-	-	-	-	-	-	259,876	-
Other countries	80,850	12,484	-	-	-	-	-	-	-	-	80,850	12,484
Total revenue	2,297,740	2,194,248	4,301,112	4,504,397	2,477,912	1,141,840	910,438	159,861	(1,337,859)	(901,776)	8,649,343	7,098,570
Timing of revenue recognition												
At a point in time	2,297,740	2,194,248	207,756	-	-	-	-	-	(801,863)	(667,750)	1,703,633	1,526,498
Over time	-	-	4,093,356	4,504,397	2,477,912	1,141,840	910,438	159,861	(535,996)	(234,026)	6,945,710	5,572,072
Total revenue	2,297,740	2,194,248	4,301,112	4,504,397	2,477,912	1,141,840	910,438	159,861	(1,337,859)	(901,776)	8,649,343	7,098,570
Segment gross profit	394,634	496,135	2,383,033	3,036,214	298,373	129,715	132,633	72,808	(167,630)	(86,688)	3,041,043	3,648,184
Segment assets	2,905,876	2,312,073	39,943,747	34,476,190	2,369,969	1,300,191	918,222	-	(105,658)	953,086	46,032,156	39,041,540

(a) *Reconciliation of reportable segment profit or loss*

	Consolidated financial statements	
	2020	2019
	(in thousand Baht)	
Profit or loss		
Total gross profit for reportable segments	3,041,043	3,648,184
Unallocated amounts	503,661	(1,384,913)
Profit before income tax	3,544,704	2,263,271

(b) *Geographical segments*

In presenting information on the basis of geographical segments, segment revenue is based on the geographical location of customers. Segment assets are based on the geographical location of the assets.

<i>Geographical information</i>	Consolidated financial statements			
	Revenues		Assets	
	2020	2019	2020	2019
	(in thousand Baht)			
Thailand	7,431,766	6,277,491	29,098,122	27,474,098
Japan	876,851	808,595	10,558,135	9,649,597
Vietnam	259,876	-	4,761,557	-
Other countries	80,850	12,484	48,597	186,813
Investments in associates and joint ventures	-	-	1,565,745	1,731,032
Total	8,649,343	7,098,570	46,032,156	39,041,540

(c) *Major customer*

Revenue from three customers of the Group's manufacturing and selling of equipments for electrical systems, generating and selling electricity and domestic construction service segments represent approximately Baht 4,136.01 million of the Group's total revenues (2019: three customers, amount Baht 5,582 million).

The Group recognises revenue in an amount that corresponds directly with the value to the customer of the date on which the performance obligations are satisfied.

(d) *Promotional privileges*

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the subsidiaries have been granted privileges by the Board of Investment relating to generate electricity from wind energy, solar energy and solar rooftop energy. The Group has been granted several privileges including exemption and/or reduction from payment of income tax on the net profit derived from promoted operations with certain terms and conditions prescribed in the promotional certificates.

<i>Year ended 31 December</i>	Consolidated financial statements					
	2020			2019		
	Promoted businesses	Non-promoted businesses	Total	Promoted businesses	Non-promoted businesses	Total
	(in thousand Baht)					
Export sales	-	1,217,577	1,217,577	-	821,079	821,079
Local sales	3,189,018	5,580,607	8,769,625	3,695,802	3,483,465	7,179,267
Eliminations	-	(1,337,859)	(1,337,859)	-	(901,776)	(901,776)
Total revenue	3,189,018	5,460,325	8,649,343	3,695,802	3,402,768	7,098,570

24 Administrative expenses and others

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Personnel expense	462,207	381,827	292,258	245,769
Consulting and professional fees	130,911	107,485	38,005	56,288
Others service fee	85,304	19,291	5,820	5,899
Rental fee and insurance premium	45,649	42,186	23,614	23,521
Depreciation and amortisation	38,166	28,666	14,863	14,093
Bank charge	30,159	23,677	14,732	7,316
Utility expense and supplies used	24,221	19,009	8,207	10,450
Travelling and transportation expense	15,728	22,105	6,090	8,305
Entertainment expense	13,329	16,167	4,528	7,347
Penalty	7,238	23,719	3,186	2,857
Land and buildings Tax	602	15,293	4	19
Others	43,271	72,492	12,273	8,370
Total	896,785	771,917	423,580	390,234

25 Employee benefit expenses

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Wages and salaries	428,519	347,043	206,424	177,914
Bonus	91,518	97,123	63,234	61,963
Defined contribution plans	15,737	11,971	10,300	7,993
Contribution to defined post-benefit plans	10,773	23,365	6,401	11,719
Others	49,220	45,737	29,535	28,578
Total	595,767	525,239	315,894	288,167

Defined contribution plans

The defined contribution plans comprise provident funds established by the Group for its employees. Membership to the funds is on a voluntary basis. Contributions are made monthly by the employees at rates ranging from 3% to 15% of their basic salaries and by the Group at rates ranging from 3% to 7% of the employees' basic salaries. The provident funds are registered with the Ministry of Finance as juristic entities and are managed by a licensed Fund Manager.

26 Expenses by nature

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht)			
Changes in inventories of finished goods and work in progress	37,549	(104,854)	(1,270)	(103,253)
Raw materials and consumables used	970,629	1,057,296	1,361,694	1,181,944
Construction costs	1,814,551	862,950	-	-
Operation and maintenance service fee	221,149	186,806	2,452	5,327
Cost of sale of assets under finance lease	891,848	-	-	-
Employee benefit expenses	595,767	525,239	315,894	288,167
Depreciation and amortisation	1,353,457	1,137,428	14,863	14,093
Consulting fees	136,496	111,681	38,005	56,288
Bank charge and others service fee	116,174	44,485	20,534	13,234
Land and buildings Tax	75,034	65,697	22	-
Utility expense and supplies used	73,184	68,877	12,389	11,359
Insurance premium	60,109	46,790	1,665	1,825
Rental fee	27,918	52,478	21,846	21,700
Travelling and transportation expense	23,667	32,418	10,309	14,667
Others	166,045	203,275	26,641	30,319
Total cost of sales, cost of sale of electricity, cost of rendering of services, cost of construction services, distribution costs and administrative expenses	6,563,577	4,290,566	1,825,044	1,535,670

27 Finance costs

		Consolidated financial statements		Separate financial statements	
	Note	2020	2019	2020	2019
		(in thousand Baht)			
Interest expense					
Related parties	6	-	-	3,805	3,420
Loans and overdrafts		600,865	651,047	48,304	55,702
Total		600,865	651,047	52,109	59,122
Debenture		258,638	228,688	258,638	228,688
Amortisation of financing fees		31,449	24,763	9,134	1,341
Interest on lease liabilities and others		22,591	5,578	1,511	1,533
Total		312,678	259,029	269,283	231,562
Less amounts included in the cost of qualifying assets:					
- Property, plant and equipment under construction		(1,774)	-	-	-
		(1,774)	-	-	-
Net		911,769	910,076	321,392	290,684

28 Income tax

<i>Income tax recognised in profit or loss</i>	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Current tax expense				
Current year	64,634	41,782	-	-
Under (over) provided in prior years	(324)	1,152	-	-
	64,310	42,934	-	-
Deferred tax expense				
Movements in temporary differences	55,102	(1,953)	50,072	(946)
Total income tax expense	119,412	40,981	50,072	(946)

<i>Reconciliation of effective tax rate</i>	Consolidated financial statements			
	2020		2019	
	<i>Rate (%)</i>	<i>(in thousand Baht)</i>	<i>Rate (%)</i>	<i>(in thousand Baht)</i>
Profit before income tax expense		3,544,704		2,263,271
Income tax using the Thai corporation tax rate	20.0	708,941	20.0	452,654
Income not subject to tax		(594,663)		(499,295)
Expenses not deductible for tax purposes		16,811		29,812
Addition deductible expense for tax purpose		(5,594)		(10,545)
Under (over) provided in prior years		(324)		-
Current year losses for which no deferred tax asset was recognised		12,327		74,807
Recognition of previously unrecognised tax losses		(17,653)		-
Effect of different tax rates in foreign jurisdictions		(433)		(6,452)
Total	3.37	119,412	1.81	40,981

Reconciliation of effective tax rate

	Rate (%)	Separate financial statements	
		2020 (in thousand Baht)	2019 (in thousand Baht)
Profit before income tax expense		2,247,224	893,653
Income tax using the Thai corporation tax rate	20.0	449,445	178,731
Income not subject to tax		(390,408)	(232,527)
Expenses not deductible for tax purposes		3,155	109
Recognition of previously unrecognised tax losses		(12,120)	-
Current year losses for which no deferred tax asset was recognised		-	52,741
Total	2.23	50,072	(0.11)

Deferred tax assets and liabilities

	Consolidated financial statements			
	Assets		Liabilities	
	2020	2019	2020	2019
	(in thousand Baht)			
Total	141,250	160,175	(311,121)	(270,544)
Set off of tax	(84,488)	(84,227)	84,488	84,227
Net deferred tax assets (liabilities)	56,762	75,948	226,633	(186,317)

Deferred tax assets and liabilities

	Separate financial statements			
	Assets		Liabilities	
	2020	2019	2020	2019
	(in thousand Baht)			
Total	38,331	65,321	(425)	(2,562)
Set off of tax	(425)	(2,562)	425	2,562
Net deferred tax assets	37,906	62,759	-	-

Consolidated financial statements

	(Charged) / credited to						
	At 1 January	Profit or loss	Other comprehensive income	Changes in accounting policies (See note 4) (in thousand Baht)	Acquisitions of subsidiaries (See note 5(a))	Effect of movements in exchange rates	At 31 December
2020							
Deferred tax assets							
Trade account receivable and other receivables	1,078	1,178	-	-	-	-	2,256
Derivatives	-	(6,975)	-	29,793	-	-	22,818
Inventories	6,676	2,695	-	-	-	-	9,371
Provisions	6,781	3,111	-	-	-	181	10,073
Provisions for employee benefit	15,267	1,952	-	-	-	-	17,219
Profit in inventories	5,061	1,088	-	-	-	-	6,149
Profit in property, plant and equipment	22,476	-	-	-	-	-	22,476
Profit in intangible assets	23,334	-	-	-	-	-	23,334
Property, plant and equipment	27,479	-	-	-	-	-	27,479
Leases liabilities							
(2019: Finance leases liabilities)	366	(355)	-	-	-	-	11
Loss carry forward	51,657	(51,593)	-	-	-	-	64
Total	160,175	(48,899)	-	29,793	-	181	141,250
Deferred tax liabilities							
Property, plant and equipment	(3,265)	(7,858)	-	-	-	-	(11,123)
Right to power purchase agreement and right to operate (See note 16)	(264,263)	-	-	-	(34,341)	(70)	(298,674)
Leases liabilities							
(2019: Finance leases liabilities)	(2,993)	1,704	-	14	-	-	(1,275)
Others	(23)	(49)	23	-	-	-	(49)
Total	(270,544)	(6,203)	23	14	(34,341)	(70)	(311,121)
Net	(110,369)	(55,102)	23	29,807	(34,341)	111	(169,871)

		Consolidated financial statements		At 31 December
		(Charged) / credited to		
	At 1 January	Profit or loss (in thousand Baht)	Other comprehensive income	
Deferred tax				
2019				
Deferred tax assets				
Trade account receivable and other receivables	816	262	-	1,078
Inventories	4,537	2,139	-	6,676
Provisions	11,472	(4,691)	-	6,781
Provisions for employee benefit	10,441	4,360	466	15,267
Profit in inventories	3,131	1,930	-	5,061
Profit in property, plant and equipment	22,476	-	-	22,476
Profit in intangible assets	23,334	-	-	23,334
Property, plant and equipment	27,479	-	-	27,479
Finance leases liabilities	5	361	-	366
Loss carry forward	53,791	(2,134)	-	51,657
Total	157,482	2,227	466	160,175
Deferred tax liabilities				
Property, plant and equipment	(2,963)	(302)	-	(3,265)
Right to power purchase agreement and right to operate (See note 16)	(264,263)	-	-	(264,263)
Finance leases liabilities	(3,021)	28	-	(2,993)
Available-for-sale investments	-	-	(23)	(23)
Total	(270,247)	(274)	(23)	(270,544)
Net	(112,765)	1,953	443	(110,369)

Separate financial statements					
		(Charged)/ credited to:		Changes in	
<i>Deferred tax</i>	At 1 January	Profit or loss	Other comprehensive income <i>(in thousand Baht)</i>	accounting policies <i>(See note 4)</i>	At 31 December
<i>2020</i>					
<i>Deferred tax assets</i>					
Trade account receivable and other receivables	216	1,114	-	-	1,330
Inventories	3,250	1,000	-	-	4,250
Provisions	492	(177)	-	-	315
Provisions for employee benefit	9,814	1,079	-	-	10,893
Derivative	-	(3,676)	-	25,219	21,543
Loss carry forward	51,549	(51,549)	-	-	-
Total	65,321	(52,209)	-	25,219	38,331
<i>Deferred tax liabilities</i>					
Leases liabilities <i>(2019: Finance leases liabilities)</i>	(2,562)	2,137	-	-	(425)
Total	(2,562)	2,137	-	-	(425)
Net	62,759	(50,072)	-	25,219	37,906

Separate financial statements					
(Charged)/ credited to:					
	At 1 January	Profit or loss	Other comprehensive income (in thousand Baht)	Changes in accounting policies (See note 4)	At 31 December
2019					
Deferred tax assets					
Trade account receivable and other receivables	179	37	-	-	216
Inventories	1,914	1,336	-	-	3,250
Provisions	2,976	(2,484)	-	-	492
Provisions for employee benefit	6,939	2,162	713	-	9,814
Loss carry forward	51,549	-	-	-	51,549
Total	63,557	1,051	713	-	65,321
Deferred tax liabilities					
Finance leases liabilities	(2,457)	(105)	-	-	(2,562)
Total	(2,457)	(105)	-	-	(2,562)
Net	61,100	946	713	-	62,759
Unrecognised deferred tax assets					
	Consolidated financial statements		Separate financial statements		
	2020	2019	2020	2019	
	(in thousand Baht)				
Loss carry forward	259,244	307,673	220,105	232,756	
Total	259,244	307,673	220,105	232,756	

29 Earnings per share

The calculations of basic earnings per share for the year ended 31 December 2020 and 2019 were based on the profit for the periods attributable to ordinary shareholders of the Company and the weighted average number of ordinary shares outstanding during the period, after adjusting the number of ordinary shares in proportion to the change in the number of shares as a result of the distribution of stock dividend and treasury shares as follows:

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	(in thousand Baht/ thousand shares)			
Profit attributable to ordinary shareholders for the year ended 31 December	3,412,337	2,147,329	2,197,152	894,599
Number of ordinary shares outstanding as at 1 January				
- ordinary shares of Baht 0.25 each	8,882,531	8,882,531	8,882,531	8,882,531
Effect of treasury shares	(99,044)	(99,044)	(99,044)	(99,044)
Weighted average number of ordinary shares outstanding at 31 December	8,783,487	8,783,487	8,783,487	8,783,487
Earnings per share (basic) (in Baht)	0.39	0.24	0.25	0.10

30 Dividend

The shareholders of the Company have approved dividends as follows:

	Approval date	Payment schedule	Dividend rate per share (Baht)	Amount (in thousand Baht)	Legal reserve
2020					
Annual dividend	21 April 2020	May 2020	0.136	<u>1,194,551</u>	<u>-</u>
2019					
Annual dividend					
- Dividend payment	18 April 2019	May 2019	0.01	73,196	-
- Stock dividends	18 April 2019	May 2019	0.05	<u>365,977</u>	<u>24,259</u>
				<u>439,173</u>	<u>24,259</u>

31 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 for financial instruments measured at fair value. It does not include fair value information for financial assets and financial liabilities not measured at fair value if the carrying amount is a reasonable approximation of fair value.

	Consolidated financial statements				Fair value			
	Carrying amount		Amortised cost - net		Level 1		Level 2	
<i>At 31 December 2020</i>	Fair value – applied hedge accounting	Fair value through profit or loss	Fair value through other comprehensive income	(in thousand Baht)	Total	Level 1	Level 2	Level 3
								Total
Financial assets								
Other current financial assets	-	162,315	-	-	162,315	-	162,315	162,315
Forward exchange contracts	-	5,284	-	-	5,284	-	5,284	5,284
Total financial assets	-	167,599	-	-	167,599	-	-	-
Financial liabilities								
Loans from financial institutions	-	-	-	151,809	151,809	-	146,402	146,402
Debentures	-	-	-	5,954,584	5,954,584	-	5,989,252	5,989,252
Forward exchange contracts	-	20,705	-	-	20,705	-	20,705	20,705
Interest rate swap contracts	-	428,261	-	-	428,261	-	428,261	428,261
Cross currency and interest rate swap contracts	-	143,633	-	-	143,633	-	143,633	143,633
Total financial liabilities	-	592,599	-	6,106,393	6,698,992	-	-	-

	Separate financial statements				Fair value			
	Carrying amount			Amortised cost - net <i>(in thousand Baht)</i>	Level 1	Level 2	Level 3	Total
	Fair value – applied hedge accounting	Fair value through profit or loss	Fair value through other comprehensive income					
<i>At 31 December 2020</i>								
<i>Financial assets</i>								
Other current financial assets	-	82,000	-	-	-	82,000	-	82,000
Forward exchange contracts	-	5,284	-	-	-	5,284	-	5,284
Total financial assets	-	87,284	-	-	-	87,284	-	87,284
<i>Financial liabilities</i>								
Debentures	-	-	-	5,954,584	-	5,989,252	-	5,989,252
Forward exchange contracts	-	20,521	-	-	-	20,521	-	20,521
Cross currency and interest rate swap contracts	-	143,633	-	-	-	143,633	-	143,633
Total financial liabilities	-	164,154	-	5,954,584	-	6,118,738	-	6,118,738

	Carrying amount	Consolidated financial statements			
		Fair value			
		Level 1	Level 2	Level 3	Total
			(in thousand Baht)		
31 December 2019					
<i>Financial assets measured at fair value</i>					
Equity and debt securities available-for-sale	23,553	-	23,553	-	23,553
<i>Financial liabilities not measured at fair value</i>					
Long-term loans	164,951	-	152,506	-	152,506
Debentures	5,602,977	-	5,654,110	-	5,654,110
Interest rate swap contracts	-	-	335,421	-	335,421
Cross currency and interest rate swap contracts	-	-	233,179	-	233,179

	Carrying amount	Separate financial statements			
		Fair value			
		Level 1	Level 2	Level 3	Total

Financial instruments measured at fair value

Type	Valuation technique
Investments in marketable unit trusts classified as financial assets measured at FVTPL or FVOCI	The net asset value as of the reporting date.
Interest rate swaps contracts	<i>Swap models:</i> The fair value is calculated as the present value of the estimated future cash flows. Estimates 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.
Forward exchange contracts	<i>Forward pricing:</i> 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.
Cross currency and interest rate swap contracts	Derived by using a valuation technique incorporating observable market data

Financial instruments not measured at fair value

Type	Valuation technique
Long-term loans	Discounted cash flow
Debentures	Bid prices from the Thai Bond Market Association as of the reporting date. If not available, the Government Bond Yield Curve from the Thai Bond Market Association for the same period is used, adjusted by an appropriate risk premium.

(b) Movement of marketable debt securities

Marketable debt securities	Consolidated financial statements				
	At 1 January	Purchase	Disposal (in thousand Baht)	Fair Value adjustment	At 31 December
2020					
Current financial assets					
Debt securities measured at					
- FVTPL	23,553	465,001	(326,273)	34	162,315
Total	23,553	465,001	(326,273)	34	162,315
2019					
Current investment					
Available-for-sale securities	526,538	1,571,162	(2,073,703)	(444)	23,553
Total	526,538	1,571,162	(2,073,703)	(444)	23,553
Marketable debt securities	Separate financial statements				
	At 1 January	Purchase	Disposal (in thousand Baht)	Fair Value adjustment	At 31 December
2020					
Current financial assets					
Debt securities measured at					
- FVTPL	-	242,000	(160,098)	98	82,000
Total	-	242,000	(160,098)	98	82,000
2019					
Current investment					
Available-for-sale securities	450,354	1,380,000	(1,830,178)	(176)	-
Total	450,354	1,380,000	(1,830,178)	(176)	-

(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.

(c.1.1) Trade accounts receivables

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the factors that may influence the credit risk of its customer base, including the default risk associated with the industry and country in which customers operate. Detail of concentration of revenue are included in note 23(b) and (c).

The Group has concentrations of credit risk since most of its revenues are contracted under long-term agreements with a small number of parties. However, counterparties are generally government authorities and large public or private corporations, and the risk perceived is low.

The risk management committee has established a credit policy under which each new customer is analysed individually for creditworthiness before the Group's standard payment and delivery terms and conditions are offered. The Group's review includes external ratings, if they are available, financial statements, credit agency information, industry information and in some cases bank references. Sale limits are established for each customer and reviewed regularly. Any sales exceeding those limits require approval from the risk management committee.

(c.1.2) 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 for which the Group considers to have low credit risk.

(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.

At 31 December 2020	Consolidated financial statements					
	Carrying amount	At Call	Contractual cash flows			Total
			Within 1 year (in thousand Baht)	1 – 5 years	More than 5 years	
Non-derivative financial liabilities						
Short-term borrowings from financial institutions	4,659,282	-	4,662,626	-	-	4,662,626
Trade and other current payables	2,403,919	-	2,402,552	1,367	-	2,403,919
Payable for purchases of assets	1,532,604	-	1,532,604	-	-	1,532,604
Payables for share subscription	59,083	-	59,083	-	-	59,083
Retention payables	366,477	-	350,552	15,925	-	366,477
Loans from financial institutions	16,154,106	-	1,911,979	8,197,577	8,357,346	18,466,902
Debentures	5,954,584	-	2,023,124	4,318,950	-	6,342,074
Lease liabilities	594,687	-	64,891	173,684	733,840	972,415
Other non-current financial liabilities	618	-	-	-	618	618
	<u>31,725,360</u>	<u>-</u>	<u>13,007,411</u>	<u>12,707,503</u>	<u>9,091,804</u>	<u>34,806,718</u>
Derivative financial liabilities						
Cross currency and interest rate swap contracts						
- Cash outflow	(143,633)	-	(122,079)	(513,405)	(277,892)	(913,376)
- Cash inflow	-	-	99,613	429,869	238,534	768,016
Forward exchange contracts						
- Cash outflow	(20,705)	-	(2,149,752)	-	-	(2,149,752)
- Cash inflow	-	-	2,129,047	-	-	2,129,047
Interest rate swap contracts						
- Cash outflow	(428,261)	-	(401,296)	(1,234,015)	(1,139,745)	(2,775,056)
- Cash inflow	-	-	259,776	946,311	1,143,413	2,349,500
	<u>(592,599)</u>	<u>-</u>	<u>(184,691)</u>	<u>(371,240)</u>	<u>(35,690)</u>	<u>(591,621)</u>

		Separate financial statements				
	Carrying amount	At Call	Contractual cash flows			
<i>At 31 December 2020</i>			Within 1 year <i>(in thousand Baht)</i>	1 – 5 years	More than 5 years	Total
<i>Non-derivative financial liabilities</i>						
Short-term borrowings from financial institutions	4,590,160	-	4,593,504	-	-	4,593,504
Short-term loan from related parties	182,000	182,000	-	-	-	182,000
Trade and other current payables	513,709	-	513,709	-	-	513,709
Payables for share subscription	20,726	-	20,726	-	-	20,726
Retention payables	6,701	-	6,613	88	-	6,701
Loans from financial institutions	364,993	-	39,241	148,491	248,955	436,687
Debentures	5,954,584	-	2,023,124	4,318,950	-	6,342,074
Lease liabilities	52,541	-	17,034	38,787	-	55,821
Other non-current financial liabilities	618	-	-	-	618	618
	<u>11,686,032</u>	<u>182,000</u>	<u>7,213,951</u>	<u>4,506,316</u>	<u>249,573</u>	<u>12,151,840</u>
<i>Derivative financial liabilities</i>						
Cross currency and interest rate swap contracts						
- Cash outflow	(143,633)	-	(122,079)	(513,405)	(277,892)	(913,376)
- Cash inflow	-	-	99,613	429,869	238,534	768,016
Forward exchange contracts						
- Cash outflow	(20,521)	-	(2,144,360)	-	-	(2,144,360)
- Cash inflow	-	-	2,123,839	-	-	2,123,839
	<u>(164,154)</u>	<u>-</u>	<u>(42,987)</u>	<u>(83,536)</u>	<u>(39,358)</u>	<u>(165,881)</u>

The 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) Exposure to foreign currency risk

The Group is exposed to foreign currency risk relating to purchases material, purchases of asset, costs of operation and maintenance and have long-term loan which are denominated in foreign currencies. However, the Group entered into cross currency and interest rate swap contracts to mitigate the exposure of foreign exchange rate. At 31 December, the Group and the Company were exposed to foreign currency risk in respect of financial assets and liabilities denominated in the following currencies:

Consolidated financial statements

	31 December 2020				31 December 2019		
	United States Dollars	Euro	Malaysian Ringgit	Total	United States Dollars	Euro	Total
<i>Exposure to foreign currency</i>				(in thousand Baht)			
Cash and cash equivalents	225,518	266	-	225,784	101,676	243	101,919
Trade and other current receivables	1,321,555	-	68,219	1,389,774	94,052	-	94,052
Deposits from financial institution pledged as collateral	149,780	-	-	149,780	92,371	-	92,371
Interest-bearing liabilities	(336,943)	-	-	(336,943)	(72,141)	-	(72,141)
Trade and other current payables	(285,043)	(82,449)	-	(367,492)	(198,194)	(41,737)	(239,931)
Payables for share subscription	(38,357)	-	-	(38,357)	-	-	-
Payable for purchases of assets	(820,752)	-	-	(820,752)	(67,853)	-	(67,853)
Retention payables	(138,952)	-	-	(138,952)	(220,365)	-	(220,365)
Gross balance sheet exposure	76,806	(82,183)	68,219	62,842	(270,454)	(41,494)	(311,948)
Estimated forecast payable for operation and maintenance service fee of power plants	(595,078)	(275,309)	-	(870,387)	(674,436)	(286,311)	(960,747)
Estimated forecast trade payables	(343,005)	-	-	(343,005)	-	-	-
Estimated forecast cash received	1,014,431	-	-	1,014,431	-	-	-
Gross exposure	153,154	(357,492)	68,219	(136,119)	(944,890)	(327,805)	(1,272,695)
Cross currency and interest rate swap contracts	891,549	-	-	891,549	1,166,353	-	1,166,353
Forward exchange contracts	(671,426)	-	-	(671,426)	-	-	-
Net exposure	373,277	(357,492)	68,219	84,004	221,463	(327,805)	(106,342)

Separate financial statements

	31 December 2020				31 December 2019			
	United States Dollars	Japanese Yen	Euro	Total	United States Dollars	Japanese Yen	Euro	Total
<i>Exposure to foreign currency</i>				(in thousand Baht)				
Cash and cash equivalents	217,790	-	263	218,053	99,886	-	241	100,127
Trade and other current receivables	333,329	908	-	334,237	94,052	-	-	94,052
Short-term loans to related parties	89,602	1,373,029	-	1,462,631	-	-	-	-
Interest-bearing liabilities	(292,329)	-	-	(292,329)	(5,696)	-	-	(5,696)
Trade accounts payable	(118,431)	(62)	-	(118,493)	(63,159)	(9)	(185)	(63,353)
Gross balance sheet exposure	229,961	1,373,875	263	1,604,099	125,083	(9)	56	125,130
Estimated forecast trade payables	(337,612)	-	-	(337,612)	-	-	-	-
Estimated forecast cash received	1,014,431	1,791,496	-	2,805,927	-	-	-	-
Gross exposure	906,780	3,165,371	263	4,072,414	125,083	(9)	56	125,130
Cross currency and interest rate swap contracts	891,549	-	-	891,549	1,166,353	-	-	1,166,353
Forward exchange contracts	676,819	(1,791,496)	-	(1,114,677)	-	-	-	-
Net exposure	2,475,148	1,373,875	263	3,849,286	1,291,436	(9)	56	1,291,483

Cross currency and interest rate swap contracts

The Group is exposed to foreign currency risk relating to purchases goods, purchases assets and long-term loans which are denominated in foreign currencies. However, the Group entered into cross-currency and interest rate swap contracts for migrates effect of exchange rate.

As at 31 December 2020, the Group has outstanding cross currency and interest rate swap contracts as follow:

Currency and Interest Receive Rate Swap agreements	Currency and Interest Pay Rate Swap agreements	Termination date
U.S. dollars 3.16 million at the rate 0.00%	Baht 111.24 million at the rate 0.64%	25 November 2022
U.S. dollars 3.56 million at the rate 0.00%	Baht 125.1 million at the rate 0.65%	15 November 2022
U.S. dollars 7.45 million at the rate 0.00%	Baht 260.82 million at the rate 0.65%	24 February 2027
U.S. dollars 11.27 million at the rate 0.00%	Baht 394.38 million at the rate 0.65%	15 November 2027

Sensitivity analysis

A reasonably possible strengthening (weakening) of the Baht 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.

		Consolidated financial statements		Separate financial statements	
	Movement (%)	Strengthening	Weakening (in thousand Baht)	Strengthening	Weakening
<i>At 31 December 2020</i>					
United States Dollars	1.00	768	(768)	2,300	(2,300)
Euro	1.00	(822)	822	3	(3)
Japanese Yen	1.00	-	-	13,739	(13,739)
Malaysian Ringgit	1.00	682	(682)	-	-
<i>At 31 December 2019</i>					
United States Dollars	1.00	(2,705)	2,705	1,251	(1,251)
Euro	1.00	(415)	415	1	(1)

(c.3.2) Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows because loan interest rates are mainly floated. The Group is primarily exposed to interest rate risk from its borrowings (see note 17). The Group mitigates this risk by ensuring that the majority of its 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.

<i>Exposure to interest rate risk at 31 December</i>	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Loans from financial institutions	16,353,596	15,851,558	367,200	396,000
Interest rate swap contracts	(11,903,712)	(6,814,396)	-	-
Net	4,449,884	9,037,162	367,200	396,000

Interest Rate Swap Agreements

As at 31 December 2020, the Group has outstanding interest rate swap agreements as follow:

Loan facility and outstanding principal	Interest Receive Rate Swap agreements	Interest Pay Rate Swap agreements	Termination date
Loan facility of Baht 3,730 million and U.S. Dollars 81 million and the outstanding principal in interest rate swap agreement of Baht 2,347.22 million.	Floating rate BIBOR 3M +1.85% per annum ended November 2021 and BIBOR 3M +2% per annum ending August 2026	Fixed coupon rate 4.985% per annum	27 August 2026
Loan facility of Baht 2,743 million and the outstanding principal in interest rate swap agreement of Baht 2,220.52 million.	Floating rate THBFIX 6M +1.8% per annum	Fixed coupon rate 3.00% per annum	20 December 2027
Loan facility of Baht 4,080 million and the outstanding principal in interest rate swap agreement of Baht 3,170.57 million.	Floating rate THBFIX 6M +1.8% per annum	Fixed coupon rate 3.00% - 3.522% per annum	29 April 2033
Loan facility of JPY 11,699 million and the outstanding principal in interest rate swap agreement of JPY 7,749.37 million.	Floating rate TIBOR 6M +1.3% per annum	Fixed coupon rate 2.126% per annum	30 June 2036
Loan facility of U.S. Dollars 33.93 million and the outstanding principal in interest rate swap agreement of U.S. Dollars 33.48 million.	Floating rate LIBOR 3M per annum	Fixed coupon rate 0.68% and 1.00% per annum	31 March 2033

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) 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		Separate financial statements	
	1% increase in interest rate	1% decrease in interest rate	1% increase in interest rate	1% decrease in interest rate
<i>At 31 December 2020</i>				
	<i>(in thousand Baht)</i>			
Cash flow sensitivity (net)	(44,499)	44,499	(3,672)	3,672

(d) Capital management

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board monitors the return on capital, which the Group defines as result from operating activities divided by total shareholders' equity, excluding non-controlling interests and also monitors the level of dividends to ordinary shareholders.

32 Commitments with non-related parties

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	<i>(in thousand Baht)</i>			
Capital commitment				
Design, construction and installment for project under construction	140,771	648,811	-	-
Total	140,771	648,811	-	-

Letters of Guarantee

The Group and the Company had commitment to local banks and Thailand office of foreign financial institutions for letter of guarantee issued for sales and purchase of electricity, electricity used, purchase of machinery and rental agreements to certain government sector and private sectors. As at 31 December 2020, the Group had outstanding commitments being amount of Baht 1,759.58 million, U.S. Dollars 31.5 million and Malaysian Ringgit 10.98 million (31 December 2019: Baht 2,170.43 million and Malaysian Ringgit 5.40 million).

Significant Agreements

Consultant Agreement

The Group was committed the consultant fee to prepare environmental impact reports, consultant fee of project development and engineering feasibility studies. As at 31 December 2020, the Group had outstanding commitments being amount of Baht 8.05 million and JPY 259.80 million (31 December 2019: Baht 17.71 million and JPY 295.35 million).

Service Agreement

The Group had obligation commitment in operation and maintenance service of power plant contracts. As at 31 December 2020, the Group outstanding obligation remains at Baht 72.92 million, EUR 7.41 million, U.S. Dollars 23.39 million, JPY 3,957.04 million and VND 40,836.42 million. (31 December 2019: Baht 52.66 million, EUR 8.42 million, U.S. Dollars 22.24 million and JPY 3,658.98 million).

Power Purchase Agreement

The Group has the power purchase agreements for 15 - 25 years, 5 years and renew 5 years automatically with the Electricity Generating Authority of Thailand, Provincial Electricity Authority, Metropolitan Electricity Authority, including power purchase agreements in overseas and private sectors whereby the Group will supply the electric energy at the agreed quantity and price. The Group must comply with conditions and restrictions provided for in the agreement.

33 Events after the reporting period

On 22 January 2021, Gunkul International (Mauritius), the Company's subsidiary which was incorporated and operates in Mauritius. The shareholders of the said subsidiary approved to decrease the Company's registered capital by 21.92 million shares from the existing registered capital of 134.83 million shares at a par of U.S. Dollars 1 per share to 112.91 million shares. The Company has 100% shareholding in this subsidiary with the investment amount of Baht 4,740.45 million. The average historical exchange rate of the investment is Baht 35.16 per U.S. Dollars, it resulted in the decreasing of investment at cost amounting to Baht 770.74 million whereas the repayment of capital reduction has settled in JPY currency in the amount of JPY 2,273.96 million or equivalents to Baht 649.66 million. This is result loss from reduction of share amounting to Baht 121.08 million from fluctuation of exchange rate.

At the Board of Directors' meeting of the Company held on 24 February 2021, the Board approved to submit for approval at the annual general meeting of the shareholders of the Company on 28 April 2021. The appropriation of the profit allocation from the results of the Company's operation to be cash dividend at the rate of Baht 0.182 per share, total amount does not exceed Baht 1,600 million. The balance of dividend is subject to the approval of the shareholders at the annual general meeting on 28 April 2021.



Sustainability Report 2020



Part 2 : Sustainability Report 2020 Data as of 31 December 2020

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Message from Chief Executive Officer

Gunkul Engineering Public Company Limited “the Company” is determined to be a leader in the integrated renewable energy and power systems business with leading technology to develop sustainable infrastructure for the nation. Throughout the years, the Company has operated its business according to the principles of good corporate governance and transparency under the framework of the “We care” policy which focus on operations and create value in 3 dimensions: economic, social and environmental dimensions by linking, planning, monitoring and evaluating the risk management of business operations with the Sustainable Development Indicators, in order to respond to the needs of the stakeholders and the vision of the Company, to increase the capacity of doing business while creating good results for society and to lead the organization towards a common goal of sustainable development under the commitment of “**Not only the energy, we care**”.

We care Business: “To develop a full-service business that responds to stakeholders with great value” by focusing on technology development, innovation and providing new businesses to deliver value and meet stakeholder needs to be in accordance with the framework of good corporate governance and business ethics.

We care People: “To develop people to be talented people, good teams and excellent organizations” by increasing competencies in both managerial and operational skills because we believe that employees are the key resource that can drive the organization to achieve the goals.

We care Social: “Social responsibility and environmentally friendly, growing sustainable together and promote coexistence with communities” by promoting balanced coexistence with society as “Good neighbor”.

The year 2020 was a year of severe outbreaks of the novel coronavirus 2019 (Covid-19) which affects the economy, society and the way of life of the people in a wide way. The Company realizes the safety of all stakeholders then therefore set up an ad hoc working group to plan, implement assistance and support all affected stakeholders by focusing on preventive measures and proactive work in order to prevent possible risks and also providing Covid-19 insurance for all employees and management.

Finally, on behalf of Gunkul Engineering Public Company Limited, we are committed to develop business with responsibility, deliver quality products and services, provide access to clean energy for the public and all stakeholders in all sectors, deliver value to the community, society and the environment in order for the business to grow continuously and sustainably.

(Dr. Sopacha Dhumrongpiyawut)

Chief Executive Officer



About this Report

Reporting Scope

Gunkul Engineering Public Company Limited is committed to presenting the performance of the Company and the Company Group by preparing a sustainability management report on economic, social and environmental issues, along with focusing on the implementation of the strategic plan to achieve the vision and mission of the organization under the policy of good corporate governance and respond to stakeholders in all sectors with reference to this reporting in accordance with the Global Reporting Initiative (GRI) scorecard and Sustainable Development Goals (SDGs).

This sustainability report has been reviewed and approved by the board of directors, senior management to ensure the report is complete which covers economic, social and environmental issues. It also builds confidence with the public and all stakeholders with companies in the reporting scope as follows;

Gunkul Engineering Public Company Limited		
Affiliated Company	Type of business	
Bright Green Co., Ltd.	BGP	• Conducting business in investing in other companies both in the country and abroad
G.K. Assembly Co., Ltd.	GKA	• Manufacturing equipment for electrical systems
G.K. Power Products Co., Ltd.	GKP	
Gunkul Energy Solution & Lighting Co., Ltd.	GES	• Manufacturing and selling of lighting products (LED)
K.N.P. Supply Co., Ltd.	KNP	• Distribution of equipment for electrical systems and different systems that related to customers, government groups
Gunkul Power Development Co., Ltd.	GPD	• Construction of power plants and equipment distribution business for electrical systems and different systems that related to the construction of power plants
Future Electrical Co.,Ltd.	FEC	• Construction of power plants, transmission line stations, sub-cables and distribution business of equipment for electrical systems and various systems that related to the construction of power plants and transmission lines both overground and underground
Gunkul Chubu Powergen Co., Ltd.	GCPG	• Operating the business of producing and distributing electricity from renewable energy (Solar energy)
Gunkul Solar Power 2 Co., Ltd.	GSP2	
Gunkul Solar Roof 1 Co., Ltd.	GSR1	
Rangngern Solution Co.,Ltd.	RNS	
NK Power Sola Co., Ltd.	NKP	
Gunkul Solar Community Co., Ltd.	GSC	
Wind Energy Development Co., Ltd.	WED	• Operating the business of producing and distributing electricity from renewable energy (Wind energy)
Greenovation Power Co., Ltd.	GNP	
Bright Green Power Co., Ltd.	BGP	
Korat Wind Energy Co., Ltd.	KWE	

Gunkul Engineering Public Company Limited

GUNKUL
not only the energy, we care



Company : Gunkul Engineering Public Company Limited

Securities Name : GUNKUL

Industry Group : Resources

Business Category : Energy & Utilities

Nature of Business :

1. Business to produce, procure and supply equipment for electrical system in domestic and international
2. Business to produce, procure and supply energy-saving products including appropriate alternative energy
3. Business to produce and distribute electricity from renewable energy resources in domestic and international
4. Engineering Procurement and Construction Business
5. Operating and maintenance Business

Vision : Be a leader in the integrated renewable energy and electrical systems business, implementing state of the art technology for sustainable infrastructure development

Mission :

Renewable Energy : To operate the business of the renewable energy power plants under the highest efficiency standards with the emphasis on the society and environment

Sales : To procure the equipment for power systems, energy saving products distribution channels and render the service which fulfills the customers' demand

Technology : To develop the IT system and adopt the new technology to improve management and productivity, increase work efficiency and reduce the production costs

Returns : To maximize the shareholders' and stakeholders' returns

Personal : To increase the employees' capability to enhance the Company's competitiveness on the global scale

Management : To create a strong management structure based on the principle of good governance

Corporate Culture : **G We GROWTH**

Goal : Determination to achieve goals

Reliability : To be reliable and professional at work

Ownership : Caring and unity

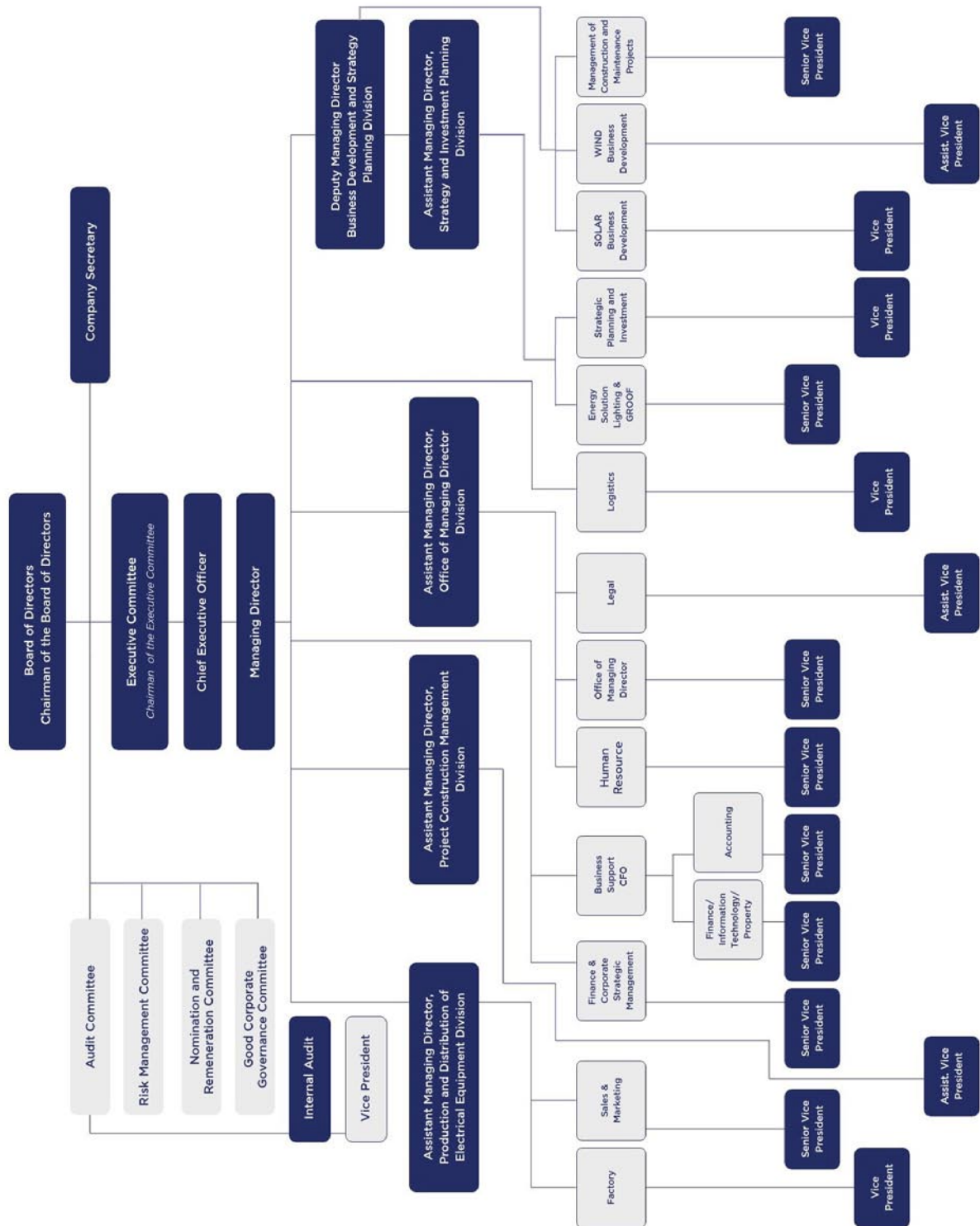
Wisdom Learning : Learning constantly causing intelligence and adaptation

Technology and Innovation : Exposure to technology and extending innovation

Honesty and Governance : Honest, transparent and dedicated to the responsibilities

Sustainability Network :

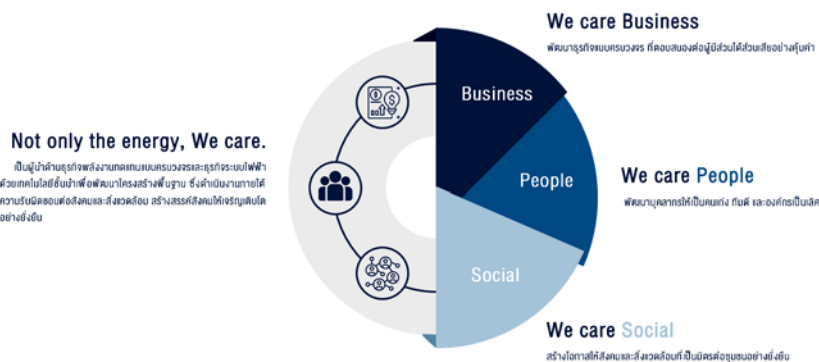




Corporate Social Responsibility Policy for Sustainable Development

Gunkul Engineering Public Company Limited and the are committed to conducting business under the principles of good corporate governance and transparency in order to achieve the objectives according to the vision, mission and policy, and strive to become one of the leaders in the renewable energy and power systems business. It is also a stable step towards the future under the concept of “Not Only the Energy, We Care” that covers the principles of economic, social and environmental aspects, including responding to the public and all stakeholders as follows:

Corporate Sociat
Responsibility
Poticy



1. **We care Business** : To develop a full-service business that responds to stakeholders with great value by operating business in accordance with good corporate governance principles with responsibility in response to stakeholders' needs. This includes non-stop developing technology and creating innovations to improve work, deliver the best products and services to consumers by taking into account quality, standards, safety and environmental friendliness as well as building confidence for stakeholders, and stabilize renewable energy for the country in the future in a complete cycle.
2. **We care People** : To develop people to be talented, good teamwork and excellent organization because we believe that people are the most important resource of the organization and a key mechanism in driving business to achieve its objectives. Therefore, we focus on developing people to be smart and good, organizing a cooperative work system, creating a unity and team culture; as well as, promoting skills and learning throughout the working period to enable personnel to have skills, ability to perform all-round operations. Including promoting a working culture within the organization adhering to the principles of good governance, equality according to human rights principles and also safety and hygiene in operations that will help lead the organization to excellence.
3. **We care Social** : To Conduct business with social responsibility, environmentally friendly, growing sustainable together and promote coexistence with communities by providing mutual assistance as “Good neighbor” and environmentally friendly which will focus on the management of natural resources for maximum benefit and the development of technology and innovation to create society and the environment, including the management of impacts that may arise from the operations of the Company. It also emphasizes on the exchange of knowledge and experiences among individuals, organizations, communities and stakeholders.

In this regard, the Company has communicated and passed the Corporate Social Responsibility Policy for sustainable development to the entire organization to be acknowledged thoroughly, in order to create a culture of responsibility and sustainability for executives and employees at all levels to understand their duties and be responsible for the implementation of the policy, and to respond to the community and the environment in accordance with the sustainable development policy and guidelines.

Sustainable Development Strategy

In order to support policies and guidelines for corporate social responsibility policy for sustainable development, The Company therefore sets up a framework and strategy for sustainable development with reference to international operational guidelines, covering both economic, social and environmental issues under the principles of good corporate governance. In this regard, in order to achieve consistent operations across all business groups, a committee for organizational development towards sustainability has been appointed in 2020, for being a leader in the act of setting goals, policies and operational guidelines. Therefore, sustainable development strategies have been established in three main areas: economic, social and environmental as details follow;

Sustainable Development Strategy



We care Business

To develop a full-service business that responds to stakeholders with great value

1. Develop / improve / provide a complete range of electrical system products.
2. Extend its capital strength by expanding its energy businesses both domestically and internationally.
3. Provide modern technology and innovation that can use renewable energy efficiently and comprehensively.
4. Focus on expanding the construction business, both electrical systems and related equipment, including overground and underground transmission lines, and to undertake more types of submarine cable works for generating income for sustainable growth.
5. Provide a technology system that is modern and suitable for unusual conditions or situations to ensure that the business operates normally and does not have any impact.



We care People

To develop people to be talented, good teamwork and excellent organization

1. Create a suitable "GROWTH" culture model to support the agency and corporate strategy.
2. Enhance skills for supervisors to be the main role in driving and enhance appropriate behavior for subordinates.
3. Develop co-behavior of personnel to be changed into new corporate culture.
4. Improve the human resource management system to facilitate the creation of good behavior for personnel.
5. Encourage personnel to progress in their careers.
6. Change the way of work in unusual conditions or situations to ensure that corporate personnel can work safely anywhere.



We care Social

Create opportunities for a friendly society and environment for sustainable communities

1. Create renewable energy power plants as a source of learning for society and communities.
2. Create employee participation and community network for development, continue the local culture and support community activities to create a strong society and live together in a balanced way.
3. Create a network with educational institutions to be a source of learning and career development for students in order to develop skills, knowledge, and abilities to be able to work effectively.
4. Create careers for people in the community by hiring them to be our employees in renewable energy power plants.
5. Balance business growth with environmentally friendly innovation, alternative energy and environmental management to create sustainable development in an environmentally friendly way
6. Adhere to engaging the public sector in strict adherence to unusual conditions or situations, such as the COVID-19 epidemic.

Practices at National and International Standards

For sustainable development, the company has applied national and international standard practices as a guideline for operating within the organization as follows:



National Plan of Action on Business and Human Rights, this Action Plan was developed within the United Nations Guiding Principles on Business and Human Rights (UNGPs) framework. It focuses on 3 pillars of protection, respect and remedy. The essence consists of 4 main points that need to be resolved as follows: labor, community, land, Natural resources and environment, human rights and international investment defenders, as well as multinational corporations.



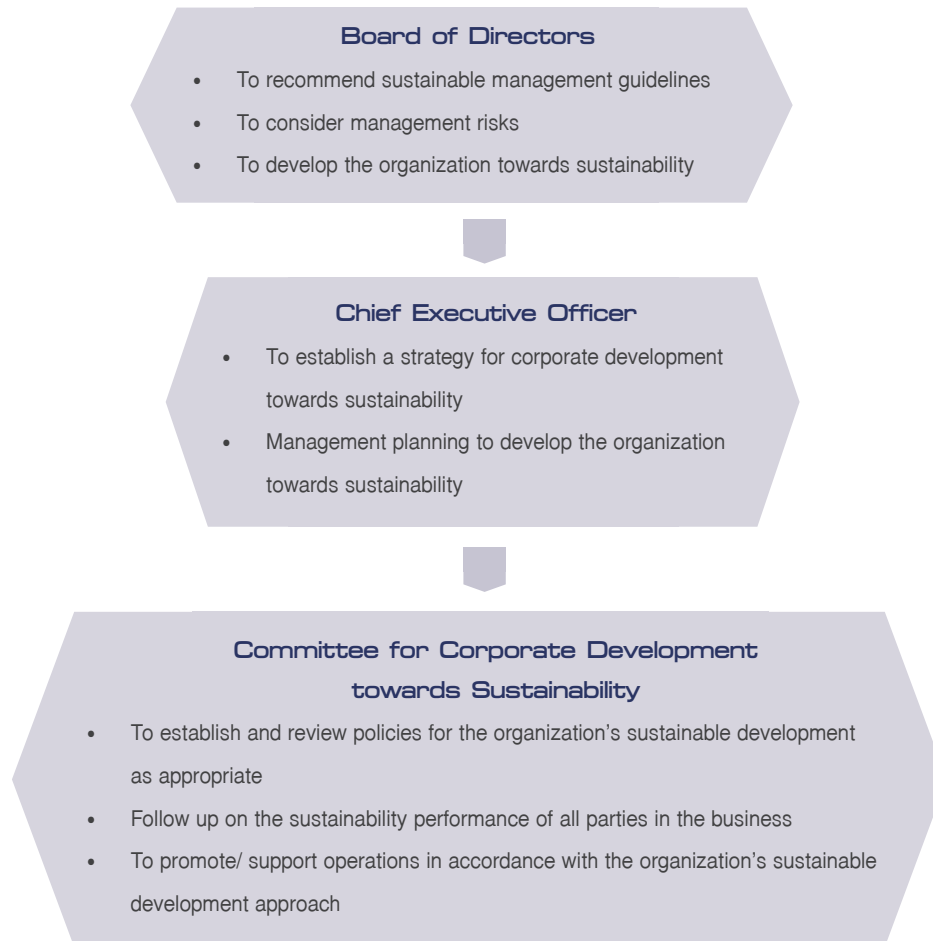
Global Reporting Initiative : GRI, Sustainability Reporting Framework by an independent international organization that helps public sector businesses, which was established by the United Nations Environment Program Agency (UNEP) and the Ceres network.



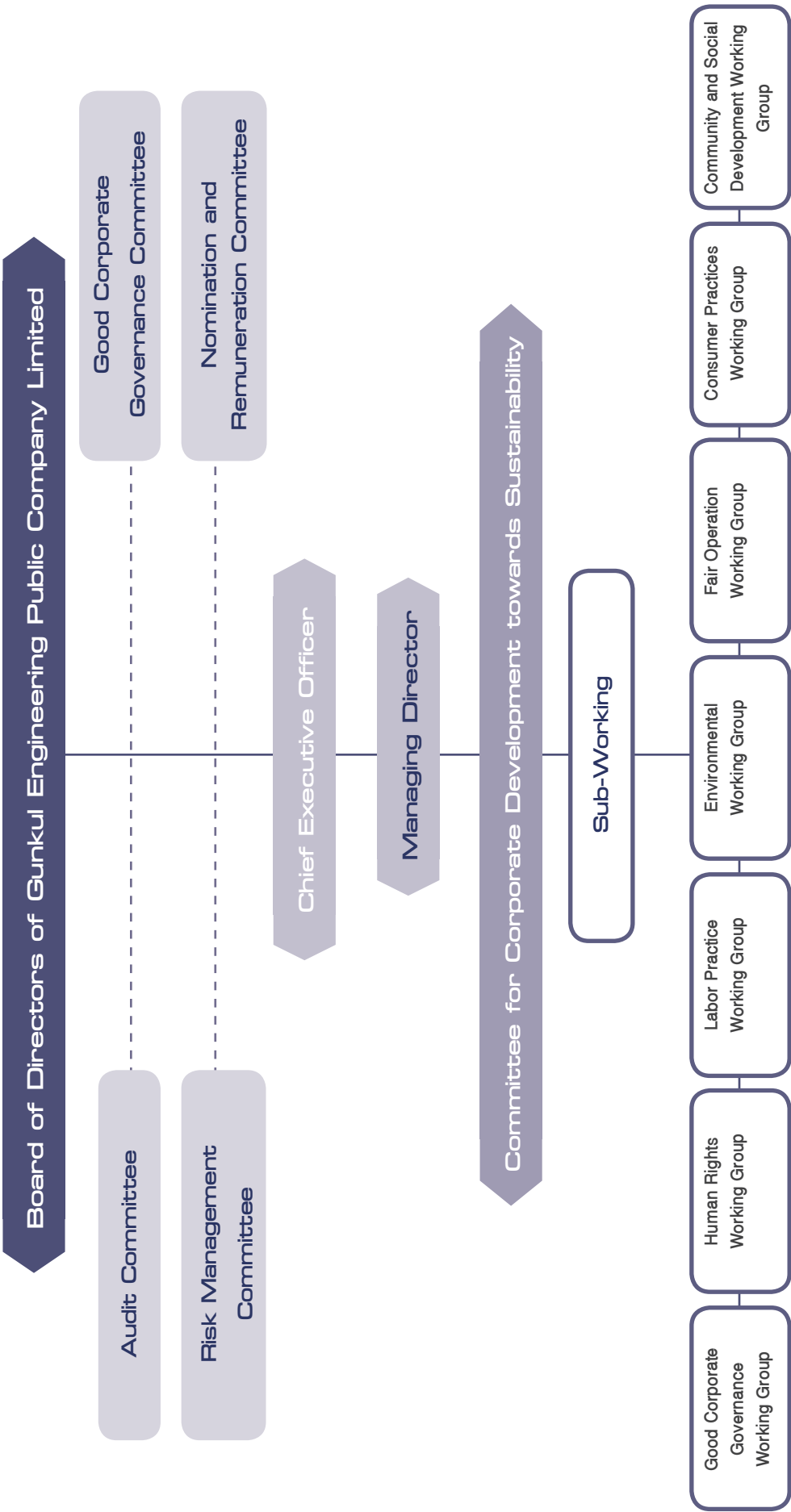
SDGs is the Sustainable Development Goals. This is the world development direction after 2015 (2015) set by the United Nations (UN) which continued from MDGs or Millennium Development Goals.

Committee for Corporate Development Towards Sustainability

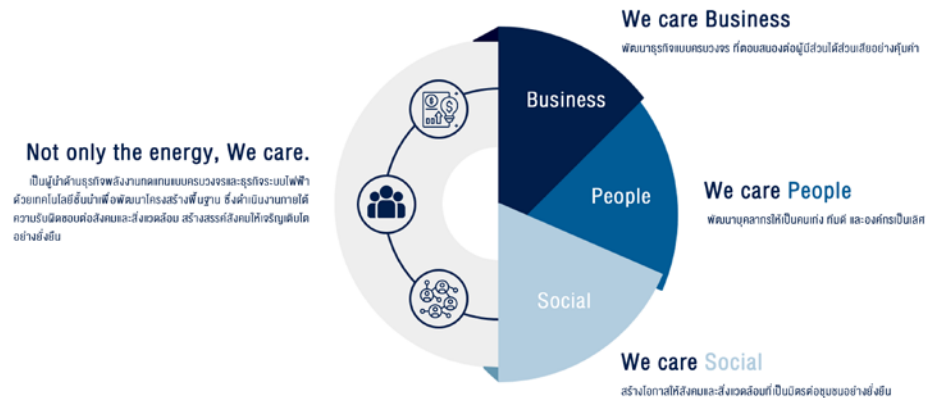
To develop standards, quality of operations and enable the organization to achieve the sustainability development goals in the fields of economy, society and environment in accordance with the framework of the sustainability development goals according to international standards, able to respond to the stakeholders effectively and create participation both inside and outside the organization. Therefore, it is deemed appropriate to appoint a committee for corporate development towards sustainability of the Company, with the following committee structure;



The Structure of Committee



Value Chain



Analysis of Business Issues



Analysis Process

1. key stakeholders Identification

The Company has adopted a process of assessing important issues in planning the sustainable development of the organization in order to enable the organization to identify the key issues of each stakeholder and analyze the risks and the likelihood of such risks which is divided into 3 main issues as follow;

- We care Business: Economic issues
- We care Social: Social and environmental issues
- We care People: Employee issues

2. Prioritization

It is the implementation of identified key points to be prioritized in comparison with the Highlights and Indicators of the Global Reporting Initiative: GRI and then draw up a materiality matrix analysis table.

Vertical Axis: Criteria that used to prioritize the stakeholders based on the impacts that will occur and the diversity of stakeholders that will be affected.

Horizontal axis: Criteria that used to prioritize an organization based on the likelihood of violence and impact, including the duration of the impact

3. Validation

The Company has examined the completeness of material issues then presented to the good corporate governance committee and the Board of Directors for approval, and formulate a sustainability action plan and corporate risk management plan with the approval of senior management, with the Chief Executive Officer as the chairman of the vote for approval.

4. Review and Disclosure

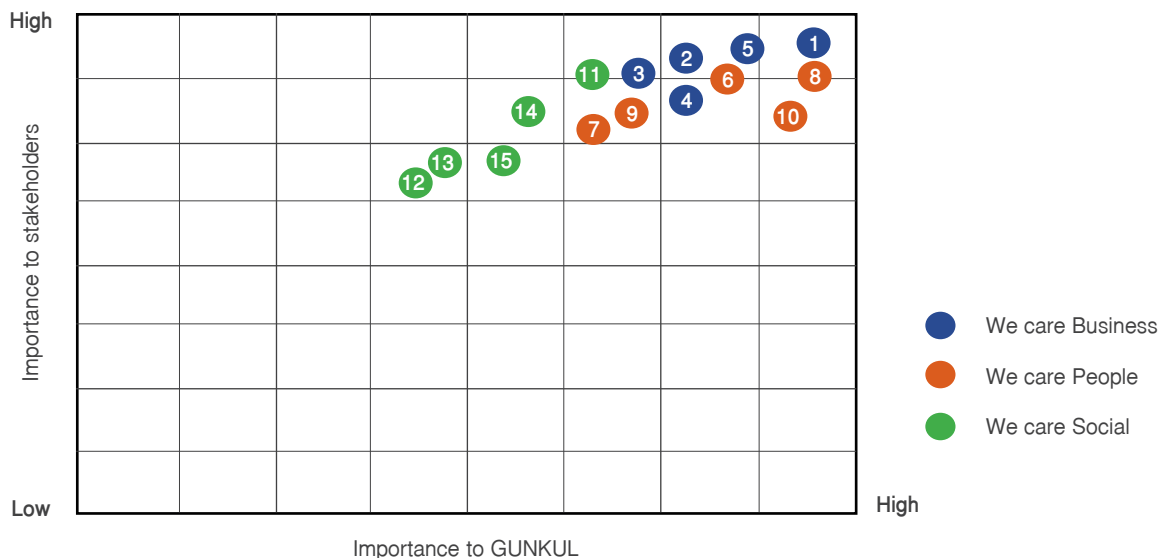
The Company has followed up on its performance in line with 14 significant issues. The results are reported, audited by the committee and disclosed in accordance with international standards on public channels such as Annual Report, Website, Shareholders' Meeting and other channels.

Summary of key sustainability issues

(Disclosure GRI 102-47)



Analysis of key points (Materiality Matrix)



Process for Working Towards Stakeholders (Disclosure GRI 102-142)

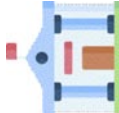
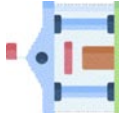
Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
 Employee	1. Fair compensation and benefits other than those required by law. 2. Equally and fairly treatment, without discrimination. 3. Opportunities for talent development, including promoting advancement and job security. 4. Have a good environment, including hygiene and safety workplace. 5. Having a good relationship and a supportive coexistence between employees and the organization.	Goals : 1. The results of the corporate engagement survey are greater than the previous year's scores. 2. The Employee turnover rate is less than or equal to the previous year. Indicators : 1. Organizational Engagement Survey Score Results 2. Employee turnover rate compared to the previous year	1. HR Committee 2. Welfare Committee 3. Provide training courses to develop working skills according to the occupation. 4. Add a variety of easy-to-access channels for feedback and suggestions. 5. Treat employees fairly and equitably by taking into account the principles of human rights. 6. A set of criteria, A concrete and measurable performance evaluation. 7. Develop / improve appropriate welfare forms 8. Promote activities to build engagement for employees and the organization. 9. Employee opinion survey on corporate engagement 10. Establish a Personal Data Protection Act (PDPA)	   
	 Communication channel: - Channels for receiving complaints, suggestions, including opinion survey of employees - Corporate Engagement Survey - News and activities public relation through a computer network system that used within the organization, online and offline communication channels - Annual report			

Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
 Business partner	1. Fair and transparent purchasing, hiring, bidding. 2. Compliance with the terms and conditions of the contract (Products, services, quality, delivery and payment are completed on time.). 3. Long-term business relationship. 4. Sustainable growth and progress along with the company 5. Transfer and exchange of knowledge, experience and technology.	Goals : 1. The speed of the procurement process that is much faster than the previous year. 2. There are 100% of key suppliers accepting the Supplier Code of Conduct. Indicators : 1. The duration of the procurement process compared to the previous year. 2. Number of key suppliers who accept Supplier Code of Conduct.	1. Meeting / consultation to achieve mutual agreement and goals. 2. Provide academic knowledge by specialists to partners. 3. Visit business partners and listen to their opinions and suggestions. 4. Treat business partners with equality and fairness. 5. Adhere to contract terms and business ethics 6. Create a clear, concrete and standard understanding of the work process. 7. Measures for supervision and confidentiality of business. 8. Effective supply chain management to prevent and mitigate the risk of both social and environmental impacts. 9. Establish a Supplier Code of Conduct and officially announce it within the organization. 10. Conduct key supplier assessments and trade partner risk assessments in order to develop a relationship development plan with suppliers. 11. Establish the Personal Data Protection Act (PDPA).	   
	6. Respect the rights and not to violate mutual intellectual property. 7. Social and Environmental Responsible Procurement.	Communication channel : • Partner Evaluation Form • Business meetings or seminars • Channels for receiving feedback, including complaints, suggestions and opinions • Annual Report		

Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
 Customer	1. Products and services with quality and safety standards. 2. Delivering products and services under specific terms and conditions 3. Providing pre-sales services such as methods or procedures for using products, including after-sales services such as consulting and support. 4. Compliance with the terms and conditions of the contract.	Goals : - The results of the customer satisfaction survey on products and services are higher than the previous year's score. - Complaints about products and services were resolved swiftly. Indicators : - The results of the assessment of customer satisfaction survey towards products and services compared to the previous year - The number of complaints and the time spent on resolving products and services according to complaints.  Communication channel : - Channels for receiving feedback, including complaints, suggestions and opinions on the use of products and services. - Visits, conferences, training / seminars - Annual Report	- Provide quality products and services with verifiable safety. - Set prices for products and services at a price that is appropriate for the quality. - Establish a quality assurance system throughout the supply chain from the source material to the hands of the customer. - Inspect and control the production of products and services to meet international standards. - Continuously research and develop products with technology and innovation. - Strictly abide by the agreements that have been given to customers. - Providing pre- and post-sales services to meet customer needs, public relations and contact channels for various and easy-to-reach inquiries. - Increase channels for receiving feedback, including complaints, suggestions and opinions on the use of products and services. - Use technology and innovative products and services as products for social and environmental development. - Evaluate customer satisfaction surveys with products and services in order to use the evaluation results, including suggestions for regular improvement. - Establish the Personal Data Protection Act (PDPA).	 

Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
 Competitor	1. Conduct business in a transparent, honest and ethical manner, compete fairly and in accordance with the law. 2. Not to violate any intellectual property or rights.	Goals : 1. No complaints about copyright infringement issues. Indicators : 1. Number of complaints about copyright infringement issues.  Communication channel : • Business seminar • Website • Annual Report	1. Treat competitors with fairness, respect for ethics and in accordance with the law. 2. Share knowledge, skills that are beneficial to operations and business operations to integrate knowledge together.	
 Creditor	1. Settle the debt as specified. 2. Compliance with the terms and conditions of the contract. 3. Concise risk management for business continuity.	Goals : 1. High level of compliance with contractual terms and conditions. Indicators : 1. Level of compliance with contractual terms and conditions.  Communication channel : • Meeting to clarify terms and conditions together • Website • Annual Report	1. Discuss or meet to reach a general conclusion of the terms and conditions. 2. Exchange knowledge on risk management for business continuity and knowledge integration.	

Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
 Shareholders and Investors	1. Returns (dividends and share spreads) from good and sustainable performance. 2. Good corporate governance and risk management. 3. The business operation has been successful in accordance with its objectives. 4. Being treated equally and fairly. 5. Disclose the Company's information according to facts with accuracy, completeness and promptness and making decisions and transparency.	Goals : 1. The results of the event satisfaction survey for investors are at good - very good level. Indicators : 1. The investor's event satisfaction survey score is good - very good. Communication channel : • Annual meeting or announcement of business plans and business intent • Website • Annual Report	1. Conduct business under the principles of good corporate governance and follow the annual business plan. 2. Report business results and operations via the annual report. 3. Disclose information of business operations to the public such as through the website.	
 Community / Society and Environment	1. Conduct business in a responsible and friendly to society, environment and biodiversity. 2. Manage community, environment and community safety impacts. 3. Participate in the economic and social community development within the community. 4. Hiree people with disabilities and local people. 5. Not to violate human rights. 6. The production process is socially and environmentally friendly. 7. Make the best use of resources in business operations. 8. Role in community development and environmental conservation.	Goals : 1. The evaluation results of the assessment of the engagement towards businesses and establishments are at good - very good level. 2. The number of complaints from the community and society each year is 0%. 3. Greenhouse gas emissions decreased compared to the previous year. 4. 100% of wastewater from production processes is treated before being recycled or released to the outside. 5. The amount of electricity consumption decreased from the previous year. 6. More production waste was handled compared to the previous year.	1. Establish a Sustainability Development Committee and a sub-working group. 2. Promote knowledge and understanding about business processes, technology and innovation; as well as, other knowledge that is beneficial to society through websites, events or other channels. 3. Channels for receiving feedback, including complaints, suggestions and opinions. 4. Assess feelings of attachment to businesses and establishments. 5. Assess the impact on the community before and after conducting business with responsibility for the environment and biodiversity.	    

Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
 Government Sector	1. Comply with all applicable laws and regulations. 2. Against claims of benefit and corruption. 3. Complete tax and fee payments as scheduled. 4. Cooperation and support in various fields.	Indicators : 1. Assessing feelings result of attachment to businesses and establishments. 2. Number of complaints from community and society. 3. The reduced number of tons of carbon. 4. The amount of water that has been treated. 5. Electricity cost per number of employees has decreased. 6. Production waste disposal quantity.	6. Develop technology and innovation to improve the production process to be environmentally friendly. 7. Promote the creation of a culture of operations that are environmentally friendly throughout the organization. 8. Campaign to use electric power, turn on-off the air conditioner before and after working 30 minutes.	  
		Communication channel : 1. Channels for receiving feedback, including complaints, suggestions and opinions. 2. Assessing feelings of attachment to businesses and establishments. 3. Website 4. Annual Report		
 Government Sector	1. Comply with all applicable laws and regulations. 2. Against claims of benefit and corruption. 3. Complete tax and fee payments as scheduled. 4. Cooperation and support in various fields.	Goals : 1. Obtain approval from government agencies to continuously implement the requested operations.	1. Conduct business under good corporate governance principles in accordance with relevant laws and regulations.	
		Indicators : 1. Number of projects that have been approved by government agencies to perform the requested action.	2. Join the anti-corruption network. 3. Tax operations in accordance with applicable laws and regulations. 4. Cooperate and support activities and operations at the national level.	
		Communication channel : • Visits, conferences, training / seminars • Verification of standardsWebsite • Annual Report		

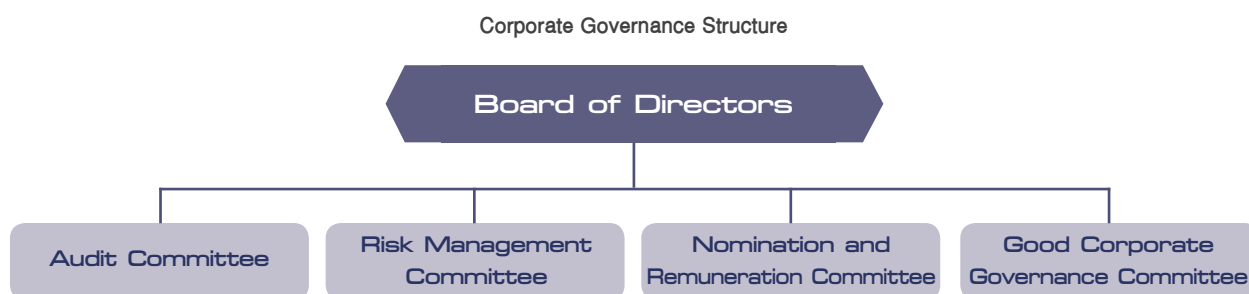
Stakeholders (Disclosure GRI 102-40)	Expectation (Disclosure GRI 102-44)	Goals and indicators	Actions to meet the needs (Disclosure GRI 102-43)	SDGs
	1. Receive information that is accurate, fast, timely, impartial and beneficial to society. 2. Conduct business with economic, social and environmental responsibility. 3. Policies and measures to manage impacts from business operations. 4. Operate a business that is sustainable with society and the environment.	Goals : 1. Present in-house news, accurate, fast and up-to-date 2. The number of cases or claims each year is 0%. Indicators : 1. The number of news that has been presented within the company, accurate, fast and up to date. 2. Number of cases or complaints each year  Communication channel : - Annual General Meeting of Shareholders or Business Plan and Business Intent Announcement and Opportunity Day. - Channels for receiving feedback, including complaints, suggestions and opinions. - Website - Annual Report	1. Deliver truthful and impartial operational information on a regular basis after completion of operations. 2. Deliver information that is beneficial to society or the general public and establish a Sustainability Development Committee and a sub-working group. 3. Commit to conducting business with social and environmental responsibility. 4. Promote knowledge and understanding about business processes, technology and innovation; as well as, other knowledge that is beneficial to society through websites, events or other channels.	  
Media and Other Organizations				

Good Corporate Governance

The Board of Directors intends to promote the Company and the Company Group to be an efficient organization in conducting business, along with good corporate governance by committing to conduct business with fairness, transparency and accountability under the responsibility of all groups of stakeholders.

Therefore, the Board of Directors has established a “Good Corporate Governance Policy” as a guideline for the Board of Directors, sub-committees, executives and employees, in order to adhere to and manage the corporate system in accordance with the principles of good governance that can generate returns and add long-term value to the shareholders. This includes building confidence to all stakeholders and promoting the competitiveness of the company for sustainable growth.

Good Corporate
Governance Policy



Audit Committee

has the authority and responsibility to review for the Company, also has accurate and reliable financial reporting and adequate information disclosure; as well as, reviewing to ensure that the Company is in compliance with the Anti-Corruption Policy effectively, including promoting and raising awareness, risk assessment, prevention and investigation.



Risk Management Committee

has scope of authority and responsibility in formulating policies, guidelines and the risk management framework of the Company, in order to be used as a guideline in conducting business in accordance with the law on securities and exchange, regulations of the Stock Exchange or laws relating to the business operation of the Company.



Nomination and Remuneration Committee

has the authority and responsibility in formulating policies, rules and regulations, has processes for recruiting, selecting and nominating qualified persons in accordance with applicable regulations and laws to serve as a director of the Company, a member of the sub-committees which the criteria must be clear, transparent and consistent with the strategy of the Company.



Good Corporate Governance Committee

has the power, duties and responsibilities in formulating policies and practices on good corporate governance, also any other operations that are related to sustainability management, Anti-Corruption measures, social responsibility and corporate governance for proposing to the Board of Directors; as well as, to supervise and follow up.

The Board of Directors

The selection of the Board of Directors of Gunkul Engineering Public Company Limited has an efficient selection process and criteria based on knowledge, experience and expertise through the analysis of expertise (Board Skills Matrix), taking into account of equality, without discrimination of sex, race, religion and age for the best interests of the organization and all stakeholders.

About the Board of Directors of Gunkul Engineering Public Company Limited

Number of Directors



11 persons

Board proportion

Executive Director **5** persons
Non-executive Director **1** persons
Independent Director **5** persons



Male Director **7** persons

Female Director **4** persons

Board of Skill Matrix Table

Industry and Operations	■	■	■	■	■	■	■	■	■	■	9 persons
International Business and Marketing	■	■	■	■	■	■	■	■	■	■	9 persons
Information Technology	■	■	■	■	■	■	■	■	■	■	5 persons
Strategic Planning and Risk Management	■	■	■	■	■	■	■	■	■	■	11 persons
Financial and Corporate Finance Management	■	■	■	■	■	■	■	■	■	■	8 persons
Accounting and Auditing	■	■	■	■	■	■	■	■	■	■	5 persons
Legal	■	■	■	■	■	■	■	■	■	■	3 persons
Human Resource and Talent Management	■	■	■	■	■	■	■	■	■	■	7 persons
Corporate Governance and Business Ethics	■	■	■	■	■	■	■	■	■	■	11 persons
Public Company Board Service and Governance	■	■	■	■	■	■	■	■	■	■	11 persons
Economic	■	■	■	■	■	■	■	■	■	■	10 persons

To ensure that the operations of each year are in line with good corporate governance principles and business ethics; therefore, the Board of Directors has set an assessment of the performance of the Board of Directors both on a board and individually basis, and on the performance of sub-committees on a board basis in order to consider performance then leads to further improvements and developments.

The entire Board of Directors



The average score is 94.24% out of 100%, considered as very good

Every Sub-Committees



The average score is 97.09% out of 100%, considered as very good

Board of Directors by Individual



The average score is 94.32% out of 100%, considered as very good

Management Standards for Sustainability

In order to support sustainable development, controlling standards and improving operational quality is therefore an important matter that the company takes into account. Throughout the years, the Company has requested international standards of operation for the Company and the Company Group to enable the organization to deliver the best products, services and value to customers and stakeholders in all sectors.



ISO 9001: 2015 Standard is a quality assurance management system to Control work processes to be able to investigate and correct errors; as well as, have a method for preventing errors. It also covers understanding the organization and its context, including understand the needs and expectations of the stakeholders in order to implement risk assessments. It is also able to prioritize risks and create action plans to close them, one of which is fundamental to help organizations in their pursuit of sustainable development.



Occupational Health and Safety Management System Standards (TIS18001 and BS OHSAS18001)

The goal is to reduce and control the risks and hazards of employees and stakeholders, and increase the efficiency of business operations to ensure safety and promote a culture of corporate responsibility towards employees and society.



ISO14001:2015 Standards: International Standards for the Organization's Environmental Management System

is an operating standard which is internationally recognized, in which the Company promotes it to be used in operations, environmental aspects of both solar and wind power plants in order to guide the operation and environmental management, reduce operational impacts and promote activities for environmental conservation within the organization.



ISO/IEC 17025: 2007 Standard

is a standard for laboratory evaluation, covering from sample preparation to testing analysis expertise to record keeping and reporting, including document controls, corrective and preventive actions for site and environmental conditions, tools, estimation of uncertainty, evidence of traceability, sampling and others which gives laboratories a competitive edge, build trust among customers / consumers, improve efficiency in both quality and academic competence of laboratories and personnel.

Company operating standards of Gunkul Engineering Public Company Limited and the Company Group

Standards	GKE	GKA	GKP	GES	KNP	GPD	FEC	GCPG	GSP2	GSR1	RNS	NKP	GSC	GNP	WEDDD	BGP	KWE
ISO 9001:2015	•	•	•					•	•	•	•	•		•	•		•
ISO14001:2015		•	•					•		•	•			•	•		•
TIS18001 และ BS OHSAS18001		•	•														
ISO/IEC 17025:2017			•														

Anti-Corruption

The Company gives importance to and adheres to ethics and good corporate governance in conducting business by formulating a written business ethics policy and good corporate governance policy as a practical guideline for the Board of Directors, sub-committees, executives, employees and all stakeholders. The Company has joined the Declaration of Intent in the Thai Private Sector Collective Action Against Corruption (CAC), which has a policy against bribery and all forms of corruption. It also has communication and public relations in order to create knowledge and understanding and cultivate the culture, corporate values against corruption in every channel, and able to pass on the essence of this policy to the stakeholders.

Anti-Corruption and
Whistle Blowing
Policy



Operational Goals

Target for 2021 (Short-term)

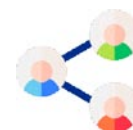


Executives and employees have applied Anti-Corruption policy to work processes throughout the organization.

Target for 2025 (Long-term)



Build corporate culture as an Anti-Corruption organization, free from complaints or reporting clues.



Promote partners and other stakeholders to join an Anti-Corruption network and become a member of the CAC.

Summary of Operating Results in 2020



Become a member of the Thai Private Sector Collective Action Against Corruption (CAC) project which has been renewed for the second time. (every 3 years)

Refraining from receiving gifts policy (Disclosure GRI 102-42)



Announce and implement communication to be applied within the organization continuously.

Number of complaints in 2020



Case

Number of retroactive complaints

2017	2018	2019
0	0	0



Number of employees who accepted the Anti-Corruption policy

Percent **100**



The results of the knowledge testing of the policy and its implementation pass the criteria (%)

100



Number of new employees attending anti-corruption course orientation

Percent **100**

Operational Strategies to Prevent Corruption within the Organization

1. Communicate to employees within the organization about the anti-corruption policy and whistleblowing or complaints and conduct regular reviews on a variety of channels.
2. Measure the knowledge and understanding of the policy through the preparation of an annual test.
3. Include the topic "Operations to support anti-corruption within the organization and channels for receiving complaints or reporting clues" in the new employee orientation course.
4. Announce the refraining from receiving gifts policy and adhere to strict internal guidelines.

The Company has provided channels for complaints and whistleblowing in the event of any doubt or observations of wrongdoing / violation of good practice in the following matters;

1. Dishonest acts that are directly or indirectly related to the organization, such as seeing individuals in the organization bribing or accepting bribes from officials of state enterprises or private entities.
2. Abuse of procedures in accordance with the Company's rules and regulations, which make it suspected that it may be a channel of corruption.
3. Actions that cause the Company to lose the benefit or affect the reputation of the Company.
4. Acts that are unethical, illegal, and immoral.
5. Violation of compliance with the principles and practices of the good corporate governance policy.
6. Receiving operational unfairness.

Channels for complaints and / or reporting corruption clues



Supply Chain Management

To focus on sustainable selection of quality products and services, Managing the supply chain to be efficient and most effective is therefore a strategy in procurement that the Company has given priority. This must create a worthwhile aspect of both budget expenditures and worthwhile in sustainable resource allocation, trading partner risk management, promoting anti-corruption policy, supporting the principles of good governance, human rights, overseeing the employment of local workers, and creating understanding of business partners to participate and be aware of safety, occupational health, society and environment are the guidelines that the Company operates continuously.



Society and Environment



Code of Business Ethics



Human Rights



Occupational Health
and Safety

Management of New Partners

Evaluating New Partners (Latest update 2015)



Corporate Social Responsibility

- Human Rights Self-Assessment
- Business Ethics Self-assessment
- Environmental Self Assessment



Safety and Occupational Health

- The provision of occupational safety and health Self-assessment



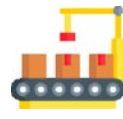
Number of new partners that being evaluated

Percent **100**

Partner Management in the AVL System (Approved Vendor List)



The Company has a performance evaluation process and a review of trading partner performance after trading (twice a year).



Visits to factories or business establishments of partners to find ways to develop products and services.



Number of partners in the AVL system that have been evaluated and analyzed

Percent **100**

- ✓ Using the criteria for assessment in 4 areas
- ✓ Quality, price, delivery and after sales service

Consideration of hiring a subcontractor

Consideration of hiring a subcontractor

The Company stipulates sustainability conditions in every contract made with trading partners in order to prevent any harassment or improper conduct of business and human rights practice.



Using the criteria for assessment in 4 areas
Quality, price, delivery and after sales service

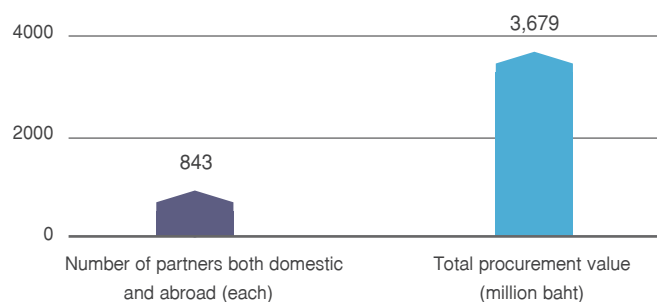


Include the conditions of social and environmental responsibility in every contract

Percent **100**

Assessing the Importance of Product Groups and Partner

The Company will assess the importance of product groups and trading partners based on procurement value and procurement risk levels in order to be able to prioritize and mitigate risks effectively by considering the high value products and trading partners, the level of risk and the impact on the Company's revenue. According to the order statistics for the year 2020, the Company has a total procurement value of 843 with both domestic and foreign trade partners, the procurement value is 3,679 million baht.



Supplier Evaluation Management, The Company pays attention to key trading partners which is a group that has a direct impact on both business operations, trust, and reputation, in order to formulate a plan for maintaining and developing relationship with trading partners by using the following key supplier assessment indicators:

Key Partner Assessment Indicators



Key Partners
(which directly affects the Company)



1. Become a partner with the procurement value of 10 million baht or more.



2. Being a sub-contractor providing construction services with an employment value of 1 million baht or more.

Key Partner Evaluation Results



Sub-Contractors

28 Cases



Product Suppliers

36 Cases



Number of key trading partners for the year 2020

64 Cases

Strategies for Developing Supply Chain Management within the Organization

1. Sourcing products from domestic manufacturers and distributors in order to shorten the delivery time. Due to the construction work or the product sales work needs speed in delivery. Therefore, the Company primarily considers the use of products that are manufactured or distributed in the country in order to reduce the risk of fines, construction delay or delay in delivery of products to customers.
2. Adjusting the standard of construction products, planning a design in using the same products for the construction of solar power for reducing the risk of solar panel rapid technological change, which is not blocking the recruiting process and bargaining power as the Company requires the same standard products.
3. E-Document system has been applied throughout the organization, and the purchasing agency has adopted the E-Document system for the approval of purchase orders. Management can approve orders via E-Document system, thus reducing paper consumption and facilitating, resulting in executives and employees able to work anytime, anywhere and reduce the risk of an epidemic of Covid-19.
4. Promoting anti-corruption policy, supporting good governance, human rights, taking care of local employment for trading partners; as well as creating understanding, participation and awareness of safety, occupational health, society and environment for trading partners.

Strategic Management Results



Average procurement period
for the year 2020

3 days

Operational Goals



Short-term Goals

Develop and manage the relationship with business partners **by visiting them at least once a year.**



Promote the procurement of products and services that are environmentally friendly.
(Green Procurement)



Reduce costs by effectively managing costs **at least 5% of the annual budget.**



Suppliers accept and participate in the evaluation of the Supplier Code of Conduct **at 50%.**

Long-term Goals

Effective supply chain management to prevent and mitigate the risk of both social and environmental impacts.



Relationship management and building a positive customer experience

Characteristics of Products and Services



Business of production, supply and distribution of electrical equipment for both domestic and international



Business of manufacturing, supplying and distributing energy-saving products including suitable alternative energy



Business to produce and distribute electricity from renewable energy both domestically and internationally



Business of Construction



Business of Power Plant Maintenance

The Company pays great attention to the production of electrical equipment that has standards and has been certified according to international standards. In addition, for the business of manufacturing, construction and maintenance of power plants, the Company focuses on selecting equipment and products that meet safety standards in order to prevent risks that may arise from the use of products or services with a list of standards and product certifications as follows;

Product Quality Assurance and Safety Standards

	
Test the internal products to meet the specified product standards. (LPS/EGAT)	Products are certified according to international standards. (UL + IEC)

		
Register TISI. New equipment.	Quality management system according to international standards	Environmental Management System

	
Occupational Health and Safety Management System Standards	Laboratory quality system according to international standards

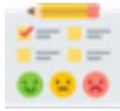
Relationship Management Strategies to Retain Current Customers and Add New Customers

1. Add a direct communication channel with the relevant sales department, including a contact form for sending a message to the Company on the Company's website in order to increase the convenience of both current and new customers in contacting various information.
2. Make a plan and visit customers in each region each month to provide market information about new products and businesses of the Company; as well as, various recommendations on products that the Company continuously sells.



3. Support and participate in public interest events, charity events, and sport events that organized by corporate clients to continuously build good relationships with customers, not aim only for the benefit of the business in selling products and services to customers, but also focus on building friendship, trust and aiming to be a long-term business partner with various organizations in accordance with the company's sustainable business policy.
4. Focus on working proactive by focusing on responding to customer needs quickly in order to satisfy and create an impressive customer experience through customer satisfaction surveys, to bring the results of assessments, recommendations and complaints for further improvement and development.

Performance Results for the Year 2020



Number of customers who participated in the overall satisfaction survey

Percent **100**



Average Overall Customer Satisfaction Score

ร้อยละ **91.45**



Number of complaints about products and services

จำนวน (กรณี) **0**

Operational Goals

Short-term Goals



Average Overall Customer Satisfaction Score

ร้อยละ **100**



Take recommendations from the customer satisfaction survey to improve.

ร้อยละ **100**

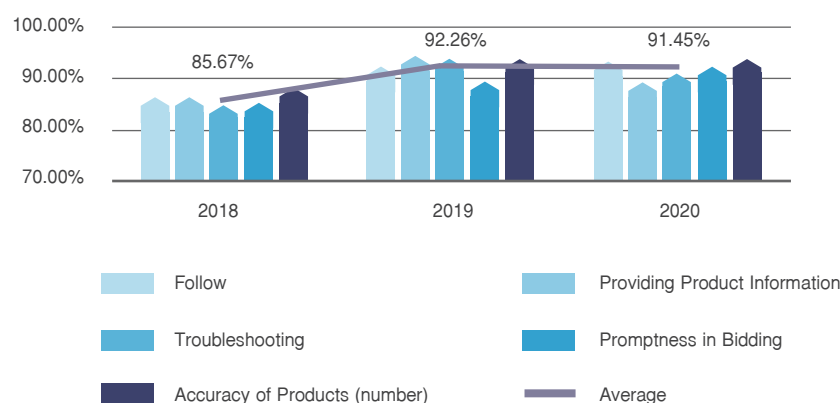
Long-term Goals



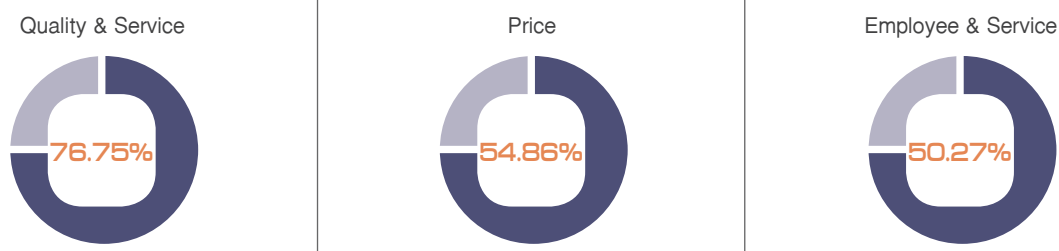
Develop a relationship management plan between customers and businesses.

Summary of customer satisfaction questionnaires for the past 3 years

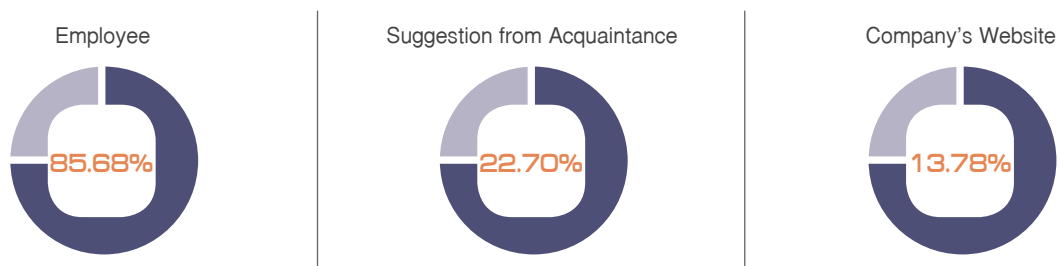
Survey Topic / Year	2018	2019	2020
1. Follow up	85.80	91.77	92.83
2. Providing Product Information	85.77	94.03	88.76
3. Troubleshooting	84.25	93.39	90.18
4. Promptness in Bidding	85.07	88.87	92.01
5. Accuracy of the Number of Products	87.48	93.23	93.46
Average	85.67	92.26	91.45



Top 3 factors to consider when choosing products or services from the Company



Top 3 channels to receive information and news of the company



Tax Management

Gunkul Engineering Public Company Limited has always been adhering to the policy and good corporate governance principles. In terms of tax management, the Company operates business with transparency and realizes the duties and responsibilities in tax operations in order to build trust among all stakeholders and to achieve that goal.

Tax Management

Policy



At present, tax measures and regulations have changed dramatically and more complexly in line with changing business directions and government policies. Therefore, it is necessary for accountants and related employees to know and understand the tax requirements of the entire system, which is related to the preparation of financial reporting as well as good tax planning to be consistent with the activities of the organization. In addition to providing accurate and complete tax payments, it also helps to maintain corporate interests under legitimate conditions. Also, it is a rigorous plan to prevent the burden that may arise in the future of the organization according to the rules and procedures and understand how to calculate in order to reduce errors in accounting and taxation work and prevent tax problems that will occur. Therefore, the Company provides training courses for related employees to know how to deal with personal income tax and corporate income tax, which the knowledge can be applied to businesses effectively as they have been trained every year.



Tax Management

The Company abides by and complies with laws and regulations. The Company will use prudence and transparency in the event that the tax law does not have a clear guideline, along with a focus on tax risk management, including tax consequences arising from changes in tax policy or government tax administration guidelines, supporting written tax risk management policies and procedures and a detailed risk assessment of all tax-related activities which covers legal compliance risks, operational risk and financial reporting risks of independent external auditors.



Tax Transparency

The company has transparent reporting on tax performance to the government and complies with all tax mission disclosure requirements. It also supports new policies that require companies to disclose information publicly on tax benefits, including reports on actions that support the country's overall economic development.

The Company is committed to being a business organization that is a good corporate citizen, by creating excellence in tax governance, tax responsibility and tax transparency to build trust with society and all stakeholders.



Compliance with Employees' Code of Conduct

Employees must abide by the rules and strictly abide by the Company's operating regulation to prevent the risk that will have an impact on the tax that may cause damage to the company. The Company provides regular communication and training to develop knowledge in order to ensure compliance with the rules, regulations, and regulations; as well as, to ensure the correct compliance with the code of ethics.

Business Innovation Creates Society

The Company is committed to operating with responsibility to the economy, society and environment, in response to the Sustainable Development Goals (SDGs) and the needs and expectations of all stakeholders. Therefore, it focuses on the development of innovation, to improve the quality of the operation process, create technology, new innovations for social development and solving environmental problems, prevent risks that may affect the company in the future, able to cope with the changing of the global situation. This includes emerging risk issues, creating economic value so that the business can operate continuously.

Operational Goals



Continuously create new innovations for social development and solving environmental problems.



Enter the contest / Competition for innovation

Innovation to improve and develop the quality of the operation process

The Company has implemented the QCC (Quality Control Cycle) quality improvement group activity in order to create cooperation in creating works, and working with participation in the development and improvement of work quality and planning in a systematic manner, promote skills, abilities, experience and learning throughout the working period of employees to participate in various operations within the organization, such as cost reduction, waste reduction, increase work efficiency, reduce work processes, increase productivity, increase sales and / or improve working hours.

In 2020, there are 47 groups of QCC quality improvement groups, and the proposed improvements are categorized as follows;

- Reduce the work process 11 Cases
- Reduce working time 12 Cases
- Increase work efficiency 24 Cases

Performance for the year 2020



More cost savings from the previous year

Cost Reduction (Baht)

2,971,477.50

Operational Goals

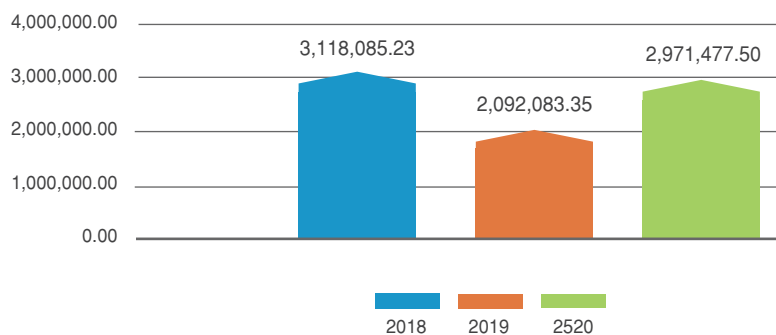


Increase from the previous year (Percent)

50

Operating Statistics QCC Quality Improvement Group Activities with the quantitative results obtained

Year	Case number each year	Quantitative Results
2018	46 Cases	Can reduce expenses by approximately 3,118,085.23 baht
2019	46 Cases	Can reduce expenses by approximately 2,092,083.35 baht
2020	47 Cases	Can reduce expenses by approximately 2,971,477.50 baht



Examples of Group Quality Improvement Activities

Number	Detail	Workpiece Picture	Before Improvement	After Improvement
1	Modify free-form twisting machine to increase production		Able to produce work 1,200 pcs / hour	Able to produce work 2,400 pcs / hour
2	Build a Chamfer Auto Drill, Brass Tube		Use 2 employees • 1 Punching Staff • 1 Chamfer Staff	Use 1 employee (Take 2 steps)



GUNKUL SPECTRUM, Energy Innovation Business Unit, GUNKUL New Wave

On September 3, 2020, Gunkul Engineering Public Company Limited has launched an energy innovation business unit 'GUNKUL SPECTRUM' under the concept of "Energy is a human right", let energy become one of the fundamental rights of the people in preparation for expanding the business to the general customers (End User).

The mission axis of the GUNKUL SPECTRUM is divided into 3 axis.

1. Energy Reformation - A mission to break old energy constraints.
2. Energy explorer - A mission of finding new and sustainable energy sources
3. Ecosystem builder - A Mission to create the Smart Energy ecosystem



By joining forces with two leading partners in Thailand, AIS and SCB 10X, to jointly develop products that meet the needs of modern consumers, along with setting a goal to become Thailand's First Energy Trendsetter by creating a non-fixed New Source of Energy and can actually be tangible with the speed of light.



New innovations for social development and solving environmental problems



With solar technology continuously evolving, the price of solar rooftop systems is now significantly cheaper. But access to knowledge and services is still difficult due to lack of accurate knowledge or lack of convenient and fast channels to find service providers and products.

Volt is the first solar rooftop marketplace platform in Thailand with the goal of solving the above problems by creating a channel for interested parties. Whether it is a single house or a medium-sized shop or a large factory, it has access to standard solar rooftop information and services, along with a team that has a good understanding of solar rooftop systems.

Volt is committed to being a bridge to building lasting relationships and confidence for buyers and installers or providers of rooftop solar through an easy-to-use online website, wherever, whenever, energy needs are always met.



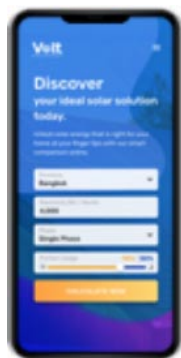
Customer Benefits

- Educate and assist customers in choosing the right service provider.
- There is a system to help calculate the size of the solar rooftop automatically.
- Help customers compare product quality and coordinate with contractors with experienced personnel.



Benefits of the Installer

- Become a mediator in expanding service areas on online platforms to increase channels and convenience of product sales.
- No cost to become a member.
- Accepts multiple payment methods.

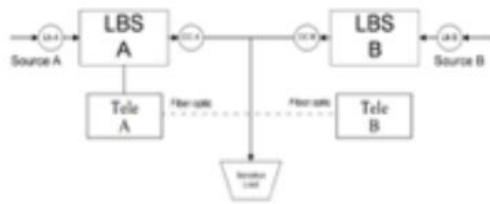


Design and development of solar water pump products



This is the development of pumping products for agriculture and for use in daily life or for activities that require water. The Solar water pump is environmentally friendly by using energy from sunlight to generate electricity from solar cells. And send electric power to the motor to pump water to use. There is also a backup power from Battery to store the charging power in the day to be used in the absence of light time. The Solar Water Pump system also supports people in areas without electricity to pump water without using engines or creating air pollution and the engine sound is not too loud while pumping water. Moreover, the solar water pump system can be transported and stored for easy maintenance, also has a long service life.

Design of Load Break Switch Product with remote control equipment (Load Break Switch with FRTU)



It is a product development to meet the needs of users in order to be able to operate easily and quickly, along with safety from work without causing any loss to operators in medium-voltage electrical systems. Load Break Switch with FRTU products will be operated by able to centralize the operation of the product through the SCADA system to interconnect the 22kV & 33kV electrical system, while electricity consumers can still activate electrical equipment without arcing in the system like traditional systems (Disconnecting Switch). That may result in danger to the worker at the job at any time. Moreover, the utility can also know the operating status of the equipment that is working or damaged through a virtual SCADA system (Real Time) in order to be able to perform maintenance or fix the electrical system to resume normal and does not damage the economy that relies mainly on electricity as well.

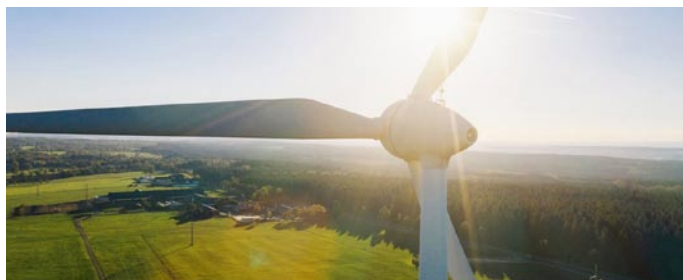


Control Cabinet and
SF6 Gas Remote Control Switch

Wind power generation and distribution in conjunction with energy storage systems to improve power quality and increase stability in the distribution system at 22,000 volts

Energy Storage and Management technology that used in conjunction with the wind power generation system and distribution of electricity to the distribution system from the energy storage system.

Nowadays, renewable energy plays a huge role in the power distribution system, the increase in wind power plants will affect the power quality in the distribution system. Especially the high voltage that exceeds the standard (Over Voltage) and voltage fluctuation, etc. By this project, the energy storage system is installed in conjunction with the wind power plant to manage the electricity generated from the wind power plant to be more stable, reduce fluctuation and uncertainty, reduce the impact on the electricity distribution system, the target wind power plant in the project is the Company's 8 MW wind power plant; Wind energy development, Sub-plu Wind Farm 1 Project, size 8 MW, Huai Bong Sub-district, Dan Khun Thot District, Nakhon Ratchasima Province, which consists of 4 wind turbines, 2 MW each. It is a Doubly Fed Induction Generation Wind Turbine (DFIG), starting to supply electricity to the 22 kV distribution system of the Provincial Electricity Authority on March 17, 2016. Since the wind power plant started to supply electricity to the distribution system, there have been problems with the power quality in the distribution system such as over voltage and voltage dips. This resulted in a feeder trip and plant shutdown which directly affected the consumers of the feeder.



From the power quality problems that arise with the wind power generation distribution system that mentioned above to the advantages of applying energy storage systems. The company has therefore made a project on the application of a combined energy storage system with a wind power plant at MW level to maintain the power quality in the distribution system at a voltage of 22 kV by studying, designing and installation of a wind power plant prototype system in conjunction with the energy accumulation system, which is an additional system consisting of lithium-ion batteries, inverter batteries, transformers and energy storage management system and development of an algorithm that used in managing energy storage systems By bringing wind forecast and load forecasting into the development of algorithms for the most efficient control and command of the energy storage system. The benefits to be gained from the project include reducing the impact of electricity generation fluctuations from wind power plants, improving power quality with Ramp Control, and also being able to predict power generation capacity (Predictable Power) from wind power plant, increase the performance and stability of wind power plants and also improve the SAIFI / SAIDI value. It is also a solution and a way to promote the use of renewable energy to achieve the AEDP renewable energy plan, as well as lay the foundation for the development of a SMART GRID in the near future according to the Smart Grid Network Development Master Plan of Thailand 2015.

- A.D. 2036, which has clearly defined the importance of the energy storage system to the smart power grid.

Benefits and impacts that may arise from the implementation of the project

1. Obtain a model for more stable electric power generation from wind power plants, reduce volatility and uncertainty, reduce the impact on the electricity distribution system.
2. Consumers have constant voltage levels that are not too high, thus saving energy, not worrying about damage to electrical appliances, no flickering or surges (Sax, Swell) from wind power plants suddenly stopped operating due to the inability to control the pressure level., satisfying both small and large power consumers.
3. Local electricity has a more stable system, know how to operate, performance, efficiency of energy storage and management systems used in conjunction with wind power plants to be deployed in the future.
4. The Electricity Authority and the Energy Regulatory Commission can study feasibility, benefit, impact, control, directive, sale of electricity into the distribution system by the energy storage system for future projects.
5. Stakeholders, business owners, those who interested in investing in the wind power generation business, provides design and installation services for wind power generation systems, engineers and staff working in wind power plants, personnel from public and private sectors who involved in the work and interested public can apply in the future.
6. The Company is able to maintain the lifespan of the equipment according to the product specifications due to the excessive abrupt stop of the product requirements. It can also increase the sale of electricity into the system, making the investment cost-effective according to estimates, with data, model, performance to invest in wind power plants in the 22,000 volt distribution system in the future.

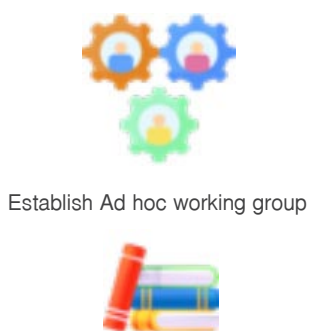
Crisis Management for Covid-19 Situations

Based on the 2020 Sustainable Development Showcase book
“Crisis Management Guidelines for COVID-19” pages 121-124
by the Stock Exchange of Thailand



As the main business of the company is the construction and production of electricity from solar and wind energy. Therefore, this COVID-19 crisis does not affect the Company's operations much. However, the Company has set up a Ad hoc working group consisting of Managing Director, Deputy Managing Director and Assistant Managing Director, who are responsible for meeting, discussing, reviewing and being the command center for COVID-19 situation response plan. The Human Resources Department is responsible for internal and external communications; as well as, being a center for ensuring that all executives and employees within the Company strictly adhere to specific measures of the Company to be ready to respond to the situation by promoting and developing the use of technology and information technology equipment in management and operation, develop a production system to be a complete production system, having sufficient raw material reserves during critical situations. In addition, the company has also held a discussion meeting to prepare a Business Continuity Plan, preventive surveillance backup plan and contingency plans from COVID-19 to all business groups of the Company and various lines, in order to be able to work normally and to be minimally affected by planning to divide the workforce at the office and split location. This Includes measures for employees to work from home by taking into account of safety, prevention and reduce the risk of spreading infection to prevent business interruption. The Company also provides information technology equipment to provide employees with access to VPN Remote data, communications / teleconferencing. Recruiting new employees through the VDO Conference system, online training and document approvals, ordering, making payment, through a highly secure digital document management system (E-Document) to ensure that the workforce at all locations is able to perform their tasks and that the Company's business is operating normally in the crisis of the COVID-19 epidemic.

Summary of Actions to Prevent the Situation of the COVID-19 Epidemic



Establish a Business
Continuity Plan





Encourage the use of technology to reduce the risk of epidemic outbreak



Communicate inside and outside the organization about knowledge, understanding of coping measures as announced by the Ministry of Public Health and the government.
Including communicating concerns from the management.

Operations to Assist Employees



No policy to reduce wages and reduce staff salaries



Work-from-home Measures



Establish a sub-office (Split Location) to distribute work areas



Make insurance Covid-19 to employees



Specific precautions for vulnerable employees



Provide services for employee safety
Such as temperature measurement, gel alcohol service point, distribution of cloth masks to employees, partitions between the workbench and office disinfection spray, etc.

Actions to Assist Stakeholders



The Company communicates on customer care guidelines from COVID-19 to assure customers that their purchases, pickup and use of services are safe from COVID-19.

Arranging the Annual General Meeting of Shareholders



Increase the communication channel using the Live Stream system.



- Campaign for wearing masks
- Check the temperature before attending the meeting
- Social distance
- Provide medical supplies such as masks and alcohol gels to maintain hygiene throughout the meeting
- Organize an ambulance unit and emergency ambulance to build the confidence of shareholders



Establish a project “Gunkul to share kindness to the community” by supporting consumer goods for the communities surrounding the establishment.



Establish a project to donate masks for medical personnel and donate funds for purchasing medical equipment for treating patients to hospitals and medical foundations.

Other management approaches to hedging risks so that the business can continue to operate



Virtual Private Network (VPN) software installation so employees can work from anywhere.



Video Conference System for inside and outside the organization



Develop a digital document management system (E-Document) to reduce exposure and work from anywhere.



The 2020 Sustainable Development Showcase book
“Crisis Management Guidelines for COVID-19” by the
Stock Exchange of Thailand



To develop people to be talented, good teamwork and excellent organization

Labor Operations

In the past practice of the Company, the guidelines that stipulated in various relevant laws, the Code of Conduct and the Good Corporate Governance that the Company has adhered to also have principles related to human rights. The Company's practices that promote respect for human rights as a guideline for treating employees, business partners, suppliers, partners and stakeholders in all sectors are as follows:

Human Rights
Policy



Respect for Human Dignity

Respect for human dignity, fundamental rights and freedoms under the provisions of the Constitution, including the safety in life and property of the stakeholders of the Company.



Promote Equality

Promote equality, treat workers fairly, and all employees have the right to grow and advance in their careers. The Company has provided appropriate and competitive compensation and benefits for employees in the same industry, including the use of a system for measuring performance KPIs that can be measured in numbers by providing opportunities for training / developing and promoting the advancement in the work of the employees equally.



Respect Differing Opinions

Respect for differing opinions, freedom of religion, beliefs, traditions and culture, including the privacy and / or confidentiality of those who involved.



Manage Human Resources Fairly and Without Discrimination

Manage human resources fairly and do not discriminate with minimum legal compliance, such as employment (the prohibition of child and forced labor), including against verbal, behavioral and offensive sexual harassment. In which the Company has clearly set penalties.



Communicate Directly with Stakeholders

Provide a direct communication channel with stakeholders and a channel for complaints, including processes for resolving complaints and grievances that are efficient and fair to all parties in order for the operations to be audited and transparent.



Uphold integrity, ethics and professionalism

Adhere to virtue, ethics and professionalism in the Company's business and operations.

Complaint Channel



Tel: 02 242 5872

By specifying the aforementioned number on the delivery note, receipt and tax invoice.



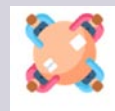
Website : www.gunkul.com

Investor Relations Dept.: ir@gunkul.com

Internal Computer Network System



Good Corporate Governance Committee through Comment Box
For employees



Others such as,
Management meet employees activities, morning talk, shareholders meeting, etc.

This approach has been taken and adopted as a guideline in business operations. The Board of Directors and the management of the Company have set it as the basic responsibility that the Company should treat to the stakeholders of the Company and assign the managing director office to supervise strict compliance to build trust and confidence among shareholders, employees, partners, customers, communities and society, bringing the Company's reputation and good image continuously.

As for hiring disabled workers, the Company currently has employees who are registered as a disabled person with the Department of Disability Promotion and Development of Quality of Life. Also, in 2020, the Company will continue to survey workers with disabilities and find ways to increase the number of people with disabilities, including the employment of the elderly in order to provide employees in both groups with income to support themselves and their families and live in a balanced society equal to the general public.

Summary of Operations for the Year 2020

Manpower Rate



Amount (Persons)

964

Disability Employment



Amount (Persons)

7

Elderly Employment



Amount (Persons)

21

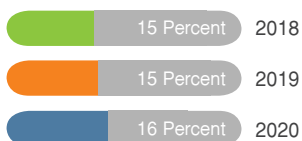
The average score of employee satisfaction with the organization



Percent

87

Promotion rate with special projects
(Excluding promotion according to age of work)



Turnover Rate



Percent

1.39

Historical Rate

2018	2019
2.28	2.23

Selection and Appointment of the Annual Welfare Committee



Employee Care and Treatment

Annual Health Check for Employees



Annual New Benefits,
Dental Fees (additional)



1,000
Baht/Person/Year

Annual Scholarships for Employees'
Children, total of 61 scholarships



Total (Baht)
269,500

Personnel Potential Development

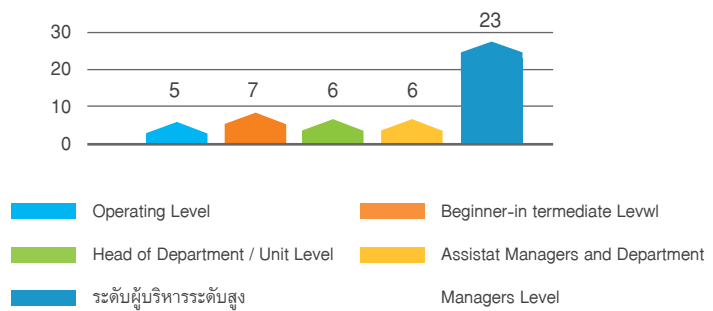
Number of Courses



Amount (Courses)

135

Average Number of Training Hours by Employee Level



Average Training Hours



Amount (Hours)

13.23

* Employee capacity development for the year 2020 is adjusted according to the situation of the epidemic of COVID-19.

* Change some courses to online courses.

Operations on Safety, Occupational Health and Work Environment

Maximum number of consecutive
accident-free days



Amount (Days)

2,134

Number of accidents that required time
off for more than 3 days



Amount (Case)

0

Number of new employees attending
safety course orientation



Percent

100

Labor Assistance and Networking

The Company's human rights practices in the past have adhered to the provisions of the Constitution, relevant laws such as Labor law, human rights and ethics of the Company, which values respect for the fundamental rights and freedoms of stakeholders, including fair and equitable treatment, which the Company has continuously implemented it in its business operations with internal and external actions to assist labor.

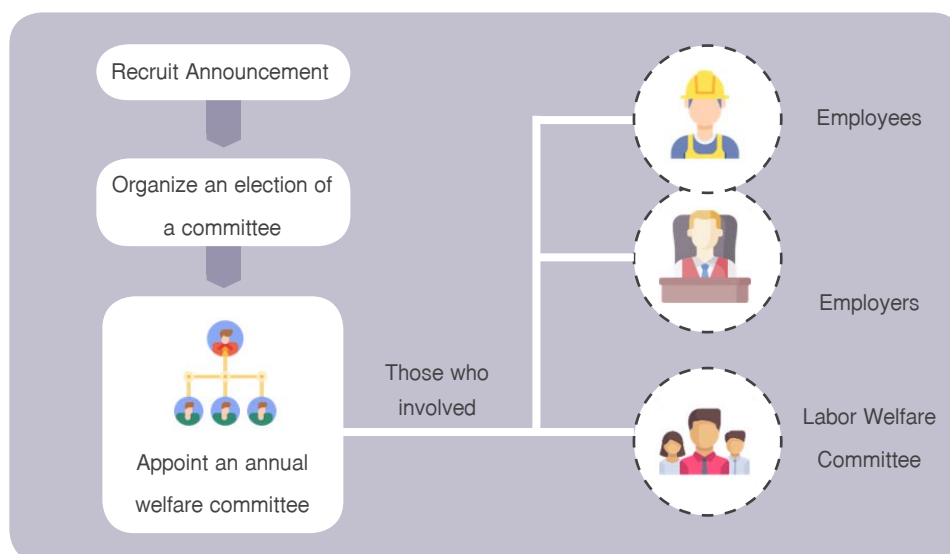


Internal Operations Welfare Committee

To represent employees in the implementation of monitoring, supervision, allocation of welfare of employees.

Role

1. Collaborate with employers to arrange welfare for employees.
2. Give advice and make recommendations to employers on welfare arrangements for employees.
3. Inspect, control, supervise welfare arrangements that employers provide to employees.
4. Offer ideas and guidelines on organizing welfare that are beneficial for employees to the Labor Welfare Committee.



External Operations

Cooperation

Number	List	Agency
1		Department of Industrial Works

Memorandum of understanding for the development of social responsibility, Group 1 CSR-DIW

Achievement

Number	List	Agency
1	 Been selected as an excellent establishment in labor skill development, with complete training in accordance with Labor Skill Development Promotion Act, B.E. 2545	Ministry of Labor

Gunkul Engineering Public Company Limited is committed to improving its operations in labor services and assistance, taking care of all personnel equally, promote the creation of knowledge and understanding on fair labor practices and human rights, leading to implementation throughout the organization. It also encourages employees to maintain a balance between life and work and focuses on communication to listen to and gather employee opinions to improve work systems, working environment and welfare for employees.

Create Career Opportunities Through an Internship Program

The Company has a vision to support and create educational opportunities for youth and students, by fostering practical learning experiences and developing skills that are essential to sustainable growth.



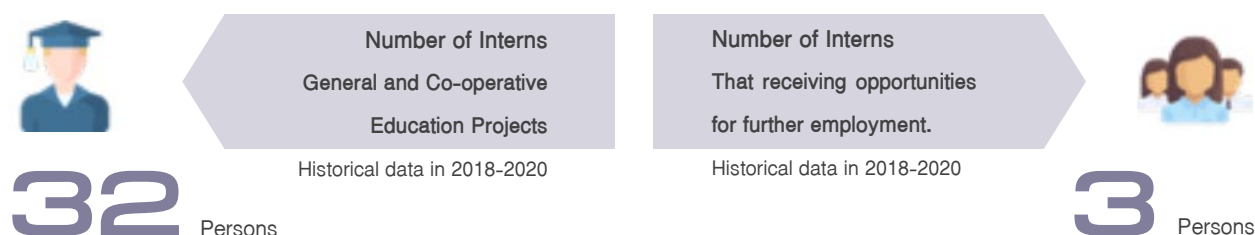
By creating a network with educational institutions by agreeing to enter into a cooperation agreement with educational institutions (MOU) in 2017 in order to create an organization as a learning organization and producing quality personnel for society.

Summary of the Number of Internship Students for the Year 2020

Department	Amount (person)	Institution
General Internship Project, totaling 11 people		
Power Plant Maintenance Dept.	1	Phetchaburi Technical College
Regional Sales Dept.	1	Rajamangala University of Technology Rattanakosin
Power Plant Maintenance Dept.	1	Phitsanulok Technical College
	1	Khaoyoi Industrial and Community Education College
Power Plant Dept.	2	Chondaen Industrial and Community Education College
	3	Wichianburi Industrial and Community Education College
Product Development Dept.	1	Rajamangala University of Technology
	1	Chulalongkorn University
Cooperative Education Project, totaling 11 people		
Engineering Dept.	1	Walailak University
TPM Business Development	1	Walailak University
Renewable Energy Business Development (Wind)	2	Phranakhon Rajabhat University
Human Resources and Administration Dept.	1	Thammasat University
Power Plant Maintenance Dept.	3	Rajamangala University of Technology Lanna
Accounting Dept.	2	Phranakhon Rajabhat University
Asset Dept.	1	Rajamangala University of Technology Phra Nakhon

Information as of 31st December 2020

In addition to providing educational opportunities, the company is also committed to promoting career advancement by hiring knowledgeable, ability and potential students that meet the needs of various fields after graduating from university.



Employee Care and Treatment

Number of Employees

The Company has a total of 964 employees as of 31st December 2020, divided by employee level type as follows:

Number of Employees	Number of Employees Each Year		
	2018	2019	2020
Total number of employees	796	844	964
Monthly Employee	667	716	854
Daily Employee	129	128	110
Number of employees classified by type of employment			
Permanent Employee	663	718	791
Contract Employee	133	126	173
Number of employees classified by gender			
Male	509	538	603
Female	287	306	361
Number of employees classified by other employment			
Disabled	2	2	7
Elderly	21	19	21
Number of employees classified by employee level			
Senior Management	28	34	38
Department Manager	57	60	65
Department Head / Unit Head	97	88	114
Junior, Middle-level Employee	376	421	476
Operational Employee	238	241	271
Employee turnover rate %	2.28%	2.23%	1.39%



Building Employee Engagement Through Benefits

Gunkul builds employee engagement through “GROWTH corporate culture together”. The organization believes that the behaviors created by people in the organization arise from learning with each other, and adhere to each other until it is a tradition as a foundation for a culture of work within the organization that will help create change, expand business opportunities, aiming to be a leader in the integrated energy business and move forward steadily to the next year

The Company pays attention to continuous human resource development, by believing that the foundation for the success of the organization comes from the development of human resources in accordance with the business direction to encourage employees to create works and develop themselves continuously with the organization, and create a bond between employees and the organization through welfare and employee engagement activities as follows:

Remuneration and
Welfare Policy

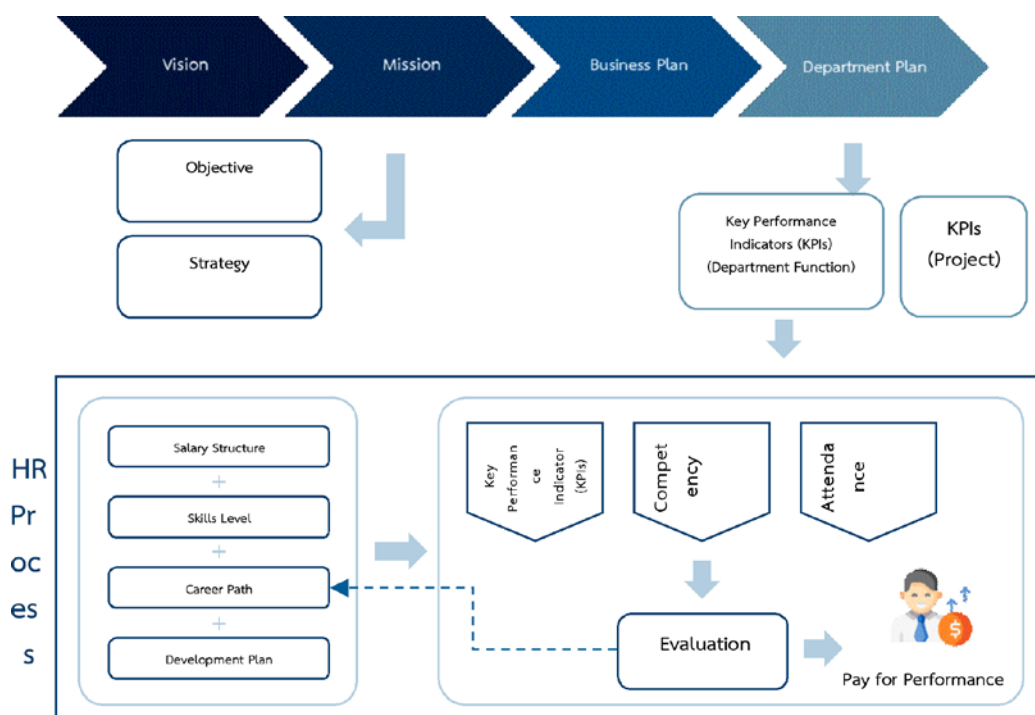


Welfare and Activities to Create Engagement for Employees and Their Families

Monetary Benefits and Amenities	Health and Safety	Employee Family Welfare
Annual bonus payments and adjustments based on employee performance, skills, and turnover	- Group accident insurance and travel insurance in case of traveling abroad - Covid-19 Insurance	Scholarships for employees' children
Provident fund	- Medical expenses for outpatient and inpatient - Dental allowance	Disaster relief Subvention
Employee uniform	- Set up a sub-office (Split Location) and Work from Home to divide manpower and spaced operations in order to prevent and reduce the risk of spreading Covid-19. - Provides employees with Covid-19 protective equipment, such as cloth masks, thermometer, cleaning equipment, liquid soaps, alcohol gels, workplace disinfection sprays and desk screens to prevent the spread of Covid-19.	Financial assistance for the cremation of the father, mother and child of the employee.
Flexible working hours, a convenient and secure workplace such as Work from Home	Morning Talk Activity - JSA: Job Safety Analyst, a pre-operational job analysis for safety according to the Plan-Do-Check-Act (PDCA) principle.	
Add vacation days according to the working age	- Annual health check - Health promotion, disease prevention, in collaboration with 38 public health service centers, Bangkok Health Office by a team of doctors and nurses to give advice and provide knowledge to employees such as obesity assessment, oral health check by dentist, breast cancer examination, continuously correct CPR assisted patient training in case of congestion and have the opportunity to save the lives of fellow human beings together, so that every life will be safe, etc.	

Psychological and Participatory Aspects	Religion, Culture, Tradition	Volunteer Activity
Employee birthday activities, dining together, birthday gift giving and / or monk offering and sermon listening	Offering alms to the monks together with the communities surrounding the company on important Buddhist days, and make merit for the annual monks of the company.	- Service activities - Wash the toilet and sweep the temple grounds. - Garbage collection around the company and community.
5S and QCC activities to promote participation in the development / improvement of working methods and environment	Pouring scented water on the hands of executives and asking for blessing in the Songkran festival “Maha Songkran Ban Gunkul”.	- Convey knowledge - Installing the solar panel - Changing and attaching a LED light bulb
Catering activities for employees throughout the organization, as all employees are involved in supporting the quarterly sales target	- Asking for blessing through auspicious oranges according to Chinese traditions during the Chinese New Year. - Distributing auspicious envelopes “Ang Pao” to employees. - Annual merit making activity	
Management visit Solar power plants, wind power and construction sites activities, or a meeting via Google Meet or Zoom to encourage, attend meetings and talk with all groups of employees to exchange ideas, requests, the development and well-being of the employees, also communicates to employees to recognize the expectation of desirable behavior that creates a mutual bond of employees rather than personal interests in order to drive the organization towards excellence.		

Also, there is a process to link compensation with skills, competence and performance appraisal to align with the vision, mission The Company's policies and strategies are as follows:



Build Engagement Through Productivity Activities

To promote a cooperative work environment as well as to promote skills, abilities, experience and learning throughout the employee's working period by giving employees a sense of belonging to the organization, love and cherish, bond with the organization through activities that support productivity with the following objectives:

1. To encourage all employees to participate in work improvement, quality and work together as a systematic team, known to solve immediate problems by themselves and know how to improve themselves.
2. To create cooperation in creating work to meet the target quality by searching for weaknesses and finding the root cause in order to fix, improve and plan the quality systematically.
3. To provide incentives for compensation and / or honor certificates to employees who participate in beneficial activities and create value for the organization.
4. To jointly care for the environment and create something that is good for stakeholder.

Therefore, the Company focuses on all employees to participate in all activities to increase productivity to promote the objectives and expectations of the organization to be achieved through various productivity activities as follows:

5S Activities



Sort



Set in order



Shine



Standardize



Sustain

5S is an activity to improve the work of employees by themselves according to the principle of "Sort, Set in order, Shine, Standardize and Sustain" in their own workplaces, thus the Company has employees with discipline from the employees' conscience, making the workplace environment clean, tidy, safe and has a proper waste management, create a balance with the environment and generate income for activities to improve activities.

In addition, it also creates incentives by awarding compensation and honor certificates to the top 3 scores from the 5S assessment in order to promote discipline about "Sort, Set in order, Shine, Standardize and Sustain" among employees and benefit the organization and employees volunteer in doing good deeds

Promoting Employee Progress

The Company has policies, rules and regulations for the selection and promotion of internal personnel to receive job promotion adjustments to create incentives for personnel and maintain personnel awareness of the stability in their own career that will continue to grow or move to a higher position or any department. When the employee has the knowledge, capability and qualifications that required for the position with higher duties and responsibilities according to the succession plan, the employees will be nominated for job promotion with fair selection criteria and screened by High-level executives in each department that is the personnel management committee, and the Managing Director is the Chairman of the Personnel Management Committee, HR Committee, with duties as follows:

- Consider the qualifications of personnel who have been proposed to be promoted in accordance with the policies, regulations, and rules that set by the company in accordance with the succession plan.

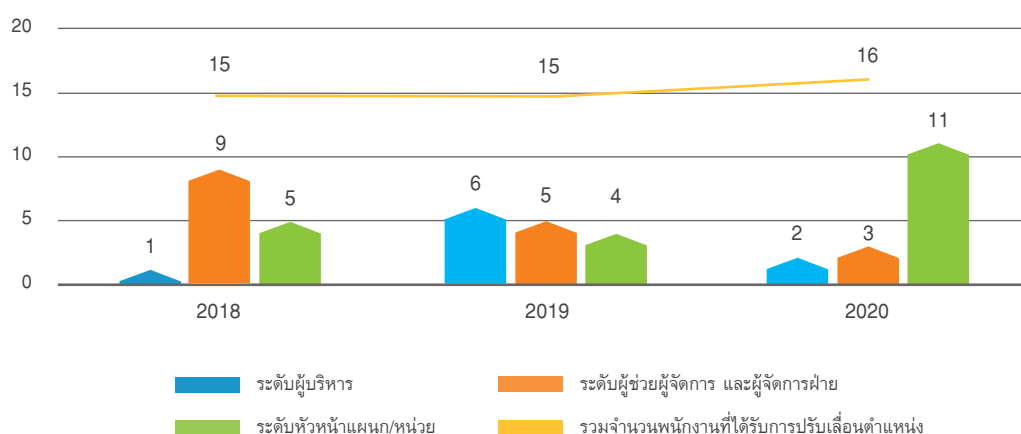
Succession Plan and
Talent Management
Policy



- Consider problems, obstacles and other factors that related to the organization's human resource management.
- Approve policy guidelines and solutions within the scope of authority and responsibilities that assigned by the company.
- Suggest ways to solve problems or human resource development guidelines or criteria for human resource management in accordance with the Company's policy to the Company.
- Personnel Management Committee is appointed from senior management and the Human Resources and Administration Manager serves as a committee and secretary with the approval of the Chief Executive Officer.

Statistics of the number of employees who have been promoted

Employee level that has been promoted	Number of employees who have been promoted		
	2561	2562	2563
• Executive Level	1	6	2
• Assistant Manager and Department Manager Level	9	5	3
• Head of Department / Unit Level	5	4	11
Total number of employees who are promoted each year	15	15	16



Employee Potential Development

The Company realizes that “employees” are the starting point for driving the business towards the goal, which is the main driving force that will lead the organization towards sustainability. Therefore, the Company has developed human resource management on the basis of treating personnel with fairness and respect for human rights, by focusing on opportunities, advancement, rewards, appointment, promotion, potential development along with moral development, maintaining the environment, safety and organizing a cooperative work system; as well as, promoting skills and learning throughout the working period with the aim of building employees to be talented people, good teams and excellent organizations, by focusing on and building on the characteristics, skills and potential that the organization expected, with the following aims:

- Build people to be smart, good, committed, teamwork and lead the organization to excellence, by linking employee behavior with corporate culture “Organization grows Employees Growing” (“G “We GROWTH Together”). Co-creating strong corporate culture behaviors is like laying the foundations of the organization to be stable and sustainable, which is the duty of all employees in the organization to participate in building “Corporate culture” creates unity.
- Develop employee potential to prepare for the growth of the organization by creating an Individual Development Plan and an Annual Training Plan.

G We GROWTH Together

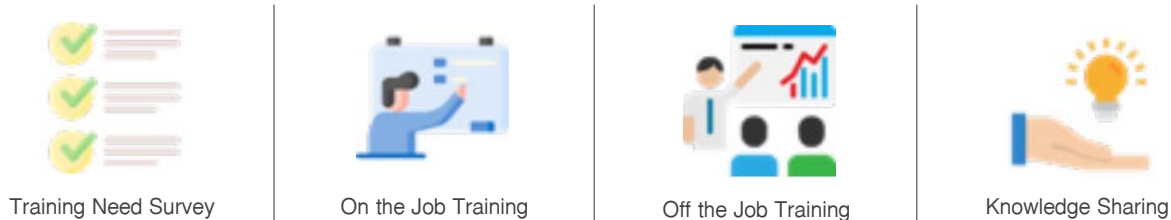


Including knowledge management within the organization through a process;

1. Knowledge Sharing
2. Knowledge Network
3. Creating a Knowledge Search Engine or in many organizations creating a KM Center.
 - Make career progress plans for employees in the organization (Career Paths).
 - Establish a succession plan for important work of the organization through the policy of job promotion.

Throughout the past period, the Company has continuously increased the number of personnel, due to the continuous growth of the Company all the time. Therefore, the Company has designed the human resource development course structure in connection with the results of competency assessments, performance results (KPIs) and the organization's strategic plan for each year as appropriate for the personnel

at each level to be as a database for analysis and preparation of human resource development courses in response to the vision, mission and direction of the Company's strategic plan, in order to be an important force to drive the company to be a stable and sustainable organization in the future and to prepare for the development of manpower to keep up with the growth of the organization through various training processes as follows;



1. **Training need survey:** determined from the needs of the agency and individual needs as appropriate for each job position.
2. **On the job training:** Defined the needs of individuals who come to perform the duties of the agency and define the measurement process, either in written form or in practice form.
3. **Off the job training:** Off-job training, whether attending special training or using simulations and case studies.
4. **Knowledge Sharing** Knowledge transfer of the organization to promote and develop skills, knowledge, abilities and their application to work effectively.

In the year 2020, the company continues to set up a human resource development plan based on the potential, competency and characteristics of the employees according to the job position in line with the vision, mission and direction of the organization. The basic curriculum has been established to strengthen competencies and to create good people and talent and able to apply knowledge to work and to live happily in daily life through various activities or courses, with the average number of training hours divided by employee level as follows:

Employee Level		Average number of training hours / employees at each level		
		2018	2019	2020
1.	Operational Level Employees	10	9	5
2.	Junior/Middle-Level Employees	16	14	7
3.	Head of Department / Unit Level Employees	28	26	6
4.	Assistant Manager & Department Manager Level Employees	35	36	6
5.	Executive Level Employees	37	36	23

* Employee capacity development for the year 2020 is adjusted according to the situation of the epidemic of COVID-19.

* Change some courses to online courses.

In order for employees to be “Good people”, the Company has allocated a budget for employee potential development with a budget of 3.15-million-baht, 135 training courses and the average number of training hours for employees is 13.23 hours per person per year. The details are as follows:

Detail	2018	2019	2020
Training budget (million baht)	4.95	3.85	3.15
Number of courses	186	168	135
Number of employees attending the training	2,087	2,231	1,022
Average training hours / person	17.18	16.57	13.23

* Employee capacity development for the year 2020 is adjusted according to the situation of the epidemic of COVID-19.

* Change some courses to online courses.

Besides the training course, the Company realizes the importance of personnel starting a new job by focusing on the employees to grow together with the organization, with care from the first day of work by organizing an orientation for new employees (On Boarding Program) to understand and learn corporate culture by creating a mentor system, in order to enable new employees to understand the correct working system, organizational culture, occupational health and safety and various rules and policies in their work and in balance between employees and the organization to understand and coordinate work in a balanced and team manner. In addition to developing training to support the business, the organization also offers courses “Investment planning for tax benefits and saving money for retirement age” to provide employees with a good life balance before retirement for supporting employees who are retiring, which is a preparation before retirement in order to plan life, health plan, asset management to ensure life after retirement is in balance.



Details of Training Courses in 2020

Data as of 31st December 2020, divided by employee level

Training course record in 2020				
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course	Productivity / Techniques / Safety / Environment Activities Course
Senior Management	- Policy, quality goals and documentation in the ISO / IEC 17025: 2017 system. - Requirements and internal audits according to ISO / IEC 17025: 2017	- Leadership and Coaching Skills - Driving Effective Culture - Corporate Culture - Negotiate Like PRO - Leadership Succession Program, Class 10 - Leaders of change in preparation for Thailand 4.0	- The 9 Essential Skills for People Management - CFO's Orientation Course for New IPOs, Class 4 - Rule of Law for Democracy, Class 8 - Smart Supervisor Program for Industrial 4.0 - Leadership Hack (Online Conference) - Advanced Certificate Course in Public Economics Management for Executives, Class 18 - Advanced Certificate Course in Public Economics Management for Executives, Class 19 - Curriculum of the Metropolitan Development training course for top executive, Class 8	- The difference that the Revenue Department often examines between PND 50 vs Phor Por, Clause 65 Twi, Clause 65 Tri - The financial reporting standard no. 9, 13, 15, 16 and a conceptual framework for financial reports (new) - Basic acts and contracts for use in work and daily life - TDPG 2.0 Project, The Practice of Privacy Protection, Class 3 - Smart Building Data Analytic - Important Cases course that tax assessment officials often examine with testimony (Tor 6) - Renewable energy integration with energy storageMachine Learning - Thailand HR Day 2020 (Physical) - Good Governance for Medical Executives, Class 9 - Online meeting, Hangouts Meet - Design Thinking for Business Innovation - Storytelling for Business Innovation - Thailand's energy direction after the COVID crisis - Everlasting Battery Everlasting Battery: Revolutionary energy

Training course record in 2020			
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Productivity / Techniques / Safety / Environment Activities Course
			- 2020 Shell Forum "Energy Transition: COVID-19 and Beyond" - Business Models and Operations in Microgrid and Prosumer - Business Model and Operation of Energy Storage System - REDeFiNE TOMORROW - Global DeFi & Blockchain Virtual Summit
Department Manager	- ISO 14001: 2015 Introduction & Requirement + Internal Audit - Policy, quality goals and documentation in the ISO / IEC 17025: 2017 system. - Requirements and internal audits according to ISO / IEC 17025: 2017	- Mentoring and Feedback Technique - Leadership and Coaching Skills - Driving Effective Culture - Corporate Culture - Negotiate Like PRO - FROM ME TO WE Change Mindset to Transform Results - Performance Appraisal 2019 - Self Leadership, the way to be at the top of both work and personal matters.	- Meet the Financial Reporting Standards No. 15, Revenue of contracts made with clients, draft TERS16 - 2019 Withholding Tax and Tax Law Update - Business Presentation Workshop - Evaluation of PV Power Plant Technical Performance - Basic electrical system design - Electrical safety for electrical workers - Safe Working at Heights Solar Cell Installation - Crane Operator, Signal Provider to the Crane Operator, Material Handler - Primary fire fighting and fire drills - Testing methods and the use of testing tools - Using Google Suite technology (Google Calendar, Slide) to improve work efficiency - Advance Products Quality Planning - APQP

Training course record in 2020			
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course
			Productivity / Techniques / Safety / Environment Activities Course
			- Uncertainty of Measurement - Production-Part Approval Process (PPAP) - Fire evacuation drills, fire fighting, chemical spills - New innovations in product design - Construction business tax - Academic seminar on solar power plant projects installed on the roof for the public sector of residential houses - Energy storage systems, technology, design, control and application - Income Tax, Deferred, Similarities and differences of tax accounting principles - 2018 Building inspector according to the law for building condition inspection, Class 47 - The Internal Audit Project to prepare to become an internally licensed internal auditor (Pre-CIA), Class 27 - Professional electrical installation - ADVANCED EXECUTIVE SECRETARY & OFFICE MANAGER - 2019 Update tax law with the issue of back tax inspection - Workshop on Midas Gen & Gen Structural Analysis Program, Class 13 - VIETNAM-GUIDE TO INVESTMENT AND DOING BUSINESS

Training course record in 2020				
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course	Productivity / Techniques / Safety / Environment Activities Course
				- Digital HR Forum 2019 - Tax Advisor, Part 1: Regarding the Revenue Law - TFRS 2019, Class 2/19 - Deferred Income Tax, Class 2/19 - Applying technology to lean in the manufacturing process - Branding Cord Value to HR Revolution - Seminar on solar policy information - Disrupting Your Employee Experience Strategy - Measuring and improving the overall efficiency of machines - (OEE Real Time Monitoring and Improvement Program) - Public hearing on topics, recommendations on evaluation of measurement uncertainty - Personal Data Protection Act, 2019, related to CCTV

Training course record in 2020				
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course	Productivity / Techniques / Safety / Environment Activities Course
Head of Unit / Head of Department	- ISO 14001: 2015 Introduction & Requirement + Internal Audit - Policy, quality goals and documentation in the ISO / IEC 17025: 2017 system. - Requirements and internal audits according to ISO / IEC 17025: 2017 - To achieve cost reduction with QCC, Class 1/19	- Mentoring and Feedback Technique - Leadership and Coaching Skills - Driving Effective Culture - Corporate Culture - How to be Rich, think outside the box - Performance Appraisal 2019	- Efficient management of construction projects - Leaders and organizational culture changes - Disrupting Your Employee Experience Strategy	- Meet the Financial Reporting Standards No. 15, Revenue of contracts made with clients, draft TERS16 - 2019 Withholding Tax and Tax Law Update - Advance Payment - Business Presentation Workshop - Evaluation of PV Power Plant Technical Performance - ThaiWPS Office - SketchUp 3D Design & PVSyst - Driving the forklift correctly and safely - Safety officer at work, supervisor level - Safety officer at work, technical level - Electrical safety for electrical workers - Safe Working at Heights Solar Cell Installation - Crane Operator, Signal Provider to the Crane Operator, Material Handler - First aid, Resuscitation CPR, AIDS Knowledge - Primary fire fighting and fire drills - Testing methods and the use of testing tools - Using Google Suite technology (Google Calendar, Slide) to improve work efficiency - Advance Products Quality Planning - APQP - Uncertainty of Measurement - Production-Part Approval Process (PPAP) - Fire evacuation drills, fire fighting, chemical spills

Training course record in 2020

Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course	Productivity / Techniques / Safety / Environment Activities Course
				- New innovations in product design - Faults can be prevented with Visual Control and POKA YOKE, Class 5 - Work at heights for supervisors - Leadership certification training in the field of safety for construction and installation of machinery - High voltage substation: connection requirements, design, testing and implementation import - Protective Relaying 1 (Class 8) - Survey, design, estimate, installation and maintenance Solar power generation system on the building roof - Analytical thinking for professional internal Auditor - Academic seminar on solar power plant projects installed on the roof for the public sector of residential houses - Train the Trainers: Happy Money, Happy Retirement - Professional electrical installation - Keep pace with the new financial reporting standards that will be adopted in the year 2019 and 2020 - New Land and Buildings Tax Act - Evaluation of employee benefits according to TAS 19 - Transformation TISI 4.0 - Logistics information technology application for warehouse and inventory management

Training course record in 2020			
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course
			Productivity / Techniques / Safety / Environment Activities Course
			- Project to strengthen social responsibility on labor of the workplace with 2019 Thai labor standards - Applying technology to lean in the manufacturing process - Project to strengthen awareness of employers, enterprises, migrant workers and networked partners organization - Thailand HR - Personal Data Protection Act, 2019, related to CCTV - Skill Development Promotion Project in the workplace under the Skill Development Promotion Act 2002
Staff	- ISO 1400: 2015 Introduction & Requirement + Internal Audit - Policy, quality goals and documentation in the ISO / IEC 17025: 2017 system. - Requirements and internal audits according to ISO / IEC 17025: 2017 - To achieve cost reduction with QCC, Class 1/19	- Mentoring and Feedback Technique - Driving Effective Culture - Corporate Culture - How to be Rich, think outside the box	- Efficient management of construction projects - Disrupting Your Employee Experience Strategy
			- Meet the Financial Reporting Standards No. 15, Revenue of contracts made with clients, draft TERS16 - 2019 Withholding Tax and Tax Law Update - Advance Payment - Business Presentation Workshop - Evaluation of PV Power Plant Technical Performance - ThaiWPS Office - SketchUp 3D Design & Pvsyst - Basic electrical system design - Driving the forklift correctly and safely

Training course record in 2020			
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course
			Productivity / Techniques / Safety / Environment Activities Course
			- Safety officer at work, supervisor level - Safety officer at work, technical level - Electrical safety for electrical workers - Crane Operator, Signal Provider to the Crane Operator, Material Handler - First aid, Resuscitation CPR, AIDS Knowledge - Primary fire fighting and fire drills - Testing methods and the use of testing tools - Using Google Suite technology (Google Calendar, Slide) to improve work efficiency - Advance Products Quality Planning - APQP - Uncertainty of Measurement - Production-Part Approval Process (PPAP) - Using Basic SOLID WORKS 3D Drawing Software - Fire evacuation drills, fire fighting, chemical spills - New innovations in product design - Faults can be prevented with Visual Control and POKA YOKE, Class 5 - Solar power generation system on the roof - Prepare and develop sustainability assessment scores - Work at heights for supervisors - Leadership certification training in the field of safety for construction and installation of machinery

Training course record in 2020			
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course
			Productivity / Techniques / Safety / Environment Activities Course
			- High voltage substation: connection requirements, design, testing and implementation import - Survey, design, estimate, installation and maintenance Solar power generation system on the building roof - Techniques for making paper work, methods for conducting field inspections - Academic seminar on solar power plant projects installed on the roof for the public sector of residential houses - Energy storage systems, technology, design, control and application - Seminar to exchange knowledge on best practices of state enterprises business partners - Electrical protection: theory and case studies - Professional electrical installation - Stairway to a Sustainable Way Business - Business Plus HRM NEW VERSION 7.1 - The battery industry stores energy in the power grid and solutions to the Thai energy problem - Business Plus HRM NEW VERSION 7.1 - Raising the bar for Sustainability Reporting by Deloitte - State of the Corporate Sustainability: Sector Perspective from 100 Reporting Organizations - Sustainability Reporting Workshop: GRI Standards

Training course record in 2020

Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course	Productivity / Techniques / Safety / Environment Activities Course
				- Capital Market Research Forum, No. 5/2562 - Labor law "You asked, we answered" - Essential ASP.NET Core MVC, Class 15 - The employer is responsible for remittance according to Student Loan Fund Act, B.E.2560, what to do? - Seminar on the development of network of international energy cooperation centers - Safety in working with low voltage electrical - Personal Data Coverage Act 2019 - Announcement of the National Action Plan on Business and Human Rights Phase 1 - Project to promote good governance capital market in honor - Transformation TISI 4.0 - 23rd National Seminar on Occupational Safety and Health - Solidworks Simulation Professional 3D software for advanced analysis. - Solidworks Flow simulation - Public hearing on topics, recommendations on evaluation of measurement uncertainty - Using a program written in SOLID PLANT - Personal Data Protection Act, 2019, related to CCTV

Training course record in 2020			
Level / Course	Quality System Courses	Human Resource Development Courses (Core Competencies)	Administration Course Productivity / Techniques / Safety / Environment Activities Course
Operational staff	- To achieve cost reduction with QCC, Class 1/19	- Corporate Culture	- Evaluation of PV Power Plant Technical Performance - ThaiWPS Office - Driving the forklift correctly and safely - Safe Working at Heights Solar Cell Installation - Crane Operator, Signal Provider to the Crane Operator, Material Handler - First aid, Resuscitation CPR, AIDS Knowledge - Primary fire fighting and fire drills - Faults can be prevented with Visual Control and POKA YOE, Class 5 - Working at heights for operators

Operations on Safety, Occupational Health and Work Environment

The Company believes that the safety, occupational health and work environment of employees is one of the key factors that will help them achieve efficiency and productivity. The Company has therefore developed a management system for safety, occupational health and working environment in accordance with the law, international standards and other requirements to create work safety for employees and those who come to contact or come to work within the Company. There is also a factory safety exhibition week within the Company Group to promote awareness among employees and to participate in all levels in the management of safety, occupational health to occur continuously and sustainably.

Operational Goals

Short-term Goals



Safety, occupational health and work environment practices are fully compliant with the law

Long-term Goals



The accident rate in percentage



Create a safety culture in the workplace and transfer knowledge to stakeholders

Summary of Operating Results in 2020

Maximum number of consecutive accident-free days

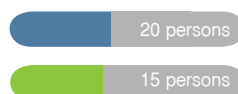


(คิดแยกตามกลุ่มบริษัท)

Days

2,134

The number of safety officer at each level of work



(Divided by company group) Number of accidents that need to time off work for more than 3 days



Case

0

Number of new employees attending safety course orientation



Percent

100

Report of the number of accidents and the number of safety days (Data as of 31st December 2020)

Company	2561		2562		2563	
	Number of time-off accidents (more than 3 days)	Number of consecutive accident-free days	Number of time-off accidents (more than 3 days)	Number of consecutive accident-free days	Number of time-off accidents (more than 3 days)	Number of consecutive accident-free days
GKA	0	1,275	1	133	0	421
GKP	0	1,626	0	1,846	0	2,134
GPD	0	365	0	730	0	1,095
WED	0	733	0	1,098	0	1,463
GNP	0	281	0	646	0	1,011
KWE	0	195	0	560	0	925

Operating Strategies for Safety, Occupational Health and Working Environment

1. Include “Operation and Wearing Equipment for Safety at Work” as the subject of orientation training for new employees. Everyone who has started working for the Company and / or employees who have been transferred must be aware of and know how to do the job, and wearing personal protective equipment to ensure workplace safety and promote basic safety behavior for new employees.

2. **Morning Talk Activity:** Each department will have a morning meeting to communicate information and share actual safety experience through the JSA (Job Safety Analyst) activity, pre-operational analysis for safety according to Plan-Do-Check-Act (PDCA) principle and continue to operate until it become a Safety Culture.



3. Annual preparedness for emergency situations, fire drills and fire evacuation drill every year.



4. Organize safety activities through 5S activities which is one process that can be used to improve work and improve the environment in the workplace, both in production and Service. This is to increase the efficiency of the organization by organizing a contest for each company that has adhered to the principles; as well as, shuffle the Audit Committee annually to create participation and benefit the employees and the organization.



5. **Safety and Environment Week**, the Company focuses on building safety standards, working methods, correct wearing of personal protective equipment, by organizing an exhibition to project safety events, organizing a safety area contest in order to create a safety culture by stopping the risky behavior of accidents, including compliance with the rules that have been defined.



6. **Appoint the safety**, occupational health and working environment committee for the Company, to supervise and perform the work in accordance with the Ministerial Regulation on labor establishing standards for management and management of safety, occupational health and working environment in 2006.
7. **Provide a safety officer for every project**, to supervise, conduct job safety analysis (JSA) and organize training for employees.
8. **Build a safety risk prevention culture by reducing occupational accident risk behaviors (Behavior Base Safety: BBS**, which will emphasize ongoing action and undergo regular audits.

Annual Performance on Safety, Occupational Health and Working Environment



First Aid Training and Basic Life Support Operations
By Kuakarun Faculty of Nursing



Training and Practice Emergency in Case of Chemical and
Oil Spills



Measure the Working Environment
By an external agency that is authorized by the government
agency



Test Parts and Equipment for Overhead Cranes
By an external agency that is authorized by a government
agency

We care Social **To Conduct business with social responsibility,** **environmentally friendly and growing sustainable together**

Responsibility Towards Community and Society

The Company is committed to promoting coexistence with the community by fostering friendliness and giving support to one another in “Good neighbor” to develop and strengthen communities with sustainable quality of life and society, promoting a community engagement process to gain information and fostering a better understanding of each other, inspecting, following up on the performance, managing impacts that may arise from the Company’s operations and giving importance to the exchange of knowledge and experiences among individuals and departments in order to develop the appropriate and continuous environment. In which the Company realizes the importance of contributing to community and social development by cooperating with agencies, educational institutions to organize activities that benefit the community and society every year, both support the budget for organizing activities, including sending employees to participate in various activities that organized by the community.

During the year 2020, GUNKUL has continuously operated the project through various activities that benefit society. With the Realization that it is the Company’s duty to society which has stakeholders involved in the business operation, also activities performed in the past year that have been summarized through various projects with the Company’s social and environmental policy, promoting community participation and giving importance to the creation of educational opportunities, supporting excellence in sports, inheriting local cultures and traditions, and community livelihoods; as well as, the conservation and restoration of environmental quality in order to achieve a sustainable balance of nature and life and coexistence with communities in helping each other.

Sustainable
Development Policy



Operational Goals

Continuously assess community satisfaction and engagement with the organization and disclose information to the public.



Take the points from assessment to improve and develop community performance.



Percent **100**



Create a network of social responsibility with stakeholders for sustainable development of the organization with society.

Number of communities that accepting action on community relations development



Percent **80**

Average score of overall community satisfaction and engagement



Percent **75**

Number of complaints about community issues



Amount (issue) **0**

Information Scope: Communities around the establishment in a 5-kilometer radius

Performance

Amount of Support Budget



Number of societies and communities that received supported



Amount (Places)
92

Welcoming those who come to study and visit the renewable energy power plant learning resources



Amount (Persons)
161

Actions on Social Responsibility



Project to promote Renewable Energy Power Plant Learning Center

The Company realizes the importance of education, knowledge extension; as well, as being a learning organization for educational institutions, students, teachers, organizations and surrounding communities who are interested in solar power plants and study visits to solar and wind power plants to further study and spark ideas on the development of renewable energy and applied in daily life. As in 2020, there are 6 public and private organizations, a total of 161 persons.



Prepare a participatory development plan and lead the community administrators to study visit

Supporting the community administrators surrounding the establishment in a study visit to the community administration and meeting to make a participatory development plan to provide community administrators with new ideas and guidelines for managing and growing with the organization sustainably.



Solar herb watering system project

The Company has installed a solar cell to use in conjunction with a water pump system for watering herbs to help save fuel consumption in electricity generation, reducing the cost of electricity purchase and be a learning center for renewable energy for the community in Moo 8, Lum Sum Subdistrict, Sai Yok District, Kanchanaburi Province.



Vaccination service against 4 strains of influenza to personnel

Gunkul Engineering Public Company Limited, in cooperation with Intermed Hospital, set up a vaccination service to prevent 4 strains of influenza for all personnel in the company to promote good health and good workforce.

Representatives of the management gave flower baskets and gifts on the birthday of Miss Sopacha Dhumrongpiyawut, Chief Executive Officer

Representative of the management team congratulated and gave a flower basket on the birthday of Miss Sopacha Dhumrongpiyawut, Chief Executive Officer. In this regard, a luncheon was arranged for employees to represent their gratitude and concern during the Covid-19 crisis by organizing this activity with Social Distancing, which is in line with the Company's measures to prevent Covid-19 Outbreak.



Representatives of the Board of Directors and executives of the Company gave flower baskets and gifts on the birthday of Dr. Gunkul Dhumrongpiyawut, Chairman of the Board of Directors. Representatives of the Board of Directors, executives and employees of the Company gave flowers and souvenirs on the birthday of Dr. Gunkul Dhumrongpiyawut, Chairman of the Board of Directors. In this regard, a luncheon was arranged for the staff to express thanks.





2020 Scholarship Ceremony for Employees' Children

Miss Sopacha Dhumrongpiyawut, Chief Executive Officer and Dr. Somboon Aueatchasai, Managing Director granted 61 scholarships to employees' children, totaling 269,500 baht.

The scholarship grant program for employees' children is one of the ongoing employee welfare programs. The purpose of the project is to provide opportunities and distribute educational opportunities for youth to have access to equal quality education, to grow with potential and have the power to develop the country in the future.



GUNKUL enhances countermeasures and prevention of the coronavirus (COVID-19) outbreak

Due to the increasing severity of the Covid-19 outbreak, GUNKUL led by Miss Sopacha Dhumrongpiyawut, Chief Executive Officer and Dr. Somboon Aueatchasai, Managing Director has prepared measures to deal with the outbreak situation.

The Company has issued countermeasures that focus on enhancing knowledge and understanding about the Covid-19, publicizing on the precautions to protect yourself from infection and campaigning for employees to wear the protective masks, including the production of cloth masks for use within the organization. In terms of operations, digital technology is applied and encouraged to work, such as video conferencing, allowing some employees to work from home and sub-offices are distributed to reduce employee congestion. In terms of employee welfare, the Company has provided coronavirus insurance 2019 for employees to protect and build confidence for all employees within the organization.

In addition, the Company also has other measures to take care of such as, measuring the temperature of employees,



customers or people who come in contact with the company before entering the office area, set up hand sanitiser gel service points at various points within the Company, prepare soap and paper towels for hand washing, spray disinfectants around the company as appropriate and clean the surface inside the office with disinfectant every 1 hour. This is to ensure the safety and good health of employees within the organization and the company. GUNKUL is pleased to cooperate with government and other relevant government measures to deal with and prevent epidemic prevention in order to jointly end this virus outbreak as soon.



ตัวแทนผู้บริหารมอบหน้ากากอนามัยสนับสนุนบุคลากรทางการแพทย์ จำนวน 3,000 ชิ้น

The Executives Representative of GUNKUL encourages healthcare workers to fight the Covid-19 by donating masks to Inburi Hospital Singburi Province, Bang Plasma Hospital and Danchang Hospital, Suphanburi Province, total 3,000 pieces.



The management team hands a donation to support funds for the purchase of medical equipment and devices.

The management team of GUNKUL, led by Dr. Gunkul Dhumrongpiyawut, Chairman of the Board of Directors, and Miss Sopacha Dhumrongpiyawut, Chief Executive Officer donated money to support funds for the purchase of medical equipment and devices which is an important factor in promoting medical treatment for the patients, totaling 8,000,000 baht, with items donating to the fund Medical foundation and medical facilities as follows:



Management's Concerns on the Safety of GUNKUL Employees with COVID-19

The management team of the GUNKUL, led by Miss Sopacha Dhumrongpiyawut, Chief Executive Officer and Dr. Somboon Aueatchasai, Managing Director and Miss Naruechon Dhumrongpiyawut, Assistant Managing Director, gave the mask to the Department Manager and representatives for distribution to all employees to prevent COVID-19 infection at Head Office, Floor 8, Pearl Bank Building.



1. Ramathibodi Foundation, Ramathibodi Hospital
2. Phramongkutklao Hospital
3. Rajavithi Hospital
4. Police General Hospital



5. Chulalongkorn Hospital, Thai Red Cross Society
6. Vajira Hospital
7. Sirirajrakpiban Fund Faculty of Medicine Siriraj Hospital
8. Foundation for Medical Governance



Management team donated bulbs and fund for renovating Inburi Hospital building

The management team of GUNKUL, led by Dr. Gunkul Dhumrongpiyawut, Chairman of the Board of Directors, and Miss Sopacha Dhumrongpiyawut, Chief Executive Officer, donated 5,000 LED-saving lamps, also donated money for the renovation of the patient's toilets, surgery departments and other public utility equipment such as, medical equipment at Inburi Hospital, Singburi Province.



Co-sponsored measures to prevent COVID-19 infectious disease, 2020 District Red Cross Fair

To support activities and assist in arranging anti-Covid-19 measures within the event to ensure the safety of the people that attending the event.



GUNKUL supported the uniform for the village health volunteers.

To encourage volunteers to the public health in the village by preparing shirts and hats for the COVID 19 screening and surveillance operation in Huay Bong district, totaling 285 people.



Co-sponsored the winter event “Visit the windmill field, See the good things of Huai Bong”

The 2020 winter event “Visit the windmill field, See the good things of Huai Bong” “There is an activity “Spinning together, the day that you still love”, cycling around the windmill field which the Company has always focused on promoting activities to create good things for society by supporting money and participating in activities in addition to promoting tourism on renewable energy and clean energy. It also promotes tourism sites by focusing on the community as a local economic source.



Supporting anti-drug sports activities, Ya Khao Games and Huai Bong Games

To encourage youth in the area to use their free time productively and as an anti-drug activity, also to promote the development of the community with creativity.



GUNKUL in collaboration with Pearl Bangkok Building organized a merit-making activity on New Year’s Day

The management team and employees of GUNKUK, participated in making merit with dry food offering to 9 monks from Wat Ratchabophit Sathit Mahasimaram on 2020 New Year’s Day at the 1st floor, Sale Gallery area, Pearl Bangkok Building, to promote the culture and support the personnel to do good deeds.



GUNKUL in collaboration with Pearl Bangkok Building GUNKUL participated in making merit with dry food

The management team and employees of GUNKUK, participated in making merit with dry food offering to 9 monks from Wat Ratchabophit Sathit Mahasimaram on the Makha Puja day at the front yard of the building, 1st floor, Pearl Bangkok Building in order to inherit the culture and support the personnel to do good deeds, for the sustainable peace of society and the nation.



Co-hosted the offering robes to Buddhist priests at Ban Noi Phatthana Temple

In the annual event in order for the temple to be used for charity

GUNKUL supports 2020 Loi Krathong activities

Co-sponsored 2020 Loi Krathong Festival Festival of the Loi Krathong Festival Coordination Center in order to support the continuation of good traditions and cultures within the community.



2020 National Children's Day

GUNKUL, led by Dr. Gunkul Dhumrongpiyawut, Chairman of the Board of Directors, and Miss Sopacha Dhumrongpiyawut, Chief Executive Officer, with the management team donated money to support the activities of the 2020 National Children's Day to various government agencies such as Wat Sawat Waree Simaram School, Wat Noi Naphakhun School, Early Childhood Development Center, Samsen Metropolitan Police Station, Wat Sawat Waree Simaram, Nakhon Chai Si and Ratchaphatsadu Community.

Throughout the years, the Company has focused on organizing activities for the creation of society, in which this time the



Company donated funds to support the Children's Day activities to promote and develop youth to grow properly as the motto for 2020 Children's Day "New generation of Thai children Know love and unity Know the duty of Thai citizens"

Also to support the Children's Day activities at Baan Noi Phatthana School and Huai Bong School Children's Day, activities at Ban Sub Phlu School and Silaruamsamakkee School, Children's Day activities at Pracharat Samakkhi School, Nong Nam Sai Child Development Center, Subdistrict Municipality And the Don Mueang Subdistrict Administrative Organization And Huai Bong Subdistrict Administrative Organization In doing public benefit activities And support scholarships for youth, Don Mueang Subdistrict Administrative Organization and Huai Bong Subdistrict Administrative Organization, in doing public benefit activities and support scholarships for youth.





Supporting the area of wind power plants in the organization of the activity
 “14 February Turbine Saneha Phae Somrot”

On Valentine's Day 14th February 2020, the Dan Khun Thot District Office, Nakhon Ratchasima Province, organized an offsite marriage registration activity for 17 couples, led by Mr. Paitoon Mahachuenjai, Dan Khun Thot Sheriff served as a registrar with administrative staff of Dan Khun Thot District, Huai Bong Subdistrict Administrative Organization. The Wind Energy Development Co., Ltd., an affiliated company, supported the area for organizing activities, along with giving souvenirs to participants of the activity to promote coexistence with the community and to promote wind farms as a new tourist attraction in the future.



GUNKUL supported lamps for lighting

Representatives of Rang Ngern Solution Co., Ltd. delivered lamps for lighting to Moo 1 and Moo 3, Amphur Thap Sakae, Prachuap Khiri Khan Province, each village 5 lamps for using as public use within the village.



Funding for village funds for public welfare and internal activities

The Company's representative donated money for the village fund for public benefit and internal activities to the village of Thap Sakae District, Prachuap Khiri Khan Province. Moo 1 and Moo 3.

Supporting scholarships for students in Moo 3, Thap Sakae District

Representatives of Rang Ngern Solution Co., Ltd. donated scholarships to students in Village No. 3, Thap Sakae District, Prachuap Khiri Khan Province to support the education of youth within the community to grow into a person of quality and an important force in the development of the country in the future.



Supporting the construction of electric poles across the road
Supporting funds for the construction of electric poles across the road of Ban Sanga Phatthana Village, Nong Nam Sai Subdistrict, in order to provide the villagers with electricity for consumption and public benefits.



The company joined a traveling meeting with the village headman at Huai Bong village
Attending the meeting of the village headman's community meeting every month with representatives in the area such as the district, police station, public health, farmers, SAO to focus on solving problems that may arise and find ways to develop other issues of the community in the future by going to the meeting in each village every month.



The representative of the management gave money to support the scholarship at Wat Noi Noppakhun School
The representatives from the management team of GUNKUL, led by Miss Sopacha Dhumrongpiyawut, Chief Executive Officer, gave 55 scholarships to support academic, music-dance and sports development projects to Wat Noi Naphakhun School, 2,000 baht per scholarship in order to promote and develop the quality of education for young people to grow into quality personnel and be an important force in the development of the country in the future.

Executive representative supported rice products from the National Village and Urban Community Fund
The representatives from the management team of GUNKUL, led by Miss Naruechon Dhumrongpiyawut, Assistant Managing Director, supported rice products from the National Village and Urban Community Fund by Wang Pla Lai Village, Moo 6, Ban Phrao Subdistrict, Ban Na District, Nakhon Nayok Province, at the amount of 1,100 bags, totaling 5.5 tons in order to promote the villagers to have income from the development of wisdom and products within the community; as well as, to stimulate the community's economy for sustainable growth. The Company will continue to donate these rice products for the project. "Gunkul Share kindness to the community" to alleviate the suffering of the COVID-19 situation for the affected people.





The executive representatives donated survival bags under the project “Gunkul Share kindness to the community”

From the situation of COVID-19 that affects the overall economy in the country and to the way of life of the people both in terms of employment, income and consumption of GUNKUL and the Company Group therefore organized a subsistence bag donation project. “Gunkul share kindness to the community”, held on 24th June 2020, led by Dr. Gunkul Dhumrongpiyawut, Chairman of the Board of Directors, and Miss Sopacha Dhumrongpiyawut, Chief Executive Officer, visited the area and donated a subsistence bag consisting of rice from the National Village and Urban Community Fund, eggs, palm oil and seasoning to 5 communities surrounding the Company to alleviate the suffering from the COVID-19 situation and encourage the community around the Company to go through this crisis together.



The executive representatives attended a scholarship ceremony at Wat Noi Noppakhun School

The representatives of the management team of GUNKUL, led by Mr. Chaloepon Sricharoen and Mr. Kulwichat Nuanngam, participated in the school day activity and represented the granting of scholarships continuously every year to support the potential development project Academic Music - Dance and Sports for Wat Noi Noppakhun School for 110,000 baht; as well as, gave sermons to students to strive for education, to constantly develop themselves in order to bring their knowledge and ability to develop society and the country in the future.



The representatives of GUNKUL supported 3,500 watts of solar panel equipment

The representative of GUNKUL supported 3,500 watts solar panel equipment to the Bun Tham - Bun Phring Border Patrol Police School to be used for groundwater pumping for consumption, consumption and solving water shortage problem during dry season.



GUNKUL participated in a volunteer activity, donated blood by heart, one person gave, three people received

GUNKUL's employees participated in a blood donation activity “with one heart, one person gave, three people received” for the Thai Red Cross, organized by Pruksa Holding Public Company Limited to instill and campaign for employees to have love and compassion to help human beings.

Activity to sweep the grounds of Wat Sawat Waree Simaram Temple

On Thursday 1st October 2020, the 5S committee of 2020 organized a cleaning activity around Sawatwari Simaram Temple to nurture the places of worship and religion, cultivate and campaign for employees of the Company to think well, perform good, which is an important foundation for employees to be able to apply to their actual operations within the organization professionally.



Welcoming a faculty study visit from King Mongkut's University of Technology North Bangkok and Carabao Company

The Company welcomed students from the Faculty of Business Administration (MBA) from King Mongkut's University of Technology North Bangkok and Carabao Company to visit and study visit.



Gift giving activity on the Day of the Elderly

The executive representative gave souvenirs on the Day of the Elderly to the communities nearby the Company at Konon Mahasawat Temple.



Gift giving activity on Children's Day

The executive representative gave a souvenir on Children's Day to the community nearby the Company.



GUNKUL in conjunction with Metropolitan Electricity Engineers Club, installed automatic water pumps

Automatic water pump installation project to save electricity at a Metropolitan Electricity Authority Labor Union School, Phitsanulok Province by GUNKUL in conjunction with The Metropolitan Electricity Authority Engineers Club installed an automatic water pump to help save electricity and use renewable energy to help protect the environment.



GUNKUL in cooperation with King Prajadhipok's Institute, installed solar cells for agriculture

Water pump project for agriculture at Wat Koh Wang Sai School, Nakhon Pathom Province by GUNKUL in collaboration with King Prajadhipok's Institute installed solar cells to help save energy and care for the sustainability environment.



Executives and employees' representatives of GUNKUL offered monks and meditation grounds at Ban Sao Ha Temple, Nakhon Ratchasima Province

The executives and employees' representatives of GUNKUL offered monks and meditation grounds at Ban Sao Ha Temple, Huai Bong Sub-district, Dan Khun Thot District, Nakhon Ratchasima Province for public benefit and upholding religion.

Environmental Responsibility and Energy Conservation

The Company places great emphasis on conducting business in conjunction with continuous environmental stewardship and management. The Company has expanded investment in renewable energy, both solar and wind power which contributes to reducing pollution that caused by the use of energy from fossil fuels in the production of electricity, which is air pollution, the major cause of PM 2.5 microscopic dust and is one of the reasons that cause the phenomenon of global warming. In addition, the Company's production of electrical and renewable energy equipment has also given importance to the environment by operating the ISO 14001 quality system, which emphasizes the importance of the environment as well.

At present, the problem of global warming is one of the world's most important problems, and many countries are taking measures to help reduce the problem. Most of the causes of global warming are due to the overbalance of natural resources, resulting in the loss of the original environment. The common causes of global warming are the production of electricity generated by the burning of fossil fuels such as oil, natural gas, coal and many others. These combustion processes generate greenhouse gases and air pollution, leading to global warming, a major problem that should be addressed.

The Company foresees that electricity generation projects should be developed from other forms of clean and natural energy such as solar and wind energy, in order to conserve electricity and to use resources efficiently, which can also help reduce carbon dioxide emissions as well.

The power plants that occur are power plants that use natural energy, including solar power projects, wind power projects. This include the biomass power plant projects that are currently being developed, it is energy that does not cause environmental pollution such as air pollution, water pollution, and also reduces the amount of greenhouse gases emitted into the atmosphere.

Operational Strategies to Prevent and Mitigate Impacts for Power Plants

Environmental resources	Impact level	Preventive and corrective measures to reduce the impact for solar power plants	Preventive and corrective measures to reduce the impact for wind power plants
 Air quality	 Low level	There is no impact, but the following actions are taken to protect the environment. 1. Spray water where dust can spread into the air. 2. Prohibit workers to incinerate solid waste or others in the project area. 3. Add green areas around the project to prevent the spread of dust into the air. 4. Take good care of and maintain engines, machines or tools that burn fuel and generate exhaust or dust regularly.	
 Water quality	 Low level	1. Establish a toilet that is hygienic and sufficient for the number of workers. 2. Provide a retention pond to collect the rainwater that flows down the soil at the construction site. 3. Bring water in the retention pond to be reused, such as spraying on the road to the project entrance.	
 Drainage system	 Low level	1. There is a sediment trap before draining the water to the outside of the project. 2. The project must regularly clean the gutter around the project. 3. All rainfall in the project area must be drained into the channels surrounding the project. As well as storing rainwater as raw water for use within the project or to delay the water before going outside the project and must regularly inspect the drainage system, ditches around the project and sediment collection.	

Environmental resources	Impact level	Preventive and corrective measures to reduce the impact for solar power plants	Preventive and corrective measures to reduce the impact for wind power plants
 Sound	 Middle level	1. Do not conduct any activity that produces noise other than during the working hours (8:00 am-5:00pm). 2. Avoid the simultaneous use of high noise source maintenance machines. 3. Maintain tools and maintenance machinery to always be in good condition. 4. Providing sound pollution protection equipment such as ear plugs for employees and operators to wear while working. 5. Organize a circulating operation for workers operating in high noise areas in accordance with the law.	1. Inspect and maintain the machines for the period specified in the various equipment requirements to prevent noise caused by machines. 2. Prepare a Noise Contour Map after the project is in operation by applying the results of the study in environmental management of noise. 3. Operate in accordance with Article 1-5 of the Solar Power Plant.
 Energy management	 Low level	1. There is a sediment trap before draining the water to the outside of the project. 2. The project must regularly clean the gutter around the project. 3. All rainfall in the project area must be drained into the channels surrounding the project. As well as storing rainwater as raw water for use within the project or to delay the water before going outside the project.	
 Non-hazardous waste management	 Low level	1. Provide 3 types of waste bins: general waste, recyclable waste and hazardous waste, stored in clearly identified waste containers, covered with lids. 2. General solid waste that is recyclable to be collected for further recycling. 3. Hazardous waste shall be collected separately in a closed storage facility and when there is a sufficient quantity, it shall be delivered to a company or an agency authorized to carry out legal hazardous waste disposal services.	
 Manufacturing process waste management	 Low level	1. Training on how to store and collect broken solar cells. 2. Providing a safe and secure room to store the damaged solar panels and send it to the waste disposal company to perform their disposal in accordance with the standards.	

Energy Management

The Company is committed to energy conservation for its serious and sustainable results, therefore it is necessary to have appropriate policies, planning and operational strategies, with act seriously and continuously throughout the organization, appointing responsible personnel and assigning responsibilities to monitor performance and measurement results by applying guidelines and indicators according to international standards, developing technologies and innovations to increase the capacity of energy management to support sustainable growth in the future.

Internal energy management strategy

1. Carry out activities or projects to campaign for the organization to reduce energy consumption within the organization, such as a campaign to turn on-off the air conditioner before and after working 30 minutes.
2. Install solar power generation systems in establishments, factories and branches of renewable energy power plants using alternative energy to replace the main energy, including installing solar electric lamps for lighting at night, which is a total energy conservation to reduce carbon emissions and greenhouse gases.
3. Initiated to apply the Energy Intensity Index (EII), the International Energy Consumption Index, and the Specific Energy Consumption (SEC) Index for application in setting goals in energy management within the organization.

Operational Goals

Apply Energy Intensity Index (EII) to be used in energy management.



Use the Specific Energy Consumption (SEC) indicators to be used in energy management.

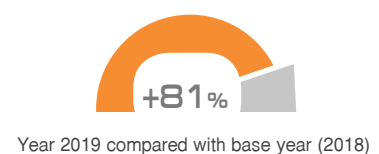
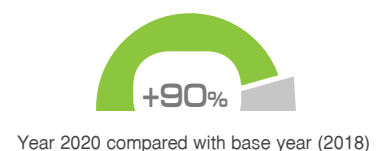
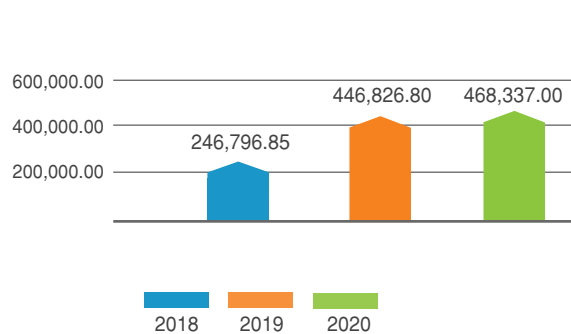


Build a green network with stakeholders for sustainable energy development.



Performance for the Year 2020

Table showing reduction of electricity consumption (baht / year)



ขอบเขตข้อมูล : บริษัท จี.เค. แอสเซมบลี จำกัด และ บริษัท จี.เค. พาวเวอร์ โปรดักส์ จำกัด

Water Management

Water is a natural resource that is essential to life, economic development, and a fundamental resource for national development. The expansion of the agricultural, industrial, tourism and service sectors, as well as the increase in population and climate change, have affected water supplies and water quality. Therefore, it is important to manage water resources within the organization which requires a complete and efficient water management process in the production process, in order to enable the organization to make the best use of water resources along with sustainable conservation and restoration.

Internal Water Management Strategies

1. Carry out activities or projects to campaign for the organization to make the most of water resources, reduce water usage and reuse water within the organization.
2. There are regular inspections and management of water quality control from the production process and pre-discharge from the factory according to the plan set each year.
3. Promote culture as well as create knowledge and understanding of water management within the organization, apply technology and innovation to develop quality in order to make the most efficient use of resources.

Operational Goals

The amount of water from the production process that needs to be treated.



Percent **100**



Develop technology and water treatment processes to be modern and of high quality.

Complaints about water from the production process released to the outside.



Amot (Caseun)

0

Performance for the Year 2020

Information of water consumption in the production process and the amount of treated water

2020

Use 6,229 cu m

1.54%

Total treatment is 96 cubic meters.

2019

Use 7,754.03 cu m

1.24%

Total treatment is 96 cubic meters.

2018

Use 6,375 cu m

1.51%

Total treatment is 96 cubic meters.



Complaints about water from the production process released to the outside.



2018	2019	2020
0	0	0

Scope of information: G.K. Assembly Co., Ltd.
and G.K. Power Products Co., Ltd.

Check the quality of the water that is treated by an external organization.

Waste Management and Wastes from Production Processes

The Company is aware of the implementation of the waste management policy and waste from the production process, minimizing the amount of waste, in order for the organization to make the most of its resources, there is a system to prevent impacts on communities, society and the environment, strive to develop technologies and innovations to manage waste and wastes from production processes and extend these wastes to other benefits, to prevent the risk from the amount of waste that may increase in the future, encourage organizations to operate in a circular economy.



Internal Waste Management Strategy

1. Carry out activities or projects to promote the management of waste and wastes from the production process, reduce the amount of waste to to a minimum.
2. Implement 3Rs within the organization through activities, projects and work processes including Reduce, Reuse and Recycle, such as 5S activities.
3. Develop technology and innovation for waste and production process waste management to prevent future waste risks, especially electronic waste.

Operational Goals

The amount of waste from the production process that has been properly disposed of.



More than the previous year (Percent) **30**



Develop technology and innovation in the disposal of waste from the production process to be modern and with high quality.

Complaints about waste from the production process



Amount (Case)

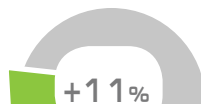
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Performance for the Year 2020

The amount of waste from the production process that has been properly disposed of.



188.8 Tonnes



More waste disposal from the production process from the previous year

Complaints about waste from the production process



Amount (Case)

0

For the waste from the production process, the company has selected operators who provide hazardous waste treatment services and hazardous waste transporters that are authorized by the Department of Industrial Works to carry out the procedures prescribed by law in accordance with the regulations required by the Department of Industrial Works.

Summary Table of Details on Sewage and Waste Materials

Number	List	Disposal quantity (tonnes)		
		2018	2019	2020
1.	Graphite	3.44	0.45	1.77
2.	Glue residue	3.92	5.81	2.18
3.	Sand filtered water	0.05	0.02	0
4.	Used light bulb	0.02	0.02	0.08
5.	Used Solvent	1.74	0.30	0.2
6.	Wire to tie the workpiece	0.06	0.20	0.38
7.	Stainless steel scraps stuck	1.29	0.06	0.72
8.	Stainless steel scraps do not suck	1.09	0.65	0.59
9.	Zinc scrap	8.39	3.68	1.69
10.	Machined scrap	1.23	3.73	2.07
11.	Structural steel scrap	25.14	24.12	50.40
12.	Stamping scrap	29.86	66.43	93.65
13.	Iron rod scrap	4.26	6.30	5.14
14.	Conduit steel scrap	3.65	38.00	17.68
15.	Aluminum machined, cut scrap	0.68	1.38	1.17
16.	Aluminum pieces scrap	2.94	2.49	2.72
17.	Aluminum lamp cap scrap	0	0.08	0
18.	Machined copper scrap	4.66	10.67	4.48
19.	Copper pieces scrap	1.33	2.70	2.33
20.	Machined brass scrap	0	2.45	1.19
21.	Brass piece scrap	0	0.47	0.38
22.	85% copper scrap	0	0.01	0
Total displacement (tonnes)		93.75	170.02	188.82

Note: The amount of sewage and unused material increases or decreases depending on the production capacity.

Climate Change Management

The Company realizes the importance of greenhouse gas emissions, the major causes of climate change, and the major risk factors for the business sector that may have an impact in the future. Therefore, there are guidelines and actions that take part in solving climate change problems in line with the Sustainable Development Goals through the management of energy and resources to make the most of, and reduce the impact on society and the environment as much as possible, promote the implementation of the circular economy, use innovation and high-performance technology to help develop and solve problems. It aims to be an organization that emits zero carbon dioxide or Carbon Neutral in the future.

Climate Change Management Strategy



Resource Efficiency

The key idea is to maximize the use of internal resources, have processes to improve operations using high quality technology and innovation, to drive business in accordance with circular economy guidelines.



Clean Energy

Increase the consumption of clean energy in internal production processes such as solar power generation, as well as other clean energy products and services.



Green Network

Focusing on building green networks with all stakeholders, promoting the creation of a society of environmental conservation in order to develop sustainable management of climate change.

Performance for the Year 2020

Number of emissions reductions CO₂ from the Company's products and services



Million tonnes of CO₂ equivalent

932.43

Operational Goals



Providing corporate carbon footprint and third-party products

Aiming to be an organization with zero CO₂ emissions in the future



Actions on Environmental Responsibility



GUNKUL organizes a service point to borrow and return cloth bags to reduce global warming.

GUNKUL operates a service point for borrowing bags to reduce global warming by providing four service points: Head Office, Floor 8, Floor 12A, GKA-P Factory and Warehouse to campaign and encourage employees to reduce the use of plastic bags, reduce the amount of waste that generates greenhouse gases, and cultivate employees to have a green corporate culture.



GUNKUL's employees donated hard plastic water glasses.

GUNKUL's employees donated hard plastic glasses, plastic for making funnel inhalers for asthma patients by donating to the drug room department of Sirindhorn Hospital.

5S Activity and Environment

5S is an activity to improve the work of employees by themselves in accordance with the principle of “ Sort, Set in order, Shine, Standardize and Sustain” in their own workplaces, enabling the company to have employees with discipline from the employees’ consciousness, making the workplace environment clean, orderly, beautiful, safe and have proper separation and recycling management, create a balance with the environment and generate income for activities to improve 5S activities.

The Company has conducted audits for both the office, warehouse, factory on a monthly basis and the power plant on a four-month basis and organized a contest for the department / power plant with outstanding 5S activities to build morale and create incentives for improving work development.



Volunteer activity to plant trees

“We do good for our nation, religion and the King.”

Supported and participated in volunteer activities “We do good for the nation, religion and the King.” Planting activities to increase green areas, conserve the environment and improve the scenery in the area.



Supporting Activities to Conservation of Ban Noi Phattana fish species

This is to preserve the ecosystem and reduce the impact on biodiversity, promote the community to operate on environmental responsibility.



Activities for donating old calendars

GUNKUL organized an activity to donate old, leftover calendars which is one of the Gunkul Zero Waste projects and donated to the Educational Technology Center for the Blind, Nonthaburi Province to make braille books for the visually impaired, to expand educational opportunities to receive an equal education and to preserve the environment by making the most of the waste items.



Activity to donate clear plastic water bottles for making Trijiwon cloth, Chak Daeng Temple, Samut Prakan Province.

GUNKUL organized a donation activity, a donation activity, a clear plastic water bottle for making Trijiwon cloth, Chak Daeng Temple, Samut Prakan Province, one of the Gunkul Zero Waste projects, a non-hazardous waste reduction project within the organization, cultivate and foster a green culture within the organization.

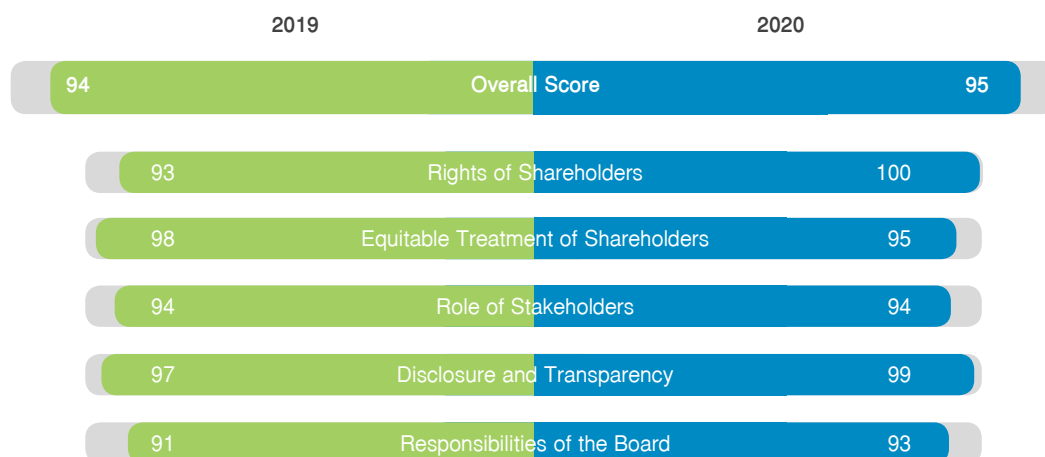


Result of Corporate Governance of Thai Listed Companies Assessment

The Company was awarded the Corporate Governance Reporting (CGR) for the year 2020 from the Thai Institute of Directors Association (IOD) as a listed company that received a score of “Excellent” (Excellent CG Scoring), with an average score of 95 points, and the scores for each category were in the “Excellent” criteria for the fourth consecutive year with the following average scores for each category:

Comparison of overall scores and categories for the past 3 years (percent)				
Category		2018 Score	2019 Score	2020 Score
1.	Rights of Shareholders	98	93	100
2.	Equitable Treatment of Shareholders	88	98	95
3.	Role of Stakeholders	89	94	94
4.	Disclosure and Transparency	96	97	99
5.	Responsibilities of the Board	89	91	93
Average Score		91	94	95

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ASEAN ASSET CLASS PCLs (Thailand) AWARD

From the Office of the Securities and Exchange Commission and the Thai Institute of Directors Association



Miss Sopacha Dhumrongpiyawut, Chief Executive Officer, received the MASTER ENTREPRENEUR CATEGORY AWARD

From Asia Pacific Enterprise Awards (APEA)



CORPORATE EXCELLENCE CATEGORY

From Asia Pacific Enterprise Awards (APEA)



SUSTAINABILITY DISCLOSURE RECOGNITION

Sustainability Disclosure Award 63 from Thaipat Institute



Miss Naruechon Dhumrongpiyawut, Assistant Managing Director, received the Women in Power Award (WiP) AWARD

From IEEE Power & Energy Society - Thailand



Miss Naruechon Dhumrongpiyawut, Assistant Managing Director, received the Award of recognition as a sample person in the energy and utilities sector, 2020.

From the Foundation of the Science and Technology Council of Thailand



Miss Naruechon Dhumrongpiyawut, Assistant Managing Director, Shortlisted as Top Business Women of 2019, a powerful female leader in the business world with a challenging role.

From Techsauce news agency

Descriptions		Page Number		SDGs
		AR	SR	
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102-3	Location of headquarters	27	-	
102-4	Location of operations	60-63	-	
102-5	Ownership and legal form	36	-	
102-6	Markets served	51-93	-	
102-7	Scale of the organization	27	-	7,8,12,17
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102-10	Significant changes to the organization and its supply chain	-	431-434	
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102-13	Membership of associations	-	386,405	
STRATEGY				
102-14	Statement from senior decision-maker	5-15,259	384	8
102-15	Key impacts, risks, and opportunities	95-104	-	
ETHICS AND INTEGRITY				
102-16	Values, principles, standards, and norms of behavior	193	386,388-390	8
102-17	Mechanisms for advice and Concerns about ethics	-	405-406,412-413	
GOVERNANCE				
102-18	Governance structure	107	-	
102-19	Delegating authority	108	-	
102-20	Executive-level responsibility for economic, environmental and social topics	-	384	

Descriptions		Page Number		SDGs
		AR	SR	
102-21	Consulting stakeholders on economics, environmental, and social topics		395-401	
102-22	Composition of the highest governance body and its committees	108-111	-	
102-23	Chair of the highest governance body	108	-	
102-24	Nominating and selecting the highest governance body	-	-	
102-25	Conflicts of interest	-	-	
102-26	Role of highest governance body in setting purpose, values, and strategy	107-108	-	
102-27	Collective knowledge of highest governance body	126-161		
102-28	Evaluating the highest governance body's performance	182-185	403	7,8,12
102-29	Identifying and managing economics, environmental, and social impacts	95-104	-	
102-30	Effectiveness of risk management processes	95-104	-	
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