

2016

ANNUAL REPORT



Smart Energy in Action

สงวนลิขสิทธิ์ ©2558 บริษัท กันกุลเอ็นจิเนียริง จำกัด (มหาชน)

พลังงานสร้างสรรค์ คิดล้ำ ทำจริง
รายงานประจำปี 2559

บริษัท กันกุลเอ็นจิเนียริง จำกัด (มหาชน)
Gunkul Engineering Public Company Limited
www.gunkul.com

Vision

"To become the leading producer of electricity from renewable energy, including the manufacturer and provider of equipment for energy system and energy saving products that meet the customers' needs and satisfaction and concurrently maximize stakeholders' return"

Mission

- | | | |
|----|-----------------------------|---|
| 1. | Renewable Energy | Do business on renewable energy power plants in efficiency standards with focusing on social and environmental. |
| 2. | Sales | Provide equipment for power systems including energy saving products and channel of distribution, and also full-option services that meet the customers' needs. |
| 3. | Technology | Develop manufacturing techniques and adopt new production technology to improve productivity and reduce production costs
Increase capability and adopt Information technology to respond promptly to fast moving business environment. |
| 4. | Return | Maximize shareholders' and stakeholders' value and profitability. |
| 5. | Personal | Increase employees' capability to enhance the Company's competitiveness on a global scale and retain talent employees. |
| 6. | Management Framework | Create a strong management framework based on principles of good corporate governance. |

Contents

Part 1 : Annual Report 2016

	Page
1. Message from the Chairman	4
2. Report of the Audit Committee	6
3. Report of the Risk Management Committee	8
4. Report of the Nomination and Remuneration Committee	10
5. Report of the Good Corporate Governance Committee	12
6. Board of Directors	13
7. Audit Committee	14
8. Risk Management Committee	15
9. Nomination and Remuneration Committee	16
10. Good Corporate Governance Committee	17
11. Executive Committee	18
12. Management Team	19
13. Financial Highlights	21
14. General Information and Reference Person	25
15. Policy and Overall Business Operations	37
16. Nature of Business	49
17. Risk Factors	84
18. Capital Structure and Shareholders	95
19. Management Structure	99
20. Details of the Board of Directors and Executives	126
21. Corporate Governance	151
22. Internal Controls and Risk Management	206
23. Related Transaction	209
24. Board of Directors' Responsibility for Financial Reporting	260
25. Summary of Financial Statements	261
26. Management Discussion and Analysis	276
27. Certified Public Accountant's Report, Financial Statements and Notes	286

Part 2 : Corporate Social Responsibility Report 2016

	Page
1. Policy in Corporate Social Responsibility for Sustainability Management	408
2. Business Operations with Stakeholders and Sustainable Management	409
• Employees	411
• Business Partners	411
• Clients	412
• Competitors	412
• Creditors	412
• Community / Society	412
• Shareholders and Investors	413
• Press	414
• Government Agencies	414
3. Report Preparation	415
3.1 Scope of Report	415
3.2 Materiality Effects to Business Sustainability	416
4. Human Resources Development: Enhancing "Smart People"	418
4.1 Personnel Development to Support Business Growth	419
4.2 Capacity Development and Career Advancement	420
4.3 Promoting Good Practices, Participation and Social Contribution among Employees	421
5. "Energy Business": Alternative Energy Innovation Development	424
5.1 Good Corporate Governance Policy	425
5.2 Being of Fair Enterprise Practices	425
5.3 Anti-Corruption Practices	428
5.4 Taxation Procedure	429
5.5 Risk Management	429
5.6 Labour and Human Rights Practices	429
5.7 Standards of Safety, Occupational Health and Environment	431
5.8 Employee Engagement with Welfare and Productivity Enhancement Activities	432
5.9 Responsibility for Consumers	439
5.10 Supply Chain Management	440
5.11 Environmental Management and Energy Conservation	441
5.12 Innovation in the Business Process for Sustainability	444
6. Community and Social Development: Sustainably Creating and Developing Good Things for Society: "Action Social"	445
6.1 Creating Educational Opportunities for Students from Schools Surrounding Local Communities and Employees' Children	446
6.2 Providing Financial Support and Improving the Condition of Educational Institutes and Communities	449
6.3 Preserving Buddhism and Cultural Heritage with the surrounding communities	451
6.4 Donating Gifts to the Surrounding Communities on National Children's Day	453
6.5 Opening Renewable Power Plants as a Learning Source for Educational Institutes and Surrounding Communities	453
6.6 Offering Financial Support to Communities around Renewable (Solar and Wind) Power Plants	454
6.7 Promotion of Community Participation and Community Income Generation	459
7. Achievements	462

1. Message from the Chairman



To: Shareholders of Gunkul Engineering Public Company Limited

The year 2016, was a year of uncertain economy throughout the global economy. However, Gunkul Engineering Public Company Limited continuing to generating the operating results. Even though, the operating results for this year is lower than the target. But the company has been preparing for development to the sustainable growth expectations. With expectancy that the expansion of Thailand's economy will have a better direction in 2017, whether above the stability of the political situation appear getting better. ASEAN economies are expected to over expand more than the previous years. Including adjust the Company's business strategies by focusing on the investment and the expansion of increasing production in overseas countries.

For the objective of operations performance in the past year the Company and our subsidiaries had revenues from sales of electricity increased which came from the distributions of electricity in commercial "Solar Rang Ngern Project" at the beginning of year 2016 and the distributions of electric commercial wind power plants, Wayu Wind farm Project", revenues from productions and distributions of electrical equipment increased. However, the revenues from construction services decreased. Due to the distribution of supply equipment for electrical system to the power plants the Cooperative Solar project and the government has been chosen the property through an agreement signed PPA is lately of the original schedule that set up. As a result, the project developer of solar projects became delay in provide the supply equipment of electrical equipment. Anyway, the Company has adjusted a strategy of investing in renewable energy to overseas countries. In particular, Japan. In 2016 the Company got achieved agreement an additional two projects, total capacity of production that over 140 Megawatts (MW) which makes more chances for the Company and the Company Group, having a power plant with a total collection 488 Megawatts (MW). Therefore, the Company is still continued with development of new projects to generate a sustainable growth in the future.

In this year, the operation performance of the Company has given priority and focus on joining the network of private practice alignment Thailand "The anti-corruption" (Private Sector Collective Action Coalition Against Corruption) by creating Anti-corruption and whistle blowing policy and Business Ethics policy including review the related important policies. To be using with personnel at all levels in the company in order to create a stable for foundation. Transparency able to checked, build confidence among shareholders, customers and business partners of the Company even in present and also in the future.

Lastly, I would like to express my gratitude to all shareholders, customers and business alliances for the continuous support to the Company and special thanks to the management team and all employees for contributing faithfully, prudently and dedicatedly to the success of the Company. I, therefore, commit to operate the Company's business with Good Corporate Governance and sustainable growth so as to offer the best benefit to all related parties, as the quote "Smart Energy in Action".

Best Regards,



(Mr.Gunkul Dhumrongpiyawut)

Chairman of the Board of Directors

27 February 2017



2. Report of the Audit Committee

Dear Shareholders of Gunkul Engineering Public Company Limited,

The Audit Committee of Gunkul Engineering Public Company Limited consists of three independent directors which are Dr. Djitt Laowattana as Chairman of the Audit Committee, Pol. Maj. Gen. Visit Sukarasep and Dr. Chongrak Rarueysong, as Audit Committee, All members of the Audit Committee have experience in law, accounting and finance, management and also knowledge of energy business. Their qualification were compiled both with Securities and Exchange Commission, Thailand and The Stock Exchange of Thailand.

The Audit Committee acts as assigned from the Board of Directors to monitor and review the Company's financial reporting to be accurate and reliable, proper system of internal control and internal audit, as well as to review for compliance with policies against corrupt efficiently. The Committee has performed in accordance with duties and responsibilities as defined in "Audit Committee Charter" which complies with guidelines and best practices for Audit Committee of the Stock Exchange of Thailand.

In 2016, the Audit Committee arranged 5 meetings and arranged a meeting between the Audit committee and the Auditors without management in attendance. The meetings were attended by all directors of 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 and the company's subsidiaries. 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 has asked for the accuracy and completeness of the quarterly and annual separated financial statements and consolidated financial statements. With the explanation from the management and auditor, the quarterly and annual separated financial statements and consolidated financial statements are prepared in accordance with the legal requirements and generally accepted accounting principles before presenting to the Board of Directors.
2. In reviewing the internal control system, the Audit Committee in cooperation with the auditors and the internal auditors has asked for the internal control system. The Audit Committee is of the opinion that the company has adequate and suitable internal controls in the acceptable criteria.
3. In reviewing the internal auditing plans, the Audit Committee has asked and considered the internal auditing plans to ensure that the internal auditing plans has efficiency and effectiveness by approving the internal auditing plans which is created by using Risk - based Audit Plan, acknowledging the results and giving suggestions of suitable internal controls which can prevent and reduce the risks that may occur. Including review the annual internal auditing plans to ensure that the internal auditing plans has been adjusted and been consistent with current situation for more effective work.
4. In reviewing the risk management, the Audit Committee has asked risk management plan in order



to ensure that the risk has been managed properly in the acceptable criteria. The company has focused and developed Risk Management System by appointing Risk Management Committee in order to set risk management regulations and policies. Because of that, the company has effectively managed the risk in accordance with the company's target. As the result of reviewing, The Audit Committee is of the opinion that the company has adequate and suitable the risk management.

5. In reviewing the related party and conflicts of interest transactions, the Audit Committee has considered and asked for the transactions that may have conflicts of related party or conflicts of interest are prepared in accordance with the legal requirement and complied with the Stock Exchange of Thailand Act every quarter and assigning an internal audit team to review a basic accuracy, including asked by the auditors every year. As the result of reviewing, the majority of the transactions between the company and subsidiaries were normal commercial transaction in accordance with good corporate governance, eliminate conflicts of interest thoroughly, realistic and independent.
6. The Securities and Exchange Commission Law and Regulations, the Audit Committee has preformed the full scope of authority set forth in the Charter of the Audit Committee in compliance with the Securities and Exchange Commission Law and Regulations including rules of the Stock Exchange of Thailand or any law relating to the company's business.
7. In supporting good corporate governance and considering complaints about fraud or corruption functions such as channels for employees, shareholders and stakeholders to contact the committee directly that be able to identify information to the Audit Committee with regard to the complaints, offense or non-performed as conduct business or doubts in financial reporting or internal controls directly to email address: audit_committee@gunkul.com, including to provide a system for receiving complaints and the measures to protect the whistleblower.
8. In consideration of determining, selecting, nominating and recommending remuneration of annual external auditor for year 2017, the Audit Committee had nominated KPMG Phoomchai Audit Ltd.as External Auditor of the company and the company's subsidiaries, the audit fee of the company amount of THB 1,480,000.00 The Audit Committee already presented this proposal to the Board of Directors and will be proposed to the shareholders in the Annual General Meeting of Shareholders for consideration later.

In conclusion, the Audit Committee has opinion that the consolidated and separated financial statements of the company and its subsidiaries have presented fairly, sufficiently, completely in accordance with general financial reporting standard. The internal control has enough efficiency and effectiveness to control any frauds by separating authorization. The company and its subsidiaries have operated businesses in accordance with The Securities and Exchange Act, The Stock Exchange of Thailand Act or any related laws.


(Dr. Djitt Laowattana)

Chairman of the Audit Committee

27 February 2017



3. Report of the Risk Management Committee

Risk Management in business operation is to be main activity and essential for organization. The Company is committed to implementing risk management at the core of the business operation. The Company and its subsidiaries are tasked with assessing risks that might have impacted the business. It appointed Risk Management Committee comprising 4 members who are either independent directors or executives, namely Air Vice Marshal Dr. Pian Tatarong as a Chairman, Mr. Somchai Trairatanirom, Miss Sopacha Dhumrongpiyawut and Mr. Thitipong Techaratanyueng are Members of Risk Management Committee. The Committee's duties are to review and approve risk management plan, monitor risk assessment and formulate risk mitigation plan.

The Committee met 6 times in 2016 to review important issues pertaining to risk management. Key duties are summarized as follows:

1. Risk Management Plan for 2016

The Committee appointed the secretary of the committee to coordinate meetings with all departments of the Management. The Management presented risk management plan and also the new potential business to the Committee for review and approval. Risk management plan encompasses all aspects of business operations, including operational risk, financial risk, strategic risk, information technology risk and law obligation risk including corruption risk.

2. Risk Assessment and Mitigation Plan

The Committee reviewed factors and risk assessment results in accordance with the enterprise-wide risk management plan, including impact to business goal of the Company and its subsidiaries caused by an uncontrollable external factor such as political uncertainty. The Committee classified risks according to the magnitude of the impact and assigned responsible persons to formulate both preventive action and mitigation plan so that the risks were within the tolerance level and strategic goals were achieved.



3. Risk Monitoring and Management

The Committee closely oversaw risk management operation. Quarterly meetings were held with relevant departments to review risk assessment result and any risks that might have increased and changed. The Committee would make suggestions as appropriate so that risk management is efficient and effective.

The Committee has reviewed key activities above and is of opinion that the Company and its subsidiaries had developed effective risk management plan and its operation had been in line with corporate governance principles, including sufficient and proper internal audit, good governance and compliance with applicable laws, rules and regulations.



(Air Vice Marshal Dr. Pian Totarong)

Chairman of the Risk Management Committee

22 February 2017



4. Report of the Nomination and Remuneration Committee

The company recognizes the importance of nominating Committee and Chief Executive 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 Committee and Chief Executive. Including the proposing of remuneration policy, Guidelines for remuneration, other benefits for the Board of Directors and all Committees; as well as, Chief Executive 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 2016, the Nomination and Remuneration Committee convened 4 meetings for consider matters. The Nomination and Remuneration Committee reported the results of the meeting, comments and recommendations to the Board for consideration and continuously. The important considerations are summarized as following;

- **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 (Chief Executive)
- The Policy on the Remuneration of the Board's Directors and Sub-Committee
- The Policy on Succession Plan and Talent Management
- Self- Assessment of the Nomination and Remuneration Committee, by Committee, for 2016



- To impose Remuneration of the Board of Directors and Sub-Committees

The Nomination and Remuneration Committee of the Company considered the remuneration of the Board of Directors and Sub-Committees in carefully scrutinize the appropriateness by comparable as the results of the survey for the level and composition of remuneration appropriate to be motivate and maintain all directors and management or chief executive under the company's potential and company requires.

- **To determine the Rate for Bonuses Payable, Annual Salary Adjustment and New Salary Structure**

The Nomination and Remuneration Committee has considered the criteria for determining the annual bonuses in 2016. The rate of annual salary adjustment and a new salary structure for 2017 in conjunction with the management committee in accordance with reasonable rates and results of operations performance of the company and the group. Remained comparable to the general practice in the industries.

The Nomination and Remuneration Committee reported the results of every meeting, the Board of Directors continuously. In 2016, the Nomination and Remuneration Committee has fulfilled the tasks assigned in an entirety with duly care and full capacity. That's has given 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 corporate governance principles as well as the Stock Exchange of Thailand fixed and is internationally recognized in the future.



(Police Major General Visit Sukarasep)

Chairman of the Nomination and Remuneration Committee

8 February 2017



5. Report of the Good Corporate Governance Committee

In 2016, the Company's Good Corporate Governance Committee convened 6 meetings to consider the policies and practices of good corporate governance, fixing Anti-Corruption plans, including implemented of any related to corporate governance and following the implementation of the good corporate governance for companies recording on the Stock Exchange of Thailand, and applicable rules of the Securities and Exchange Commission, Thailand. A while, focused on the implementation of the policies and practice of good corporate governance in 5 categories, Rights of Shareholders, Equitable Treatment of Shareholders, Role of Stakeholders, Disclosure and Transparency and Responsibilities of the Board, details as following;

- Directed, supervisory, review, modify and improve the policies and practices of good corporate governance for comply with the rules related implementation within 5 categories, including anti-corruption measures and practices corruption with international guidelines.
- The policy against corruption and notifications or complaints. Including coordinated plan to provide the knowledge to those concerns and to assess the risk of fraud, corrupt personnel in the company as well.
- Supervisory of the directors and management preparing and submitting the report for holding the possession as per as the implementation requires. Also including the report on good corporate governance Committee regularly on a quarterly basis.
- Considering the reports of good corporate governance for annual report in 2016 (form 56-2) and annual information form 2016 (Form 56-1) for discloser the information that showing completely as the rule of good corporate governance.
- Considering and review of good corporate governance charter
- Considering the processing and criteria for self-assessment of the Good Corporation Governance for 2016, and covering with the current situation from international guidelines.
- Considering the report evaluates from operation performance and supervisory of the Good Corporate Governance Committee to the Board of Directors.
- Considering the plans and preparing the Annual General Meeting of Shareholders for 2017 that has been providing the meeting with transparency and effective.

The Good Corporate Governance Committee recognizes that, the good corporate governance is important and beneficial to company's business until the shareholders and stakeholders and all of the parties. The Committee has a commitment to prompt effort in order to offering as guidance and advises on corporate governance to the Board of the Directors and Management for following the implementation of the operation performance company and company's group regarding managed an efficiently and an effectively, transparent, accountability to provide the companies with sustainable growth.



(Dr. Chongrak Rarueysong)

Chairman of the Good Corporate Governance Committee

22 February 2017



6. Board of Directors



1. Mr. Gunkul Dhumrongpiyawut

Chairman of the Board of Directors

2. Dr. Djitt Laowattana

Independent Director

Chairman of the Audit Committee

3. Pol.Maj.Gen. Visit Sukarasep

Independent Director

Chairman of the Nomination and Remuneration Committee

Member of the Audit Committee

4. Dr. Chongrak Rarueysong

Independent Director

Chairman of the Good Corporate Governance Committee

Member of the Audit Committee

5. Miss Sopacha Dhumrongpiyawut

Director

Chairman of the Executive Committee / CEO

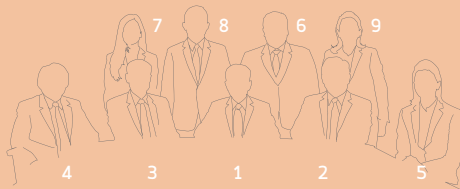
Member of the Risk Management Committee

6. Dr. Somboon Aueatchasai

Director and Secretary of the Board of Directors

Executive Director

Managing Director



7. Miss Naruechon Dhumrongpiyawut

Director

Executive Director

8. Mr. Chaloepon Sricharoen

Director

Executive Director

9. Mrs. Areewan Chaloezman

Director

Executive Director

10. Miss Chantira Jongjamareeseethong

Company Secretary



7. Audit Committee



1. Dr. Djitt Laowattana

Chairman of the Audit Committee

2. PolMaj.Gen. Visit Sukarasep

Member of the Audit Committee

3. Dr. Chongrak Rarueysong

Member of the Audit Committee

4. Mr. Tanetsiri Farkmitr

Secretary of the Audit Committee



8. Risk Management Committee



1. **AVM.Dr.Pian Totarong**

Chairman of the Risk Management Committee

2. **Mr. Somchai Trairatanirom**

Member of the Risk Management Committee

3. **Miss Sopacha Dhumrongpiyawut**

Member of the Risk Management Committee

4. **Mr. Thitipong Techaratanayuenyong**

Member of the Risk Management Committee and Secretary



9. Nomination and Remuneration Committee



1. Pol.Maj.Gen. Visit Sukarasep

Chairman of the Nomination and
Remuneration Committee

2. Mr. Decha Chooligorn

Member of the Nomination and Remuneration Committee

3. Mr. Hathai Uthai

Member of the Nomination and Remuneration Committee

4. Mrs. Somluk Kanuenghet

Member of the Nomination and Remuneration Committee
and Secretary



10. Good Corporate Governance Committee



1. Dr. Chongrak Rarueysong

Chairman of the Good Corporate Governance Committee

2. Mr. Phongthep Thitapan

Member of the Good Corporate Governance Committee

3. Mr. Somchai Trairatanapirom

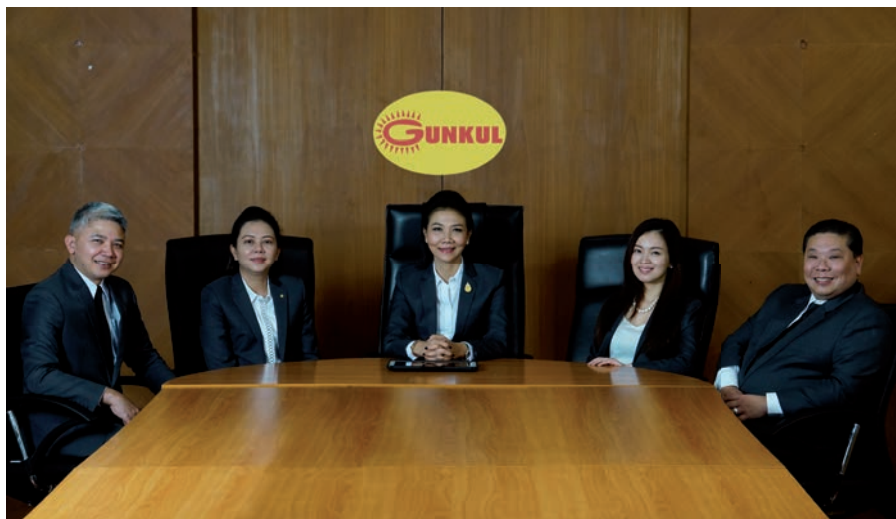
Member of the Good Corporate Governance Committee

4. Miss Chantira Jongjamareeseethong

Secretary of Good Corporate Governance Committee



11. Executive Committee



1. Miss Sopacha Dhumrongpiyawut

Chairman of the Executive Committee

2. Dr. Somboon Aueatchasai

Executive Director

3. Miss Naruechon Dhumrongpiyawut

Executive Director

4. Mr. Chaloepon Sricharoen

Executive Director

5. Mrs. Areewan Chaloamdan

Executive Director



12. Management Team



1. Miss Sopacha Dhumrongpiyawut

- Chief Executive Officer

2. Dr. Somboon Aueatchasai

- Managing Director

3. Mr. Phongsakorn Damnoen

- Deputy Managing Director, Business Development & Strategic Planning

4. Miss Naruechon Dhumrongpiyawut

- Acting Senior Vice President, Strategic Planning and Investment
- Senior Vice President, Logistics

5. Mrs. Areewan Chaloemdan

- Senior Vice President, Factory

6. Mrs. Somluk Kanuenghet

- Senior Vice President, Executive Office

7. Mr. Thamrong Chankraithong

- Senior Vice President, Sales & Marketing

8. Mr. Phudis Triwilaskul

- Senior Vice President, Sales & Marketing-LED

9. Mr. Thitipong Techaratanayuenyong

- Chief Financial Officer
- Senior Vice President, Financial Management & Overseas Control

10. Mr. Phairot Phanukan

- Senior Vice President, Project Management & Operating Maintenance

11. Mrs. Nattawan Wongchan

- Acting Senior Vice President, Business Support

12. Mr. Janpon Ngamaroonchote

- Acting Senior Vice President, Strategic Planning & Investment



12. Management Team (Continued)



13



14



15



16



17



18



19



20



21

13. Miss Chantira Jongjamareeseethong

- Acting Senior Vice President, Office of Managing Director & Investor Relations

14. Mr. Chaloepon Srirachoen

- Vice President, Sales & Marketing

15. Ms. Vijitra Saengpredekor

- Vice President, Energy Business Development

16. Ms. Suttirat Tangnorakul

- Acting Vice President, Business Support (Accounting)

17. Ms. Kullawee Saenchaiorn

- Assistant Vice President, Financial Management & Overseas Control

18. Mr. Tanetsiri Farkmitr

- Assistant Vice President, Internal Audit

19. Mr. Thanapat Wonghirulchayathorn

- Assistant Vice President, Business Support (Information Technology)

20. Ms. Warinthip Rosaripitak

- Assistance Vice President, Strategic Planning and Investment

21. Ms. Vanita Limmaneeprasert

- Acting Assistance Vice President,
- Strategic Planning and Investment



13. Financial Highlights

13.1 Financial Highlights for the past 5 years

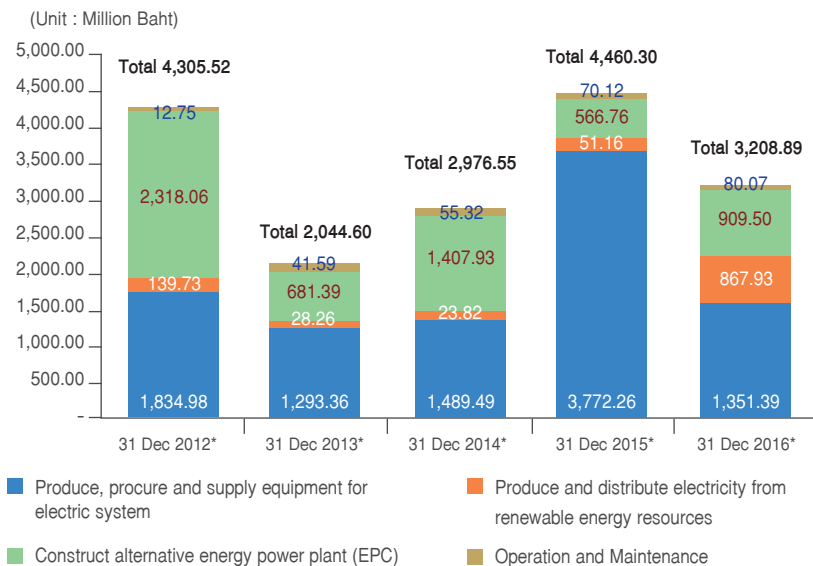
Unit : Baht

	31 Dec 2016 *	31 Dec 2015 *	31 Dec 2014 *	31 Dec 2013 *	31 Dec 2012 *
		(Reclassified)	(Reclassified)	(Reclassified)	(Revised)
Financial Highlights					
Total Assets	25,662,151,750.39	18,815,257,873.98	7,238,664,343.88	4,579,609,369.54	7,197,341,291.45
Total Liabilities	15,912,896,469.44	10,225,033,198.56	3,878,965,046.68	1,458,877,791.45	4,983,900,640.31
Equity attributable to owners of the Company	9,107,962,702.29	8,063,380,479.91	3,357,124,944.51	2,848,688,430.29	1,992,033,591.19
Issued and paid up share capital	1,589,693,962.75	1,283,245,216.00	879,990,265.00	659,999,929.00	439,999,984.00
		(Reclassified)	(Reclassified)		(Revised)
Total Revenues	3,366,833,901.11	4,590,691,752.26	3,061,552,738.36	2,855,718,799.84	4,763,886,359.16
Profit (loss) attributable to Equity holders of the Company	537,717,352.83	685,136,879.54	545,270,215.32	882,895,884.51	778,289,335.00
Basic earnings per share	0.08	0.13	0.50	1.00	1.18
Financial Ratios					
Return on Assets (%) : ROA	2.10	3.64	7.53	19.28	10.81
Return on Equity (%) : ROE	5.90	8.50	16.24	30.99	39.07
Net Profit Margin (%)	15.97	14.92	17.81	30.92	16.34

Remark : * Consolidated Financial Statements

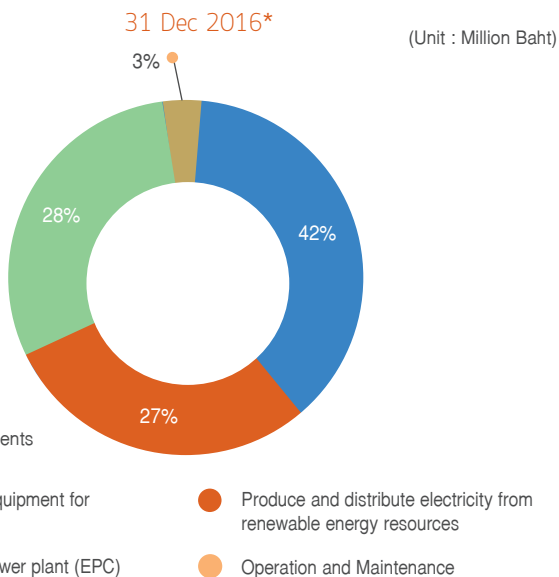


13.2 Revenue divided by Type of Business



* Consolidated Financial Statements

13.3 Revenue separated by Group of Clients

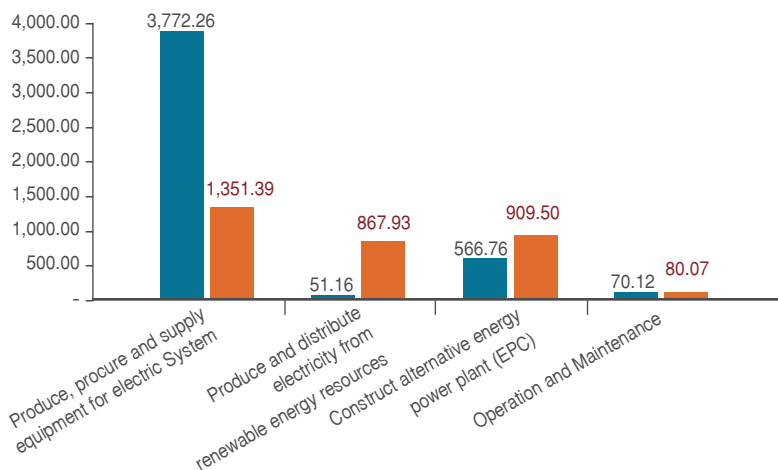


* Consolidated Financial Statements



13.4 Compare Revenue by Business Type : Year 2015 and Year 2016

(Unit : Million Baht)



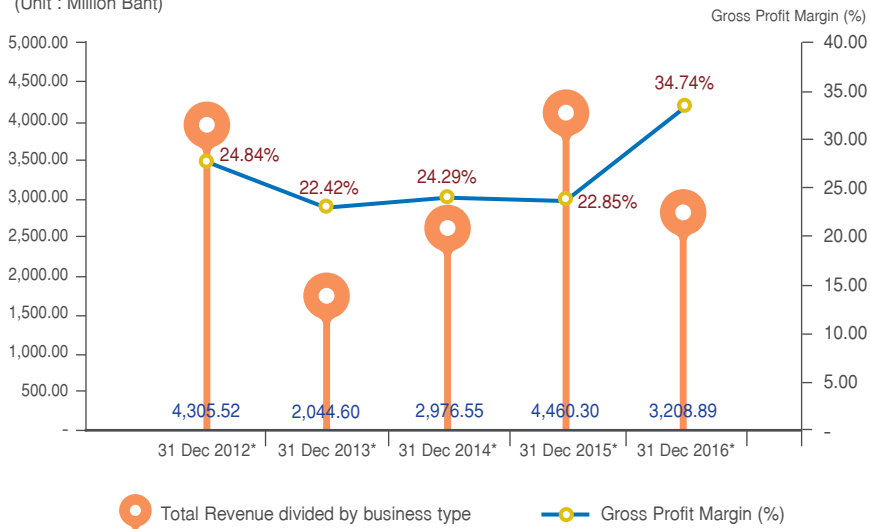
* Consolidated Financial Statements

31 Dec 2015*

31 Dec 2016*

13.5 Comparing Revenue: Gross Profit Ratio

(Unit : Million Baht)



Total Revenue divided by business type

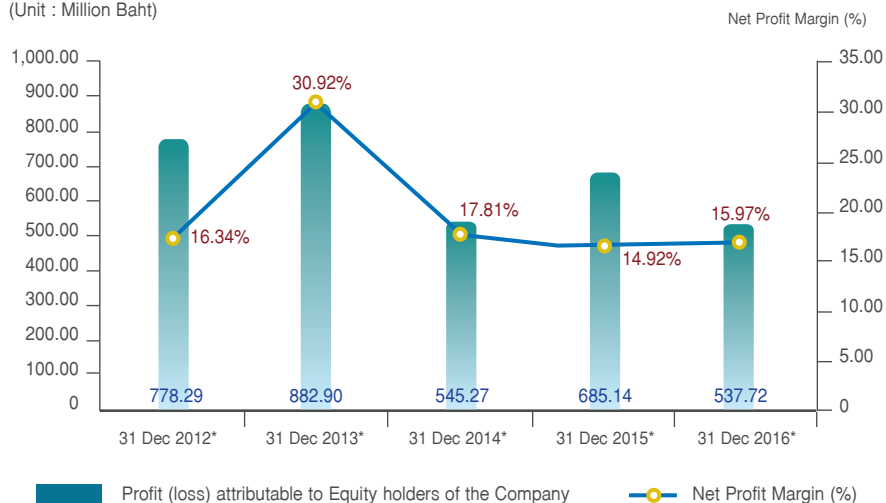
Gross Profit Margin (%)

* Consolidated Financial Statements



13.6 Comparing Net Income : Net Income Ratio

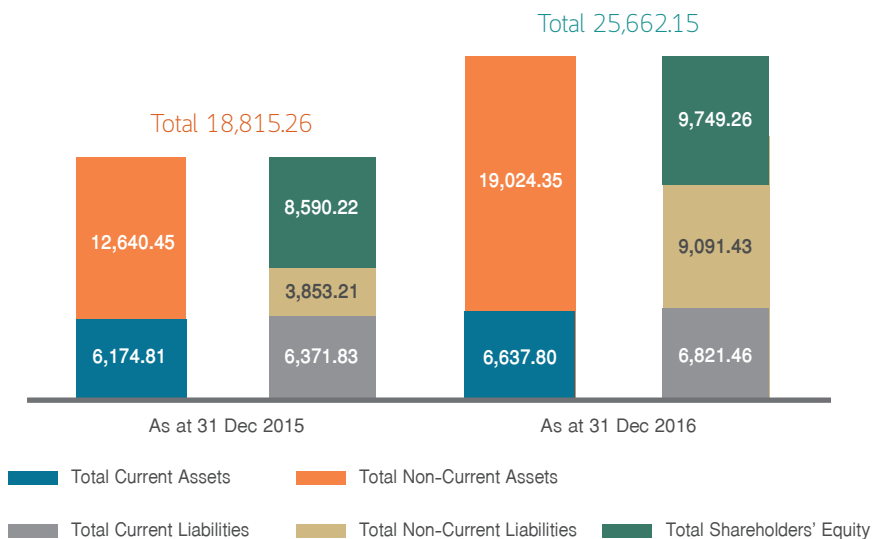
(Unit : Million Baht)



* Consolidated Financial Statements

13.7 Statements of Financial Position

(Unit : Million Baht)



* Consolidated Financial Statements



14. General Information and Reference Person

14.1 General Information

Company's Name	: Gunkul Engineering Public Company Limited
Stock Quote	: GUNKUL
Company Registration	: 0107552000146
Head Office Address	: 1038-1046 Nakornchaisri Road, Nakornchaisri, Dusit Bangkok 10300
Telephone Number	: 0-2242-5800
Fax Number	: 0-2242-5878
Website	: www.gunkul.com
Email	: ir@gunkul.com
Type of Business	: <ul style="list-style-type: none">- Business to produce, procure and supply equipment for electrical system in domestic and international.- Business to produce, procure and supply energy-saving products- Business to produce and distribute electricity from renewable energy resources in local and international- Business to construct alternative energy power plant- Business to operation and maintenance
Industry	: Resources
Sector	: Energy & Utilities
Type of Issued Shares	: Common shares
Registered Capital	: THB 1,699,686,359.00
Paid-up Capital	: THB 1,589,693,962.75
Number of Shares	: 6,358,775,851 Shares
Par Value	: THB 0.25





14.2 Subsidiaries

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount 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 (Preformed), 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	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



Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount of Shares holding by GUNKUL (Shares)	% of Holding
3. K.N.P. Supply Co., Ltd.	KNP	Distribution of electrical system equipment and other systems related to public sector customers directly. Acting as a contactor 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).	50,000,000.00	500,000	100.00	499,998	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.	1,138,100,000.00	113,810,000	10.00	113,809,998	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)	Amount of Shares holding by GUNKUL (Shares)	% of Holding
8. Gunkul Solar Power 1 Co., Ltd.	GSP-1	Production and distribution of electricity from Solar Ground and Solar PV Rooftop by generating to the PEA, MEA and EGAT	100,000,000.00	1,000,000	100.00	999,997	99.99
9. Gunkul Solar Power 2 Co., Ltd.	GSP-2	Production and distribution of electricity from Solar Ground and Solar PV Rooftop by generating to the PEA, MEA and EGAT	100,000,000.00	1,000,000	100.00	999,997	99.99
10. Gunkul Solar Power 3 Co., Ltd.	GSP-3	Production and distribution of electricity from Solar Ground and Solar PV Rooftop by generating to the PEA, MEA and EGAT	100,000,000.00	1,000,000	100.00	999,998	99.99
11. Gunkul Solar Power 4 Co., Ltd.	GSP-4	Production and distribution of electricity from Solar Ground and Solar PV Rooftop by generating to the PEA, MEA and EGAT	100,000,000.00	1,000,000	100.00	999,998	99.99
12. Gunkul Solar Power 5 Co., Ltd.	GSP-5	Production and distribution of electricity from Solar Ground and Solar PV Rooftop by generating to the PEA, MEA and EGAT	100,000,000.00	1,000,000	100.00	999,998	99.99
13. Bright Green Power Co., Ltd.	BGP	Production and distribution of electricity from Renewable Energy by generating to the government entities.	120,000,000.00	1,200,000	100.00	1,199,997	99.99
14. Siam Gunkul Solar Energy Co., Ltd.	SGSE	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA	40,900,000.00	409,000	100.00	408,997	99.99



Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount of Shares holding by GUNKUL (Shares)	% of Holding
15. Solar Energy Society Co., Ltd.	SES	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	20,400,000.00	204,000	100.00	203,997	99.99
16. Gunkul Solar Roof 1 Co., Ltd.	GSR-1	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	21,000,000.00	210,000	100.00	209,997	99.99
17. Gunkul Solar Roof 2 Co., Ltd.	GSR-2	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	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.	10,000,000.00	100,000	100.00	99,997	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.	50,000,000.00	500,000	100.00	499,997	99.99
20. Gunkul LED Lighting Co., Ltd.	GUNKUL-LED	Production and distribution of Lighting Bulb Type LED	100,000,000.00	1,000,000	100.00	899,999	89.99
21. Infinite Alternative Energy Co., Ltd. ²⁾	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.	1,590,000,000.00	15,900,000	100.00	10,652,999	67.00
22. Rang Ngern Solution Co., Ltd. ²⁾	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



Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount of Shares holding by GUNKUL (Shares)	% of Holding
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.	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.	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.	8,000,000.00	80,000	100.00	79,998	Shares holding by GOB 99.99
27. Outgrow E Co., Ltd.	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.	OGW-A	Distributor wood as raw material	1,000,000.00	10,000	100.00	9,998	Shares holding by GOB 99.99
29. Outgrow Wood Supply B Co., Ltd.	OGW-B	Distributor wood as raw material	1,000,000.00	10,000	100.00	9,998	Shares holding by GOB 99.99



Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount of Shares holding by GUNKUL (Shares)	% of Holding
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 Bio Energy Co., Ltd.	GBE	Production and distribution of electricity from alternative energy power plant by generating to the government entities.	500,000.00	5,000	100.00	4,997	99.94
32. Gunkul International (Mauritius) ³⁾	GIM	Oversea Investment	USD 72,796,063.00	72,796,063	USD 1.00	72,796,063	100.00
33. Gunkul Investment (Singapore) Pte. Ltd. (GIS) ³⁾	GIS	Oversea Investment	SGD 353,723.00	353,723	SGD 1.00	353,723	Investment by GIM 100.00
34. Gunkul Myanmar Power (Hlawga) Pte. Ltd. ³⁾	GMP	Oversea Investment	SGD 185,632.00	185,632	SGD 1.00	185,632	Investment by GIS 100.00
35. Gunkul Myanmar Central Power 1 Co., Ltd. ⁴⁾	GKMCP	Production and distribution of electricity from Gas Engine by generating to the government in Myanmar.	USD 100,000.00	100,000	USD 1.00	51,000	51.00
36. Sendai Okura Mega Solar Godo Kaisha ⁵⁾	GK Sendai	Production and distribution of electricity from renewable energy in the capacity of 31.75 by generating to the Tohoku Electric Power Co., Inc. in Japan.	Investment in GK Sendai in the total amount of JPY 2,125,000,000.00				
37. Kimitsu Okura Mega Solar Godo Kaisha ⁵⁾	GK Kimitsu	Production and distribution of electricity from renewable energy in the capacity of 33.50 by generating to the Tokyo Electric Power Company (TEPCO) in Japan.	Investment in GK Kimitsu in the total amount of JPY 3,796,338,970.00				



Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount of Shares holding by GUNKUL (Shares)	% of Holding
38. GD Utsunomiya ⁶⁾	GD Utsunomiya	Production and distribution of electricity from renewable energy in the capacity of 66.78 by generating to the Tokyo Electric Power Company (TEPCO) in Japan.	Investment in GD Utsunomiya in the total amount of JPY 2,160,000,000.00				
39. GK East Japan Solar 13 ⁷⁾	GK Iwakuni	Production and distribution of electricity from renewable energy in the capacity of 75 MW by generating to Chogoku Electric Power Company Inc. in Japan.	Investment in GK Iwakuni in the total amount of JPY 1,750,000,000.00				
40. Future Asset Management Kabushiki Kaisha	FAM	Investment in renewable energy business	JPY 287,210,000	28,721	JPY 10,000	28,72	Investment by BGP 100.00

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. 1/2015 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
- ⁽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 GKMCP1 by holding 51
- ⁽⁵⁾ On 19th August 2015, the Extra-Ordinary General Meeting of Shareholders No. 1/2015 passed the approval resolution to invest in GK Sendai and GK Kimitsu through GIM at the ratio of 100 percent
- ⁽⁶⁾ On 25th August 2016, the Board of Directors' Meeting No. 6/2016 passed the approval resolution to invest in GD Utsunomiya through GIM at the ratio of 100 percent
- ⁽⁷⁾ On 29th November 2016, the Extra-Ordinary General Meeting of Shareholders No. 2/2016 passed the approval resolution to invest in GK Iwakuni through GIM at the ratio of 100 percent



14.3 Affiliates

Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount 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.	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. 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
5. WHA Gunkul Green Solar Roof 2 Co., Ltd.	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
6. 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
7. WHA Gunkul Green Solar Roof 4 Co., Ltd.	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

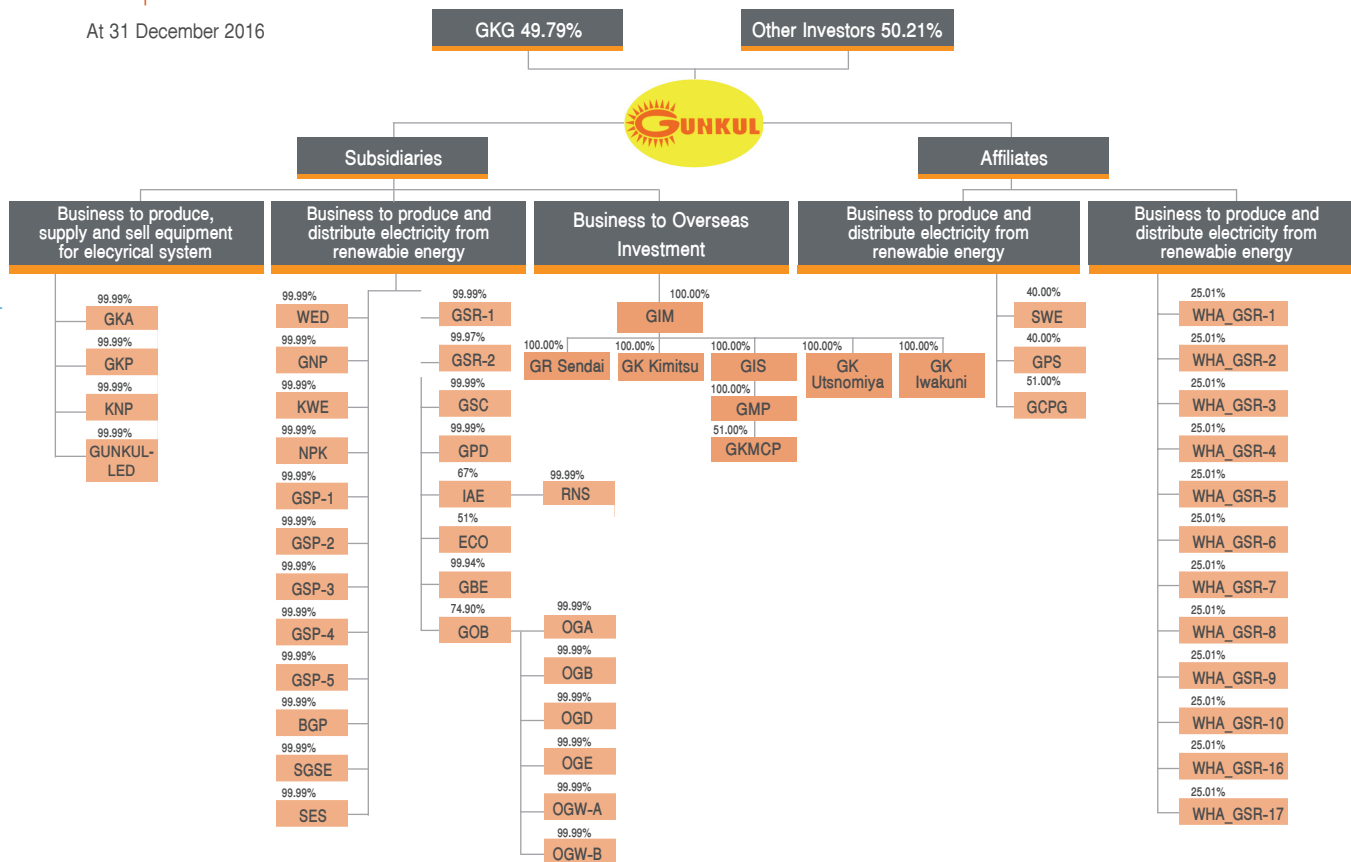


Company Name	Symbol	Type of Business	Registered Capital (THB)	Total Amount of Shares (Shares)	Par Value (THB)	Amount of Shares holding by GUNKUL (Shares)	Joint Venture	% of Holding
8. WHA Gunkul Green Solar Roof 5 Co., Ltd.	WHA_GSR-5	Production and distribution of electricity from Solar PV Rooftop by generating to the PEA and MEA.	1,000,000.00	100,000	10.00	25,010	WHA Corporation Public Co., Ltd.	25.01
9. 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	362,645	WHA Corporation Public Co., Ltd.	25.01
10. 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
11. 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
12. 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
13. 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
14. 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

Remark ¹⁾ Gunkul Chubu Powergen Limited is a joint venture. The Board authorized the signing of joint control.

14.4 Group Structure

At 31 December 2016



14.5 Other References

Regulator	<p>The Securities and Exchange Commission, Thailand (SEC)</p> <p>333/3 Vibhavadi-Rangsit Road, Chomphon, Chatuchak Bangkok 10900, Thailand</p> <p>Tel. 0-2033-9999</p> <p>Fax. 0-2033-9660</p>
Regulator	<p>The Stock Exchange of Thailand (SET)</p> <p>93 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400</p> <p>Tel. 0-2009-9999</p> <p>Fax. 0-2009-9991</p>
Share Registrar	<p>Thailand Securities Depository Company Limited (TSD)</p> <p>93 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400</p> <p>Tel. 0-2009-9999</p> <p>Fax. 0-2009-9991</p>
Auditor	<p>SP Audit Company Limited</p> <p>503/21 12th Floor, K.S.L. Tower, Sriyudhya Road, Phyathai, Ratchathewi, Bangkok 10400</p> <p>Tel. 0-2642-6172-4</p> <p>Fax. 0-2642-6253</p>
Legal Advisor	<p>Kudun and Partners Co., Ltd.</p> <p>973 President Tower, 14 Floor, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330</p> <p>Tel. 0-2656-0813</p> <p>Fax. 0-2656-0814</p>
Financial institution	<p>Siam Commercial Bank PLC.</p> <p>9 Ratchadaphisek Road, Jatujak, Bangkok 10900</p> <p>Tel. 0-2544-1000</p> <p>Fax. 0-2544-4948</p>



15. Policy and Overall Business Operations

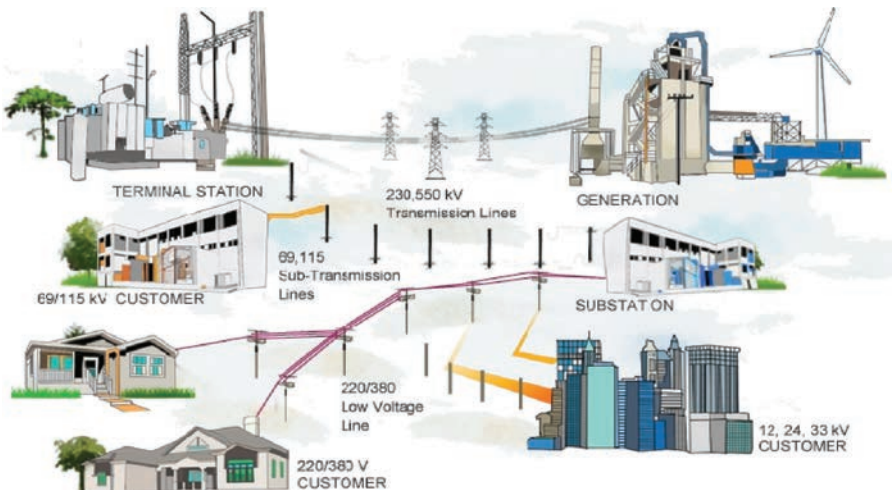
15.1 Perspective of the group business structures

The Thai power system 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 show electric transmission and distribution system of Thailand



Business of the group of companies could be classified as follows:

1. Business of manufacture, produces and supply equipment for electrical system in domestically and internationally.
2. Business of manufacture, produces and supply of energy-saving products.
 - 2.1 Production and distribute "Lighting Lamp" LED type.
 - 2.2 To product and supply solar cell module including supplying equipment related to the electricity production system of the solar energy.



3. Business to produce and distribute electricity from renewable energy resources in domestically and internationally.
 - 3.1 Solar Farm or Solar Ground
 - 3.2 Solar PV Rooftop
 - 3.3 Wind Farm
 - 3.4 Biomass Energy
4. Business to construct alternative of Energy Power Plant.
5. Business to reserves the preventive maintenance (PM)

15.2 Business Goals.

In 2017, the Company aims to conduct business of defined as follows.

1. Maintain as a client base, including the Provincial Electricity Authority (PEA), Metropolitan Electricity Authority, Electricity Generating Authority of Thailand, Private businesses, both domestically and internationally, and the Power Authority of the Union of Myanmar, Lao People's Democratic Republic and Malaysia.
2. Expand the customer base both in domestically and internationally, an expansion to increasing the market share.
3. To provide new products to meet customer needs.
4. To study an investment and expand a renewable energy business both in domestically and internationally.
 - Power generation business by fill up an application with the state government to enter the contract directly. Including a joint venture with other operators who have contracts.
 - Distribution of renewable energy equipment.
 - Maintenance business powerhouse
 - Business consulting related to renewable energy.
 - Any other business related
5. The construction of renewable energy power plant to be completed in accordance with the contract.
6. Learn about construction of power plants, biomass in domestically and internationally.
7. Add business partners to increase security official business
8. Enhanced functionality to support the expansion of business by the introduction of advanced technology applications such as networking in the enterprise information system, through video conferencing.



9. Develop staff ability to keep pace with the growth of the company.
10. Increase the Corporate Social Responsibility (CSR) of the company.
11. Operational control of the company and company's group. According to the rules of regulatory affairs and internal control is an effective.
12. An encourage organizations strive to comply with anti-corruption corrupt.

3 – 5 years Business Plans

Renewable Energy Industry

“Gunkul Engineering (Public) Co., Ltd” is committed to being a leader in producing electricity from renewable energy. The business model of electricity generation from renewable energy company. The Company takes an interest in the following businesses:

- Solar Cell Power Plant
- Wine Turbine Power Plant
- Natural Gas Vehicles Power Plant
- Biomass Power Plant (Wood and Energy Crops)
- Biomass Power Plant (Waste)

The Company's targets within year 2021, the company will have renewable power plant in the domestically and internationally, with a total capacity of 1,000 Megawatts (MW), the company aims to invest a powerhouse in Asian, such as Thai, Japan, Vietnam, Malaysia, Indonesia, Philippines and the Republic of the Union of Myanmar as respectively.

Domestic Investment Plan

The investment powerhouse in Thailand are preparing to develop and invest in power plant, also plan for solar cell and the national energy policy, such as project solar farm for the government. Service cooperative projects Solar Roof on a pilot project (Pilot Project), blend renewable power projects.

In additional, the company during consideration renting Solar Roof to the factories and the shopping malls.



International Investment Plan

For the power plant investment in abroad, the company focused on investing in the countries with high political stability, such as Japan and Vietnam, which both countries the company investors have begun to study the possibility of investing about renewable power. Especially, investing in Japan.

At present, the company has invested solar power plant in Japan, total of over 200 Megawatts (MW).

In addition, to the policy to be a leader in the production of electricity from renewable energy, the company continues to develop a new products and original products, focusing on research and development to get achieve a competitive of value engineering. And to foster the development of quality products continues to deliver satisfaction to the customers of the company.

This will entail the acceptance of the brand “GUNKUL” to the loyalty brand and the company’s products. Products developed by the company to support the company to be growth. And increasing to opportunities for a new products. And the adding the market value soared for a period of a few years are as follows:

- The products for building and construction projects, such as mass transit systems, grounding and lightning protection devices.
- LED Lamp product brand “GLO” and “GUNKUL”
- Lighting equipment with LED
- Electronic meter (AMI) and kilowatt-hour meter
- “GUNKUL” Solar Module / Solar Panel brand “GUNKUL”

The Company expects to development a new products based on above. Will enhance market value and growth in the production and distribution besides the market leader for high voltage of equipment. A constant growth rate in this business not less than 15% and pushed to maintain in the market leadership, the manufacturer and distributor of high-voltage equipment always is brand of Thailand and to create pride with the company in the future.



15.3 Changes and Development of the Company and its subsidiaries are as follows:

Year 1982	- Gunkul Engineering Co., Ltd. Founded with registered capital of 1.00 million baht. (Current registered capital : 1,699,686,359 baht)
Year 1992	- Establishment of G.K. Assembly Co. ,Ltd. with registered capital of 2.00 million baht (Current registered capital : 200 million baht) - Establishment of G.K. Power Product Co., Ltd. (Formerly known as Kerney (Thailand) Co., Ltd.), with registered capital of 2.6 million baht. (Current registered capital : 100 million baht)
Year 1993	- Establishment of K.N.P. Supply Co., Ltd. with registered capital of 1.0 million baht. (Current registered capital : 50.00 million baht)
Year 2009	- Gunkul Engineering Co., Ltd. Increased of registered capital from 300 million baht to 400 million baht and changed the par value of ordinary shares from 100 baht per share to 1 baht per share. - The company transformed into a Public Company and changed name to "Gunkul Engineering Public Company Limited (PCL)". - On December 11 th , 2009. Establishment of Gunkul Powergen Co., Ltd. With registered capital of 100 million baht to produce and sell electricity from renewable energy. (Current registered capital : 992 million baht)
Year 2010	- On October 11-13, 2010. The Company opened to the public for share sales (Initial Public Offering) of 100,000,000 shares representing 25% of the total number of 400,000,000 ordinary shares with par value of baht 1 per share sale price, sold at 5.40 baht per share. - On October 15 th , 2010. The Stock Exchange of Thailand added GUNKUL securities as new securities on the Stock Exchange of Thailand. - On October 19 th , 2010. GUNKUL securities traded on the Stock Exchange for the first day (First Day Trade). - On November 19 th , 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 is a party to the Provincial Electricity Authority (PEA). The company has power purchase agreements of 4 contracts for a total of 26 Megawatts (MW) a period of 25 years and has received support from the electrical section (Adder) 8 baht per unit for a period of 10 years, including projects to benefit the investment promotion agency of the Board Investment (BOI), by the Company to purchasing ordinary shares of 9,898 shares at 6,500 baht per share, totally 64,337,000 baht, or 98.98 percent stake of the registered share of capital 1 million baht (Current registered capitals: 930 million baht and the company holding shares in the ratio of 40%) - Gunkul Powergen Co., Ltd. Signed 5 contracts of power purchasing agreements with the Provincial Electricity Authority (PEA) for the solar power system, totally the size of 30.9 Megawatts (MW) for a



	<p>period of 25 years. The project will benefit from the sale of electricity while gaining the additional cost from power purchase (Adder) from the Provincial Electricity Authority of 8 baht per unit, for a period of 10 years, including projects to benefit the investment promotion agency of the Board Investment (BOI).</p>
Year 2011	<ul style="list-style-type: none"> - On November 2nd, 2011. The Company signed Education Development Project. The wind power capacity of 1,000 Megawatts (MW) with the Department of Energy, The Ministry of Energy. The Republic of the Union of Myanmar. The projects include a study Place on the Mon State, Ka-yin State and Tanin Kaye State.
Year 2012	<ul style="list-style-type: none"> - G-Power Source Co., Ltd., Which has 4 power purchase agreements with the Provincial Electricity Authority, totaling 26 Megawatts (MW), has completed 4 projects, the 3 projects completed the commercial operation in 2012, the remaining of 1 project had completed the commercial operation in 2013. - On March 30th, 2012. The Company sold shares of G - Power Source Co., Ltd. Which operates production and distribution of electricity from solar energy. The agreement with the Provincial Electricity Authority of 4 contracts, total 26 Megawatts (MW) and has been supporting the electric margin (Adder) 8.00 baht per unit. The company sold shares to The Electricity Generating Public Company Limited of 4.5 million shares, for a total of 629.92 million baht, representing a total stake of 60% of the registered capital 750 million baht (Currently registered 930 million baht, so the company holds 40%). - On May 15th, 2012. The Company acquired the shares of Wind Energy Development Company Limited, from Impact Energy Asia Limited, which operates production and distribution of electricity from wind energy. The Power Purchase Agreement with the Provincial Electricity Authority. A while, the contracts total 3 contracts and totaling 60 Megawatts (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 at a price of 95.60 baht for a total amount of 522.00 million baht, representing a stake of 70% of the share capital. 78 billion baht (current registered capital 1,575 million baht and the company holds 100%).
Year 2013	<ul style="list-style-type: none"> - On January 31st, 2013. The Company acquired a stake of 49%, 9,799 ordinary shares (1 share per 1 vote) and 2,940 preferred shares (1 share per 20 votes), in NK Power Sola Co., Ltd. Which operates solar power generation and distribution business electricity sale agreements with the Provincial Electricity Authority, totally 1 Megawatts (MW). (Currently registered capital of 2.6 million baht) - On February 25th, 2013. The Company disposed of common shares in Gunkul Powergen Co., Ltd. Which operates Solar Power generation and distribution business and is a contractual party of 5 electricity sale agreements with the Provincial Electricity Authority, a total capacity of 30.9 Megawatts (MW) and adder rate of 8.00 baht per unit. In this regards 4,860,800 common shares, equivalent to 49% of the 992 million baht registered capital, were disposed to Chubu Electric Power Gem B.V., Japan. (Currently registered capital of 992 million baht) - On June 13th, 2013. Siam Wind Energy Co., Ltd., was established by the company holding shares at the ratio of 40% with the registered of 1 million, which the business of producer and distributor of renewable energy by emphasized on wind energy. (Currently registered capital of 1 million baht)



- The Company registered the establishment of Gunkul International (Mauritius) ("GIM") in the Republic of Mauritius, and Gunkul International (Singapore) Pte. Ltd. ("GIS") and Gunkul Myanmar Power (Hlawga) Pte. Ltd. in Singapore. In this regard, the Company held a stake of 100% of the 12,000 USD registered capital in GIM (the current capital is 72,796,063 U.S. dollar); GIM held a stake of 100% of the 28,000-SGD registered capital in GIS (the current capital is 353,723 Singapore dollar), and GIS held a stake of 100% of the 14,000-SGD registered capital in Gunkul Myanmar Power (the current capital is 185,632 Singapore dollar)
- On July 1st, 2013, Gunkul Powergen Co., Ltd., changed name to Gunkul Chubu Powergen Co., Ltd.
- 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) to operate solar rooftop power generation and distribution business for supplying to the Provincial Electricity Authority and the Metropolitan Electricity Authority. The Company held stakes of 99.97% of their respective 1 million baht registered capitals (current registered capitals of GSR-1 is 21 million baht, GSR-2 is 1 million baht, GSP-1 is 100 million baht, GSP-2 is 100 million baht, BGP is 120 million baht and SES is 40.90 million baht).
- 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 50 million baht).
- 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 11.50 million bath, WHA GSR-2 is 1.00 million baht, WHA GSR-3 is 14.50 million baht, WHA GRS-4 is 1.00 million baht, WHA GSR-5 is 1.00 million baht and WHA GSR-6 is 14.50 million baht)
- 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 WHA GSR-8 is 0.1 million bath, WHA



	GSR-9 is 0.1 million baht, WHA GSR-10 is 15.50 million baht, WHA GRS-16 is 0.1 million baht and WHA GSR-17 is 16.00 million baht)
Year 2014	<ul style="list-style-type: none"> - On February 13th, 2014. The Company had acquired 199,998 Common Shares in Greenovation Power Co., Ltd. ("GNP") from Impact Energy Asia Limited ("IEA") which represents 99.99% of GNP's registered shares of 200,000 shares at the total selling price of THB 432 million baht. GNP do business as a Power Producer from wind energy resource in accordance to a Power Purchase Agreement (PPA) in capacity of 60 Megawatts (MW), the registered capital of 2.0 million baht. (Currently registered capital is 1,138.10 million bath) - On April 17th, 2014. The Company had established a new subsidiary to carry out the manufacturing and distributing of Lighting Bulb, type LED named is GUNKUL-LED, the Company held stakes of 74.79% of their respective 10.00 million baht, registered capitals (Current registered capital : 100 million baht). - On June 2nd, 2014. The Company had acquired of 31,563,000 Common Shares in Wind Energy Development Co., Ltd. ("WED") from Impact Energy Asia Limited Co., Ltd. ("IEA") which represents 30% of WED's registered shares of 1,052,100,000 shares at the total selling price of THB 373,211,000 that, totally holding 100% of registered capital of 1,052 million baht (current capital: 1,575 million baht). WED do business as a Power Producer from wind energy resource which electricity generated will be sold to the Electricity Generating Authority of Thailand ("EGAT") in accordance to 3 agreements in capacity of 60 Megawatts (MW) supporting (Adder) THB 3.50 per unit. - On June 16th, 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 million at par value of 100 baht (Current registered capital 10 million baht). - On September 18th, 2014. The Company had signed Memorandum of Understanding (MOU) to corporate Solar Roof business with East Coast Furnitech Public Company Limited (ECF). - On December 17th, 2014. Gunkul International (Mauritius) (GIM), which is a subsidiary of the Company to purchase 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 sell the electricity to Tohoku Electric Power Co., Inc. ("Tohoku Electric"), the local utility, at JPY 36 per unit in feed in tariff scheme of a period 20 years concession in the ratio of 100% shareholders in the amount of JPY1.80 billion or approximately 504 million baht.
Year 2015	<ul style="list-style-type: none"> - On February 23rd, 2015, the Company has purchased the ordinary shares of Korat Wind Energy Company Limited ("KWE") from Quantitus Engineering Company Limited ("QE") which operates that, business in Wind Turbine Power Plant, at 9,998 shares or equivalent to 99.98% of total registered shares of 10,000 shares. Total amount of the shares purchased was 432 million baht, while the estimated construction and development budget was 4,249 million baht and the total project value was 4,681 million baht.



- On March 9th, 2015. Wind Energy Development Company Limited ("WED"), which is the one of the Company's subsidiaries, has invested in the wind turbine power plant project with the total project value at approximately Baht 6,145,721,100. WED has signed the contract in PPA in the capacity of 50 Megawatts (MW) wind turbine power plant from Electricity Generating Authority of Thailand ("EGAT") as well as the capacity of 8+2 Megawatts (MW) with 3.50 baht, adder from Provincial Electricity Authority ("PEA") for the period of 10 years.
- On April 8th, 2015. GUNKUL has signed the Memorandum of Understanding ("MOU") in jointly generating of solar cell on rooftop system with Chai Watana Tannery Group Public Company Limited ("CWT") whereas GWT and GUNKUL shall jointly establish a company in developing this project. GUNKUL shall have the shareholding in this new company at 25.01%
- On June 23rd, 2015. The Company has informed the information technology of investment in the wind turbine power plant of Greenovation Power Company Limited ("GNP") in approximated amount of 6,325 million baht. GNP operates its business in developing and constructing for Electricity Generating Authority of Thailand ("EGAT") under the capacity of 60 Megawatts (MW) electrical one agreement with 3.50 baht, adder for the period of 10 years. 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 19th, 2015. The Extraordinary General Meeting of Shareholders No. 1/2015 passed the following resolutions:
- Ratified the Company in investing in the capacity of 60 Megawatts (MW) wind turbine power plant with Greenovation Power Company Limited with the total project value of 6,325 million baht.
- Ratified the Company in investing in the capacity of 31.75 MW solar cell power plant; Sendai Okura Mega Godo Kaisha ("GK Sendai") in Japan with the total project value of Yen 12,599,100,000 or approximately Baht 3,527.80 million baht.
- Approved the Company in purchasing 67% of ordinary shares of Infinite Alternative Energy Company Limited which is a shareholder of Rang Ngern Solution Company Limited. Rang Ngern Solution Company Limited is the counterparty in the power transaction of the solar cell power plant and the capacity of 87 Megawatts (MW) project's total value is approximately 5,487.50 million 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") in Japan with the total project value of Yen 13,057,800,000 or approximate 3,656.20 million baht.
- 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:



	<p>1. Issuing not more than 183,320,745 newly ordinary shares at the par value of Baht 1 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 Baht 22 per share.</p> <p>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.</p> <p>2. Issuing not more than 91,660,373 newly ordinary shares at the par value of Baht 1 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.</p>
	<ul style="list-style-type: none"> - On November 4th, 2015. The Company announced the establishment of GO Bioenergy Co., Ltd. to operate the electric energy from biomass. The Company's shareholding in this company is 74.90%, a while Outgrow Energy Consult Company Limited's shareholding is 25.10%. The registered capital is 34.30 million baht. (Current registered capital is 34.30 million baht)
	<ul style="list-style-type: none"> - On November 12th, 2015, the Company has purchased the ordinary shares of Gunkul LED Lighting Company Limited from the existing shareholders at 150,000 shares or equivalent to 15% of the current registered capital of 6.09 million baht. Gunkul's total shareholding in this company is 899,999 shares or equivalent to 90% of total ordinary shares (current registered capital is 100 million baht).
	<ul style="list-style-type: none"> - On November 26th, 2015. Pang Tru Project which is located in Pang Tru Sub-district, Ta Muang District, Kanchanaburi Province with the capacity of 8 Megawatts (MW), started commercial distribution to Provincial Electricity Authority ("PEA") for the period of 25 years at the electricity charge of 5.66 baht per unit, as Feed in Tariff ("FIT"). Pang Tru Project is the one of the projects of Rang Ngern Solution Company Limited, a subsidiary of the Company, which operates in 11 solar cell power plants at the capacity of 87 Megawatts (MW).
Year 2016	<ul style="list-style-type: none"> - On January 21st, 2016. The Extraordinary General Meeting Shareholders No.1/2016 passed a resolution to increase the authorized capital of the Company up to 41.5 million 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 March 17th, 2016. Wind Energy Development Company Limited, a subsidiary of the Company. Operates wind power plants, the Company held 99.99% of the share capital. Has begun commercial sales of electricity ("COD") of the Power Plants liner Pool Wind Farm 1 and Power Plants liner Pool Wind Farms 2, total capacity of 10 Megawatts (MW). Located at Huay Bong sub-district, Dan Khun



Thot district. Nakhon Ratchasima Province. The support has been added to the purchase price (Adder) at the rate of 3.50 baht per kWh, for a period of 10 years from the date of commencement of commercial operation of the power distributor.

- On April 26th, 2016. Annual General Meeting of Shareholders for 2016, resolved to change the par value per share of the Company from 1.00 baht per share to be 0.25 baht per share and an increase in the share capital of the Company. To be 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 1,416,405,589.00 baht changed to 1,699,686,359.00 baht. Issuing new ordinary shares amount 1,133,123,080 shares at par value of 0.25 baht per share. Including 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, and resolved to raise the issue and offering of debentures in the amount of 2,000 million baht. Therefore, the amount of 1,000 million baht, fine not exceeding the new limit is 3,000 million baht and not over 7 years.
- On April 27th, 2016. The Company filed a registration with the Ministry of Commerce to change the par value of one baht to be 0.25 baht.
- On August 10th, 2016. The Company announced the establishment, Gunkul Bio Energy Co., Ltd., to produce raw material for the biomass power plant, the Company holds 99.94% of the share capital of 500,000 baht (Current registered capital of 500,000 baht)
- On August 25th, 2016. The board of Directors Meeting No. 6/2016 approved the Gunkul International (Mauritius) ("GIM"), a subsidiary of the Company. Transaction investment in the solar power plant located GD Utsunomiya, Utsunomiya City, Tochigi Province, Japan. The capacity under power purchase of 66.78 Megawatts (MW), Installed of 72.80 Megawatts (MW), The manufacturer and distributor of solar power to the Tokyo Electric Power Company ("TEPCO") was awarded the concession to sold electricity to TEPCO, period 20 years. The rate of purchase power feed-in tariff (FIT) Yen 36 per unit, the total value of the project is approximately 24,017 million yen or approximate of 8,391 million baht.
- On October 12th, 2016 The Board of Directors Meeting No. 7/2016, approval for the Company to buying preferred stock in the BMP Solar Company Limited ("BMP Solar"), which operates the solar power plants. A capacity of 8.00 Megawatts (MW) of 48,000 or 48.98% of the paid-up capital totaling registered of 98,000 shares (including ordinary shares total 50,000 shares and preferred shares of 48,000 shares), the Company will be entitled to dividend from operations and the rights to vote at 99.99%, which a turnover of 670 million baht, by the power plants of the Company are located at Tha Carter, Watthana Nakhon district, Srakaew Province. In order to gain power. Feed-in Tariff (FIT) 5.66 baht per unit, for a period of 5 years.



- On November 16th, 2016. Wind Energy Development Company Limited, a subsidiary of the company. Operates Wind Power Plants located in the Huay-Bong Sub-district, Dan Khun Thot District, Nakhon Ratchasima Province, the company held 99.99% of the shares capital. Has been selling commercial operation ("COD") of the Wind Power Projects of 50 Megawatts (MW), wind farm on March 17th, 2016, the company has been selling commercial operation ("COD"). The project liner pool Wind Farm 1 power plants projects and liner pool Wind Farm 2, a total of 10 Megawatts (MW) of projects undertaken of COD totally 60 Megawatts (MW). Although, 3 project has been supported additional purchase price (Adder) at the rate of 3.50 baht per Kilowatts (kWh) for a period of 10 years from the date of commencement of the commercial operation of the power distributors.
- On November 29th, 2016. The Extraordinary General Meeting of Shareholders No. 2/2016 approved to Gunkul International (Mauritius) ("GIM"), a subsidiary entered into an investment in solar power plant projects in GK East Japan Solar 13 ("GK Iwakuni") Iwakuni City, Yamanguchi Province, Japan. Capacity of the project of 75.0 Megawatts (MW), (Size of capacity that, installed 90.0 Megawatts (MW) was awarded the concession to distribute electricity to Chungoku Electric Power for a period of 20 years at a rate of the power purchase and Feed in Tariff (FIT) Yen 32 per unit. The totally value of approximate 31,327.80 million yen or approximately 10,776.76 million baht, also approval that, including a resolution to raise the issuing of debentures amount 3,000 million baht, By the way, the amount changing not more than 3,000 million baht, a new limit not over 6,000 million baht, the period within 7 years.



16. Nature of Business

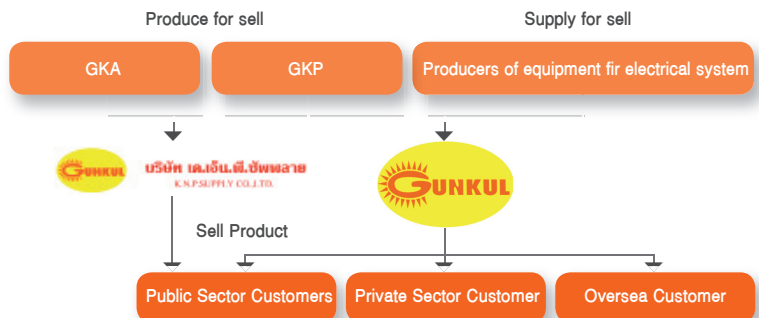
16.1 Nature of Product and Service

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.
2. Business to produce, procure and supply energy-saving products:-
 - 2.1 To product and supply lighting lamp type LED
 - 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
 - 3.3 Wind Farm
 - 3.4 Biomass Energy and Supply of raw materials for biomass power plants
4. Business to construct alternative energy power plant (Engineering Procurement and Construction)
5. Business to operation and maintenance

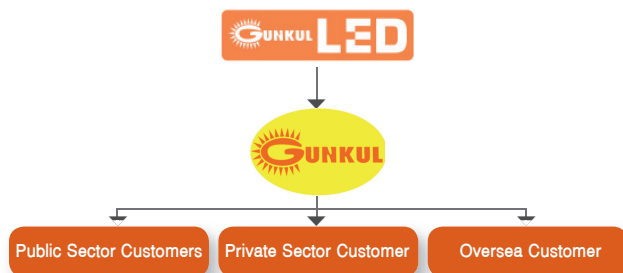
Diagram shows business conduct structure of the group of companies

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

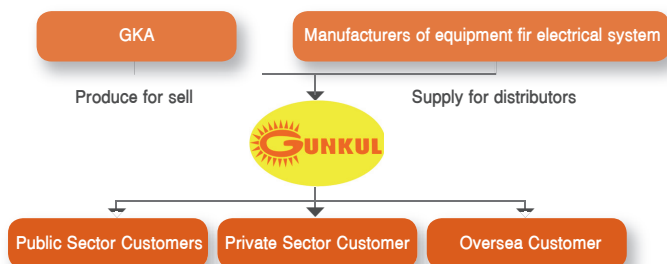


2) Business to produce, procure and supply equipment for energy-saving products.

- To produce and supply Lighting Lamp Type LED.

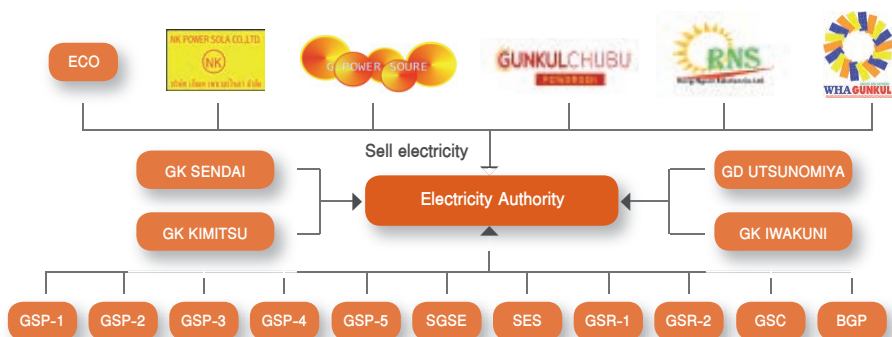


- To product and supply solar cell module including supplying equipment related to the electricity production system of solar energy.

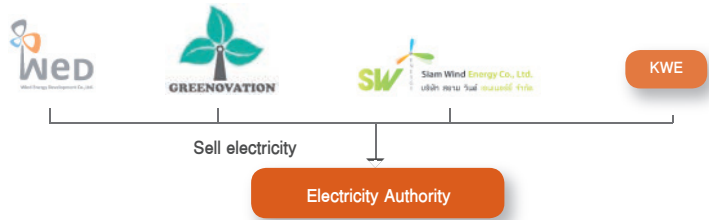


3) Business to produce and distribute electricity from renewable energy resources

- Solar Farm & Solar PV Rooftop

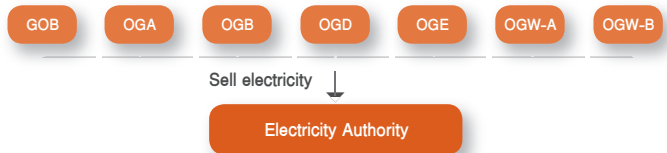


- Wind Farm



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

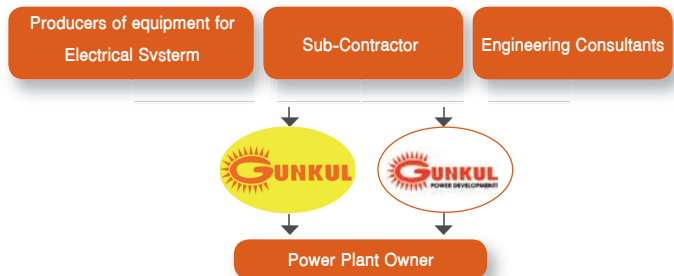
o Biomass Power Plant



o Supply of raw materials for biomass power plants

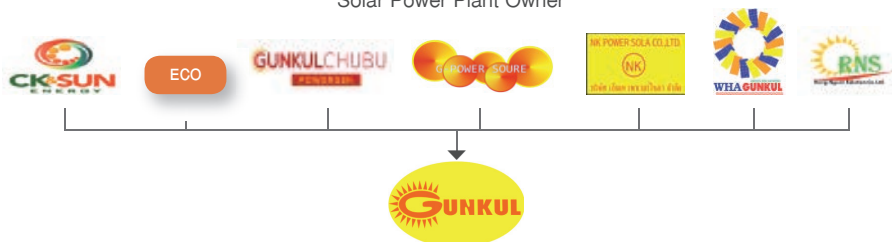


4) Business to construct alternative energy power plant



5) Business to operation and maintenance

Solar Power Plant Owner



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



Gunkul Engineering Co., Ltd Group (PCL), the leading supplier of equipment for power systems and renewable energy systems, covering in all stages of transmission and distribution of electricity from power plants to consumers with goods. More than 5,000 items to meet the needs and characteristics of the different customer groups and both the household level to the macro level of government, the Group has expanded its business into the manufacture and sale of electricity from renewable energy as well. All kind of goods which are produced from the subsidiaries and/or supplying by producers in Thailand and overseas who are acceptable on goods' quality and standard such as USA, Germany, Sweden, Japan, China and etc.

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

- 1) Protection and transmission system control equipment and distribution lines including power cut switch (Disconnecting Switch), load break switches, gas switches (SF6 Gas Load Break Switch), and air brake switch, transformer fuse cut-out, Surge Arrester, Live part cover and Grounding system.



- 2) Transmission and distribution lines equipment including cables (Cable), to hold the line pieces (Preformed) cable spacers (Cable Spacer), connector device (Connector), device on the cable (Cable Termination), a cable connection (Cable Splicing), electrical insulators (Insulator).
- 3) Tools and equipment including safety belts, 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.

2. Business to produce, supply and sell equipment for energy saving

2.1 Produce and sell LED lighting products



Gunkul Lighting Co., Ltd. (GUNKUL-LED) was established to support the business, to support market expansion and customer base which is the low voltage electricity system consumer user. In broader and deeper terms, it is divided into:

- Group of customers of LED lighting sale Project under the trademark “GUNKUL”
- Group of reseller customers or End User sell LED lighting under the trademark “GLO”

The Company produces and sells lighting products and lamps, LED both indoor and outdoor lighting, as well as street lighting, light shine are equipped with solar panels and batteries. By producing standard and quality products, it has been well received from project customers such as sugar mill group, steel mill group, hospital group and warehouse rental service providers etc.



The Company aims to develop and maximize its potential, increase competitiveness by focusing on serving customers with full range. In addition to the sale of lighting products and lamps, LED type, the Company also provides installation



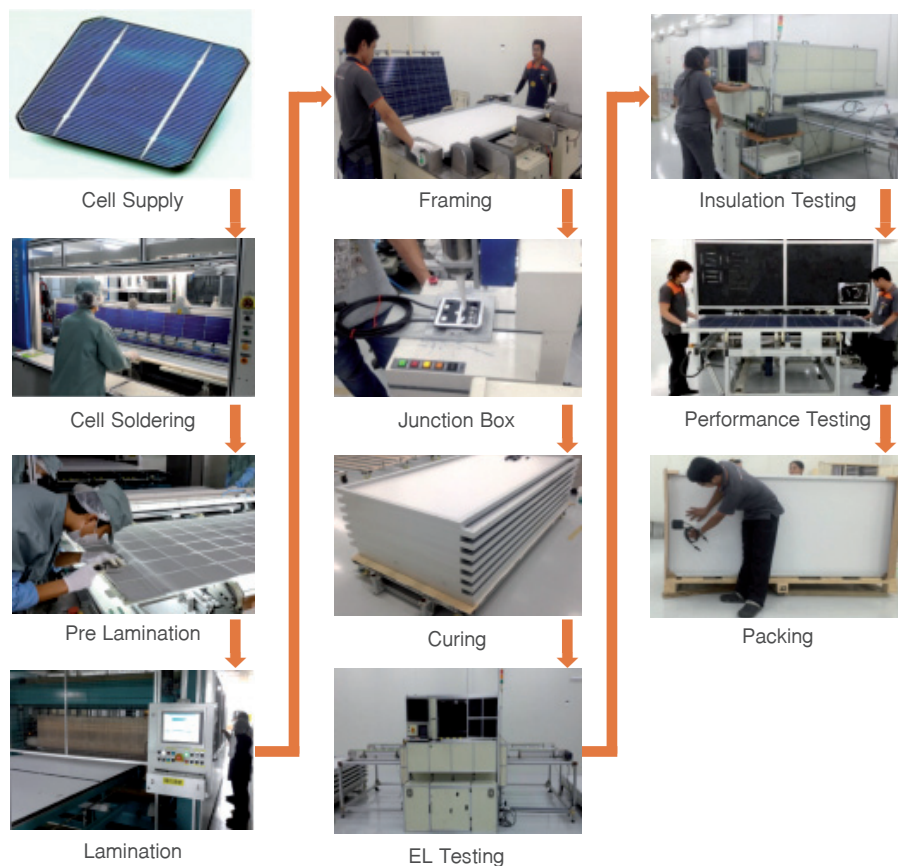
and renovation services for office or factory buildings. Focus on energy saving with quality control by a team of experienced engineers and technicians. For ensuring the customers that GUNKUL-LED can fulfill the accreditation and confidence of the customers with high standardized and quality products.

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

From the support of government for the Renewable Energy Project especially the electricity from solar power. It is considered as a clean energy and can produce electricity for domestic use as well and no impact on the environment. In addition to support the government policy, GK Power Products Co., Ltd. has partnered with Suntech Power Holdings Co., Ltd., a leading global company. Recognized and also ranked TOP10 of solar panel producers in China. It has set up solar panel producing plant or Solar PV Module at GK Power Products Co., Ltd since 2014 to present. At the present, GK Power Products Co., Ltd. has the potential to produce solar panels, Silicon Crystal type or Poly Crystal Line crystalline type from 60 watts per panel up to 320 watts per panel, and the panel produced is also received an industry standard of Thailand or TIS 1843-2553 and TIS 2580-2555 including IEC 61730 and IEC 60721 standards. GK Power Products Co., Ltd. has a capacity of more than 40MW per year for distribution to public and private sectors by producing and selling Solar PV Module over 10MW from 2015 to 2016.



PV Solar Module Manufacturing Process



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 subsidiary of the Company including investments in solar power projects in Japan, such as GK Sendai project, GK Kimitsu project, GD Utsunomiya project and GK Iwakuni project.

The Group entered the RES power generation and distribution business by investing in solar farms and applying for sale of electricity output to the Provincial Electricity Authority (PEA) under the PEA projects to purchase electricity from producers with a maximum capacity of 10 MW, very small power plants (VSPP). The Power Purchase Agreement (PPA) was signed with the PEA and adder subsidy rate for VSPP of RES production of 8 baht per kWh for a term of 10 years since the commencement of sale. From 2010 to 2014, the Group have then signed power purchase agreements (PPA) with the PEA for 10 projects with a combined capacity of 57.9 MW.

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 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 could be summarized as follows:-

Project	Capacity (MW)	Project Site (according to application)	Commencement of Output Sale
Gunkul Chubu Powergen Co., Ltd. "GCPG" (The company is a joint venture owned 51% of the share 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 Subsamtod, Amphoe Buengsamphan, Phetchabun	May 2013
	30.9	The proportion of GUNKUL is 51% = 15.759 MW.	
G-Power Source Co., Ltd. "GPS" (The company is a joint venture owned 40% of the share 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 Subsamtod, Amphoe Buengsamphan, Phetchabun	February 2013
	26.0	The proportion of GUNKUL is 40% = 10.4 MW.	
NK Power Solar 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
	1.0	The proportion of GUNKUL is 99.99% = 1.0 MW.	
Rang Ngern Solution Co., Ltd. "RNS" (The company is a joint venture owned 67% of the share 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
	87.0	The proportion of GUNKUL is 67% = 58.29 MW.	



Project	Capacity (MW)	Project Site (according to application)	Commencement of Output Sale
BMP Solar Co., Ltd. "BMP" ⁽¹⁾ (A subsidiary, the Company holds 49.98% of the registered capital.)			
22.	8.0	Tambon Takwien, Amphoe Watthana Nakhon, Srakaew	April 2016
	<u>8.0</u>	<u>The proportion of GUNKUL is 99.99% = 8.0 MW.</u>	
Eco Thai Energy Co., Ltd. "ECO" (The company is a joint venture owned 51% of the share capital).			
23.	5.0	Tambon Bangkrachua, Amphoe Mueang Samut Sakhon, Samut Sakhon	December 2016
	<u>5.0</u>	<u>The proportion of GUNKUL is 51% = 2.55 MW.</u>	
Total	157.9	<u>The total proportion of GUNKUL is = 96.0 MW.</u>	

⁽¹⁾ The Company will 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%. It is expected that it will enter into acquisition within quarter 2/ 2017.

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") and Chugoku Electric Power Co., Inc. or Chugoku Electric at the rate of 32.00 Yen and 36.00 Yen per Kilowatt per hour (Feed-in-Tariff "FIT") by summarized as follows:

Project	Capacity (MW)	Project Site (according to application)	Feed-in-Tariff (FIT)	Commercial Operation Date Expectation
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	Q1/2018
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	Q4/2018
GD Solar Utsunomiya Co., Ltd. ("GD Solar Utsunomiya Godo Kaisha") (Investment proportion 100.00%)				
3.	66.78	Utsunomiya, Toshiaki	36.00 Yen per Kilowatt per hour	Q1/2022
East Japan Solar 13 Co., Ltd. ("Godo Kaisha East Japan Solar 13") (Investment proportion 100.00%)				
4.	75.00	Iwakuni, Yamaguchi	32.00 Yen per Kilowatt per hour	Q1/2022
Total	207.03			

3.2 Solar PV Rooftop

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 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. The renewable energy plan for 20 years targeted supporting wind energy amount 3,002 MW in Year 2036

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
	60.0		
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	October 2017
	60.0		
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	March 2018
	50.0		
Total	170.0		

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%

3.4 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 PDP2015 plan (2015-2022) with electricity demand from biomass power plants is about 570 MW. However, now there are 2,690 MW. of installed and operated biomass power plants which sells only 1,515 MW. of installed power. Therefore, the Company can see the business opportunity that can be continued for the Company.



4. Power Plant Construction Business



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, subsidiaries and other companies as follows:-

Project Owner	No. of Projects	Size (MW)	Status
1) G-Power Source Co., Ltd.	4	26.0	Completed
2) Gunkul Chubu Powergen Co., Ltd.	5	30.9	Completed
3) NK Powersola Co., Ltd.	1	1.0	Completed
4) C.K. and Son Energy (Thailand) Co., Ltd.	1	8.0	Completed
5) Solarta Co., Ltd.	1	8.0	Completed
6) Bangchak Solar Energy (Nakhon Ratchasima) Co., Ltd.	1	12.5	Completed
7) Bangchak Solar Energy (Chaiyaphum 1) Co., Ltd.	1	12.5	Completed
8) Solar PV Rooftop projects	13	8.8	Completed
9) Wind Energy Development Co., Ltd.	3	60	Completed
10) Eco Thai Energy Co., Ltd.	1	5.0	Completed
11) BMP Solar Co., Ltd.	1	8.0	Completed
12) Greenovation Power Co., Ltd.	1	60	Under Construction
13) Korat Wind Energy Co. Ltd.	1	50	Under Construction
Total		290.7	



5. Power Plant Maintenance Services

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 services under operation and maintenance agreements with these clients include controlling and monitoring the efficiency of operations



and sale of the solar farms. At present, the Company renders maintenance services for 14 companies 34 power plant projects of a total capacity of 163.37 MW, as follows:-

Solar Farm

	Project Owner	Capacity (MW)
1.	C.K. and Son Energy (Thailand) Co., Ltd.	8.0
2.	G-Power Source Co., Ltd.	26.0
3.	Gunkul Chubu Powergen Co., Ltd.	30.9
4.	NK Powersola Co., Ltd.	1.0
5.	Rang Ngern Solution Co.,Ltd.	87.0
6.	Eco Thai Energy Co., Ltd.	5.0
	Total	157.9

Solar PV Rooftop

	Project Owner	Capacity (MW)
1.	WHA Gunkul Green Solar Roof 1 Co., Ltd.	636.48
2.	WHA Gunkul Green Solar Roof 3 Co., Ltd.	832.32
3.	WHA Gunkul Green Solar Roof 6 Co., Ltd.	832.32
4.	WHA Gunkul Green Solar Roof 17 Co., Ltd.	997.56
5.	Gunkul Solar Power 2 Co., Ltd.	538.56
6.	Solar Energy Society Co., Ltd.	499.20
7.	Siam Gunkul Solar Energy Co., Ltd.	873.60
8.	Gunkul Solar Roof 1 Co., Ltd.	241.92
9.	Gunkul Solar Roof 1 Co., Ltd.	22.40
	Total	5,474.36



16.2 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;

Type of income	2014		2015		2016	
	Million baht	%	Million baht	%	Million baht	%
1. Income from production, supply and distribution of equipment for the power systems and renewable energy						
1.1 Supplying for distribution	425.50	14.30	3,346.59	75.03	791.97	24.68
1.2 Production for distribution	1,063.99	35.74	425.67	9.54	559.42	17.43
2. Income from production and distribution of electricity from renewable energy						
- Manufacture and sale of electricity from solar energy	23.82	0.80	51.16	1.15	867.93	27.05
3. Income from construction of renewable energy plants	1,407.91	47.30	566.76	12.71	909.50	28.34
4. Income from operation and maintenance	55.32	1.86	70.12	1.57	80.07	2.50
Total revenue	2,976.55	100.00	4,460.30	100.00	3,208.89	100.00



The revenue of the company by customers

income	2014		2015		2016	
	Million baht	%	Million baht	%	Million baht	%
1. Public Sector Clients						
1.1 Revenue from distribution equipment of electrical system and renewable energy system	745.12	25.03	259.09	5.81	504.89	15.73
1.2 Revenue from electricity sales	23.82	0.80	51.16	1.15	867.93	27.05
2. The Private Clients						
2.1 Revenue from distribution equipment of electricity system and renewable energy system	308.04	10.35	3,554.09	79.68	894.33	27.87
2.2 Revenue from the power plant	1,407.93	47.30	566.76	12.71	909.50	28.34
3. Internationally Clients	491.65	16.52	29.20	0.65	32.24	1.01
Total revenue	2,976.55	100.00	4,460.30	100.00	3,208.89	100.00

16.3 Industry overview and competition

In 2016, Thailand economy expanded at 3.3 percent from the previous year, mainly due to the stimulation of government policies such as tax breaks from domestic tourism. Tax deductions on consumer purchases, etc., as well as BOI investment promotion policies that, encourage foreign investment in the country. In addition, policies to accelerate government disbursements and extra spending additional of the budget such as, in government infrastructure. Water Management Project. Rail Transport Development Project and the Land Transport System Development Project. Expected to increase a public spending and investment. Also stimulate private spending. Private consumption is expected to recover from the previous year, benefiting from lower oil prices. And financial conditions are relaxed. In the meanwhile, private investment is likely to recover from the previous year as well. With the support of the government investment projects, however, the slow recovery of the global economy as well as the structural problems of the Thai export sector. As a result, to the volume exports of goods and services down as below the previous forecast. In addition, the government has issued measures to stimulate the overall driving of the country. With the announcement of the Thailand 4.0 policy, the government's economic development model. That aims to propel the country's reforms to



adjust the direction and create a path for prosperous countries. This will go to a Value-Based Economy or an innovation-driven economy. Based on the idea. Producing “commodities” into innovative products. Switching from industrial propulsion to be technology, Creativity and Innovation.

For 2017, more infrastructure investment was made from the public sector. The budget of over a billion baht is the construction of the multiple railway lines. Motorway construction, to connecting to the industrial areas with transportation routes. This will cause the distribution of progress along those paths. There are industrial plants located at the critical points appropriate to the transportation strategy. As a result, the country needs more electricity. The net peak demand for electricity in the system of Electricity Generating Authority of Thailand. (Net Peak Generation Requirement) That happen on Thursday May 11th, 2016, 22.28 PM at 29,618 Megawatts (MW), which was higher than last year's high net power demand. Which took place on Thursday, June 11th, 2015, 14.02 PM at 27,346 Megawatts (MW), or 7.67 percent, and is likely to require very high power consumption. As a result, the government must set policies and plan to supply enough energy sources for the country's economic growth.

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

16.3.1 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 Electricity Industry in the Republic of the Union of Myanmar**

Electricity demand of the Republic of the Union of Myanmar (Myanmar) is increasing. The currently, Myanmar has a total generating capacity of 5,307 Megawatts (MW), comprising 3,000 Megawatts (MW) of power and 2,300 Megawatts (MW) thermal power plants. The power plant generates about 17,000 Gigawatts per year. This increase is due to the policy of the Ministry of Electricity and Energy to encourage private and foreign investors to invest in power plants. The currently is 45% of the electricity produced in Myanmar comes from the private power plants.

The Myanmar's government is not only interested in the development of thermal power plants and hydro power plants, but also interested in the development of solar and wind power plants. In 2030, the government purpose to have wind power and solar power with a capacity of 12.5% of the total capacity of 64,000 Megawatts (MW).

Gas power plant

Gunkul Engineering Public Company Limited, has entered into a gas-fired power plant project 25 Megawatts (MW) in the Republic of Myanmar since 2013, with the investment from local partners.

Gunkul held 51% of the shares of the power plant at Hlawga District, Yangon City. That is long distance from Yangon International Airport around 20 Km.

The Gas-fired power plant. There is a power purchase agreement with Ministry of Electricity and Energy of Myanmar. This is a power purchase type "Take or Pay" Duration 30 years. Currently, Gunkul is in the process of requesting the Myanmar Investment Committee (MIC) to transfer the power purchase agreement and other related contracts to the joint venture. Gunkul has been granted the privilege of becoming a foreign company investing in Myanmar.



- Overview of the electrical system of Japan

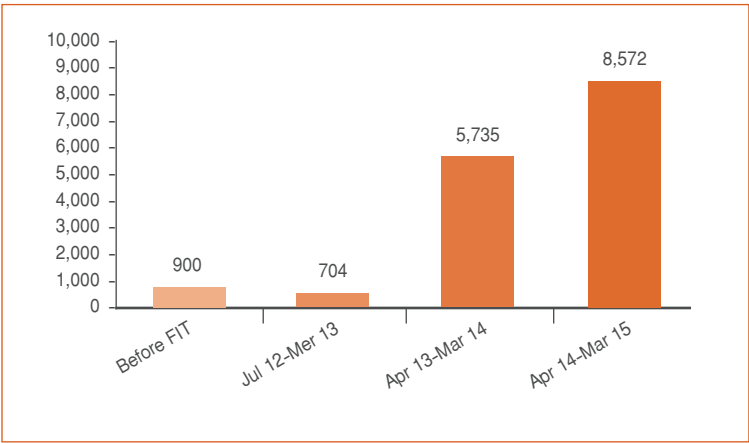
The Currently, Japan has measures to save energy from all sectors. As a result, electricity consumption in Japan has been continuously decreasing from 2010 to 2013. The Japanese government expects a steady demand for electricity in the future. In 2030, the demand will increase to 980,800 million kWh per hour. This represents an increase of 14,200 million kWh per hour or an average increase of only 0.09% per year.

After the damage to the Fukushima nuclear of power plant. The government is turning to more power generation from renewable energy. The goal is to provide electricity generated from renewable energy at 22-24 percent. Produced by solar energy 7% or 68,656 million kWh per hour. To increase the number of power plant operators from renewable energy. The Japanese government has adopted purchase of Feed in Tariff ("FiT")

Using to replace the Renewables Portfolio Standard ("RPS") system, resulting in a production increase from 900 Megawatts (MW) before the policy announcement 15,011 Megawatts (MW), 16.68 times within period 2 years and 9 months.

Source: White Book, Ministry of Economy Trade and Industry Fiscal Year 2015

Chart 1 Capacity and Power Distribution



Source: Report on Alternative Energy Trends by Department of Fuels, March 2015



Although the demand for electricity in Japan will not much grow. But the government aims to increase the share of renewable energy production at an increased rate. That is also seen that the overall renewable energy market is still in a state of an expansion.

Electricity Generating Industry Trends and electrical systems in Japan

Although Japan's demand for electricity is likely to remain stable. But the government continues to support the plant by setting a target for renewable sources of energy in the future. That also has the opportunity to invest in renewable energy power plants. Solar power plants and other types of alternative power plants.

However, as the number of licensed and unlicensed power plants exceeds more 60,845 Megawatts (MW) on May 2015, resulting to the government measures are more stringent. In addition, the intention is to control a licensed volume of production that exceeds the target set in 2030. And the price of electricity is decreasing each year. The company expects that, the number of licensed solar farms will decline more than the past few years.

Table 1 Purchase Price for Licensed Power Plant in each fiscal year.

FIT (JPY/kWh)	FY12	FY13	FY14	FY15	FY16
Solar Energy	40	36	32	28	24

However, the company still sees an opportunity to invest in Japan. Because the company specializes in a business environment. The company will begin to consider alternative investments in renewable energy. In particular, the type of energy that the permitted production volume does not meet the government's stated goals such as, Biomass energy. In this investment, the Company will be consider from government policy.

Source: Reference document by the Ministry of Economy, Trade and Industry.

- Outlook for power generation industry and electrical system in Thailand

Ministry of Energy together with Electricity Generating Authority of Thailand (EGAT) jointly prepared the Thailand Power Development Plan for 2015-2036 (PDP2015, Revision 3) as a major plan in developing the power generation in Thailand. To be more consistent with current situation. That plan, the Energy Regulatory Commission (NESDB) has reviewed and commented on May 6th, 2015 before proposing to the National Energy Policy Council to approve the meeting No. 2/2015 on May 14th, 2015 and the Cabinet (Cabinet) approved the resolution of the NEPC on June 30th, 2015.



PDP2015 plan, must be aligned with the national economic development direction. Developed and estimated by the Office of the National Economic and Social Development Board (NESDB), the long-term economic growth is projected at 3.94 percent per year. And in terms of integration with the relevant energy plan. Expected results of optimization under the energy conservation plan. This will result in a reduction in electricity use of approximately 89,672 million units (GWh) in 2036. There are also plans to develop renewable energy and alternative energy. Focus on the development of the renewable energy to full potential in each area. It will promote the generation of electricity from waste fuel, biomass and biogas. Also including the other renewable energies such as solar wind, solar power transmission systems, and power distribution systems of the 3 power plants. To support the promotion of alternative energy on a local basis. As well as developing on Smart Grid system to improve production efficiency. Electricity from renewable energy based on this policy, the PDP2015 Plan for Fuel Consumption is set out in 2036 as follows:

Fuel types	2014	2015	2016
	Percent	Percent	Percent
Buy hydroelectric power internationally	7	10-15	15-20
Clean technology coal (including lignite)	20	20-25	20-25
Renewable energy (including hydropower)	8	10-20	15-20
Natural Gas	64	45-50	30-40
Nuclear	-	-	0-5
Diesel / fuel oil	1	-	-

Source: Office of Energy Policy and Planning Ministry of Energy

The NESDB forecasts that, the GDP growth rate for the years 2014 - 2036 will average 3.94 percent per year. Each 0.03 per year and the application of the Energy Conservation Plan (EEDP). The target is to reduce the use of electricity in 2036 at 89,672 million units, and consider the framework of the Renewable Energy and Alternative Energy Development Plan (AEDP) for the power sector in 2036, which will generate electricity from 19,634.4 Megawatts (MW) of renewable energy Electricity Demand Forecast Used for PDP2015 Plans. When combining the results of the Energy Conservation Plan and the Renewable Energy and Alternative Energy Development Plan for the period of 2014 to 2036, 2.67 percent per annum. In 2036, the country's total net energy demand and peak electricity demand were estimated at 326,119 million units and 49,655 Megawatts (MW) as respectively.



Year	PDP 2010 Rev3		PDP 2015		Changes	
	Peak		Peak		Peak	
	Generation Requirement (MW)	Electric Energy (Million Units)	Generation Requirement (MW)	Electric Energy (Million Units)	Generation Requirement (MW)	Electric Energy (Million Units)
2016	31,809	210,619	30,218	197,891	-1,591	-12,728
2026	46,003	304,548	40,791	267,629	-5,212	-36,919
2030	52,256	346,767	44,424	291,519	-7,832	-55,248
2036	-	-	49,655	326,119	-	-

Source: Office of Energy Policy and Planning Ministry of Energy

From the above stated hypothesis, Thailand Power Development Plan for the year 2015-2036 (PDP2015) can be summarized that, at the end of the year 2036, the electrical capacity shall be 70,335 MW, comprising of current electrical capacity at the end of 2014 of 37,612 Megawatts (MW), new electrical capacity of 57,459 Megawatts (MW) and deduction of the retired capacity during the year 2015-2036 total 24,736 Megawatts (MW).

Electrical Capacity during the year 2015-2036

- Total capacity as of December 2014 37,612 MW
- Total added capacity during the year 2015 - 2036 57,459 MW
- Total retired capacity during the year 2015 - 2036 (24,736) MW
- Grand total capacity at the end of the year 2036 70,335 MW

Total added capacity during the year 2015-2036 of 57,459 MW, can be divided as follows:

Renewable Energy Power Plant	21,648 MW
• Domestic power supply	12,105 MW
• Foreign power supply	9,543 MW
Pumped-storage Power Plant	2,101 MW
Co-generation Power Plant	4,119 MW
Combined Cycle Power Plant	17,478 MW
Thermal Power Plant	12,113 MW
• Coal / Lignite Power Plant	7,390 MW
• Nuclear Power Plant	2,000 MW
• Gas Turbine Power Plant	1,250 MW
• Foreign power purchase	1,473 MW
Total	57,459 MW

Source: Office of Energy Policy and Planning Ministry of Energy



Government's policy in renewable energy investment promotions in the year (2016-2017) focused in the overall social problem solutions, the problem of garbage disposal. It is a very important issue. Due to the high cost of waste disposal. Including the waste disposal system generated by waste incineration. Current problems include: Community waste problem and the agricultural output, etc., with strategies to promote bioenergy, such as energy from biomass and biogas. The current potential that can produce about 500 Megawatts (MW) of electricity and 2,500 Megawatts (MW) of biomass. That is also coordinated with the Ministry of Agriculture and Cooperatives' Zoning Policy. To increase the planting area of sugar cane and palm. And increase cassava yield from 3.5 tons per rai per year to 7 tons per rai per year. This can increase the fuel's potential for generating 1,500 Megawatts (MW) of electricity. Zone alignment is very important in the development of renewable energy projects in the biotech sector. To prevent the shortage of resources to generate electricity. It may affect the operator. At present, the government is trying to promote and encourage the emergence of renewable bioenergy projects. Also considered a very important group. That will increase the proportion of electricity produced by renewable energy. From the current 8 percent to 20 percent of the country's total electricity demand in 2036, the total renewable energy capacity will be 19,634.4 Megawatts (MW), as shown in the following table.

Alternative Energy Development Plan (AEDP) for the year 2036 (Unit : MW)

Year	Solar Cell	Wind Turbine	Hydro Power	Municipal Solid Waste	Biomass	Biogas	Crops	Energy Total
2014	1,298.5	224.5	3,048.4	65.7	2,547.8	311.5	-	7,490.4*
2015	6,000.0	3,002.0	3,282.4	500.0	5,570.0	600.0	680.0	19,634.4*

Remarks * Installed capacity

Source: Energy Policy and Planning Office, Ministry of Energy

With regarding to the government's Alternative Energy Development Plan (AEDP) for the year 2015-2036 in order to substitute the fossil at 30 percent within the year 2036, this Power Development Plan has included total renewable energy power plant with the electrical capacity of 19,634.4 Megawatts (MW). This electrical capacity is considered as installed capacity and shall provide 17,678.9 Megawatts (MW) which consists of the current electrical capacity system at the end of 2014 at 5,872.1 Megawatts (MW) deducted by the retired capacity of 298.1 Megawatts (MW) which resulted in the new



electrical capacity of 12,104.9 Megawatts (MW). The new electrical capacity from renewable energy during the year 2015–2026 total 8,101.2 Megawatts (MW) and in 2027–2036 shall be 4,003.7 Megawatts (MW) respectively:

Category (Unit : MW)	During the year 2015-2026	During the year 2027-2036
Solar Cell	3,292.5	1,077.6
Wind Turbine	1,643.7	910.2
Hydro Power	191.0	86.9
Biomass	2,122.6	1,363.9
Biogas	199.1	108.2
Municipal Solid Waste	373.2	56.0
Energy Crops	279.1	400.9
Total	8,101.2	4,003.7

Source: Energy Policy and Planning Office, Ministry of Energy

Thailand imports or purchases electricity through the Electricity Generating Authority of Thailand, with more than 5,400 megawatts currently under development, some of which are either under development or in progress. And all imports will increase to more than 11,000 megawatts. Under the latest power development plan of the country. Power plants that sell electricity to most of Thailand. It is a hydroelectric power plant in the Lao People's Democratic Republic (Lao PDR). Mostly, the transmission system for neighboring countries is separated from the domestic power transmission system. Electricity from These projects must be able to deliver electricity both within Thailand and can also be exported to other neighboring countries via Thailand's electricity network.

According to historical data Power plants built outside of Thailand tend to have lower environmental standards compared to power plants built in Thailand. This affects the environmental sustainability of Thailand. Implementation of environmental standards at the level applicable to projects in Thailand. Extending to imported energy sources will reduce the environmental impact of these projects. It can also reduce domestic and international resistance to the development of these power generation projects. It would be better to cancel the electricity trading system directly from the electricity network of Thailand. And transform it into another system that extends wider cooperation framework, such as interconnection between networks and networks, or trading between generators or free trading. Although the proposed electricity trading system may cause Operation difficulties



of the Thai side. But it is a great opportunity for Thailand to increase the choice of sources of energy to produce diverse energy from neighboring countries in the region. And it can also export electricity when it exceeds demand.

Source: Assessment of Thailand's Energy Security, 2016

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 development plan data and expanded the power system during the National Economic and Social Development Plan No. 12 (2017-2021), 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. 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 (2017-2021).



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

Growth trend of equipment business for renewable energy system of the company. There is a direct relationship with the promotion of alternative energy investments by the public sector. At the meeting of the National Energy Policy Council (NEPC) on May 14th, 2015, a summary of the support for the solar farm project for the period 2016-2017 detail as follows: 1) open to purchase 100 Megawatt of the solar free-roaming pilot projects (Solar Rooftop), divided into 50 Megawatts of power for PEA and 50 Megawatts for MEA. Both are divided into 10 Megawatt for household quarters and 40 Megawatt for business buildings. But there will be no electricity supply to the system of electricity. 2) Ground-based solar panels for government agencies and agricultural cooperatives totaling 800 Megawatts, divided into 400 Megawatts for government and 400 Megawatts for agricultural cooperatives. There separately to 2 phase, which the first phase is set to no more than 600 Megawatts. This is divided into 300 Megawatts for government and a 300 Megawatt for agricultural cooperative, which has been selected in phase one. Due to the law has not been to participate in the project. Agricultural cooperatives are still eligible for the project. Eligible agricultural cooperatives are eligible to participate in the project and through the first phase of the lottery, total 67 projects are under construction, with 281 Megawatts for installed. For phase 2 is expected to be announced by the end of year 2017, with quota remaining. The 400 Megawatts for government, it was carried over from the previous phase. And the remaining 119 Megawatts. In addition, the government plans to announce the purchase of 400 Megawatts of biomass and biogas in 2017 (From the purchase of the biogas plant in 3 southern border provinces and 4 districts in Songkhla Province, the middle of the year 2015), resulting in the year 2017 on the prospect of investment in the renewable energy sector more increased from 2015.

In addition, the Board of Investment (BOI) has announced measures to promote investment to improve production efficiency. With investment to save energy. 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, for example. 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.



As a result of this policy, the equipment business for renewable energy systems will be expanded. In addition, the design of a large wind turbine installation project, electricity supply parallel to the distribution system. To be included the development plan of the power system, during the last development from 2015-2036. Therefore, from the promotion and support of the public sector renewable energy business. As a result, the trend for renewable energy equipment business is likely to continue to grow in the future. With government leadership and support in investment.

- **Manufacturing and distribution of electricity from renewable energy**

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

Overview of Renewable Energy for Thai Electricity, the trend is growing. There are important public supporters who want to drive more renewable energy. To replace fossil fuels with 20% of final energy consumption. The government has supported the use of renewable energy. To get to the target by setting the rate of purchase electricity in various forms. Started by the system to raise electricity purchase price of electricity from renewable energy (Adder), which the Thai government has been introduced under the plan for renewable energy development in 2007 to present and support in the form of Feed-in Tariff (FiT). The term of the power purchase agreement is 20-25 years to more encourage investment in renewable energy. For example, solar energy, garbage and wind energy. However, the government's various procurement rates are just main of factor that, calculates return on investment. And there are other key factors that returning calculation include the government's investment, promotion policy. And financial conditions from financial institutions etc.

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, especially solar power, which costs as high as 8-10 baht per unit.

Making the investments in commercial electricity production and distribution with renewable energy is not worth in the investment. 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.

Trends in the generation and distribution of electricity from renewable energy are likely to continue to grow as demand for electricity continues to be increase. The peak demand for electricity in 2016 is 29,618.8 Megawatts, up from the previous year at 8.30% and is likely to increase due to the expansion of economic activity and hot weather. Therefore, the government still needs to issue a policy to support the growing demand for electricity.

For the business of producing and distributing solar electricity, Considering from Thailand Electricity Development Plan 2015-2026, it was found that Thailand's electricity production target. Will generate 40% of electricity from solar energy from the total 8,101.2 Megawatts of solar energy or 3,292.5 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.

In 2017, the Energy Regulatory Commission (NPC) have plans to open 1,189 Megawatts (MW) of government policy, divided into 4 projects:

1. Industrial Waste Energy Plant, target 50 Megawatts (MW)
2. Community Waste Energy Plant, target of Production capacity 120 Megawatts (MW)
3. Biomass power plant with FiT Bidding system, with the target of 300-400 Megawatts (MW)
4. Ground-based solar power plant projects for government sectors and agricultural cooperatives. (Phase II solar farm) with a capacity of 519 Megawatts, 400 Megawatts for government and 119 Megawatts for agricultural cooperatives.



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.

- **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. Renewable energy production in Thailand is still in early stages and will grow in the future in accordance with the plan to develop Thailand's power generation 2015-2036.

16.3.2 Competition

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

The Company's main clients are government sectors, state enterprises and large 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.

- **Business of producing and selling electricity**

Investing in projects of commercial production of solar-based electricity, private companies is bound by terms and conditions of electricity purchase agreements to produce and sell all the electricity to agencies related to electricity. As the Company gains revenue from selling all electricity produced to PEA, there is no competition in its electricity sale business.

The entry into such businesses, entrepreneurs or persons who invest in electricity for distribution to the Electricity Authority. Primary qualifications required by the Electricity Authority and the Ministry of Energy must be met. And technical information will need to be considered to approve the contract with the Electricity Authority. In conjunction with the business. Entrepreneurs will have to spend relatively high capital to build power plants for electricity. Which of the various factors. As a result, competition in the solar power generation and distribution industry isn't very strong. That is pleasant to the company more than 235 Megawatts of commercial solar power can be successfully completed.

The Company is under the construction of 2 wind turbine power plants with the electrical capacity of 110 Megawatts and the plants shall be completed during the year 2017-2018. Thus, the Company recognized the importance of wind turbine acquisition from the manufacturer who is keen in service, warranty



and efficient in generating suitable energy by considering the average wind speed in each project location. In addition, the Company is well-prepared in fundraising from the capital market, business alliances as well as credit from financial institutions who always give good support to the Company.

The Company present, to be operation commercial power distribution of the wind power plant of Wind Energy Development Co., Ltd., with a total capacity of 60 Megawatts (MW) in March and December 2016, respectively. This resulted earnings from higher earnings. And is in the process of developing a 110 Megawatt (MW) of power plant. That is projected that it will be able to generate 60 Megawatts of electricity in 2017, and 50 Megawatts in the beginning of 2018.

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 2015) with high demand for electricity from biomass. At present, the target of purchasing electricity from biomass power under the PDP 2015 plan is approximately 5,570 Megawatts (MW). 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. Is a form of Fit-in-Tariff. Which gives higher purchasing power and a 25 years sponsorship, resulting in better payback of biomass power plants. 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 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. Presently, the company has invested in a total of 241.1 Megawatts of solar power plants in Japan under development.



Expected to be commercially available in 2018 with 2 projects and also has 2 projects for 2021.

- **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, Factory Permit License (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.



17. Risk Factors

17.1 Dependence on client risks

17.1.1 Risks of dependence on government sector clients

Major and important clients of the Company and its subsidiaries in government sector include the electricity-related agencies such as the Provincial Electricity Authority, the Metropolitan Electricity Authority and the Electricity Generating Authority of Thailand in terms of business to distribute high pressure electrical equipment and business to procure and construct the power plant and transmission line.

- **Business to distribute high pressure electrical equipment**

The revenue from sales to these customers is based on the government's budget for the development of production capacity and supply. If there is a change of the cabinet that results in alteration of electricity investment policy or any delay in approval of procurement for various projects, the Company's revenue in relation to these clients may be affected. Moreover, procurement processes of the government agencies are carried out mostly by competitive bids that sometimes involve many bidders. If the Company does not win the bids, it will lose revenue from these clients.

So it can be said that the risks arising from the change of investment policy in the government power sector is quite low. As for the bids for government projects, they tend to be carried out separately according to product groups. The Company's products are not only of great variety, but also accredited by ISO 9001 quality standards. Many of them are registered with the Ministry of Industry as well as guaranteed by the tests of independent institutes, both domestically and internationally. Some of its products are certified by the Office of Industrial Standards (TIS) as well. The Company is therefore at an advantage when competing in bids for supply of products to the government agencies and state enterprises, which generally promote and encourage the procurement of products accredited and certified by the Ministry of Industry. For this reason, the chance of the Company to be selected in a project bid of any type is quite high as well.



- **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: in south the electricity production as a contract at 3,059 MW and demand of electricity usage at 2,467 MW. In case that any large power plant in south stop working only 1 station in peak time; Chana Power Plant, that has a capacity at 710 MW will reduce electricity production to 2,349 MW (3,059-710) which will cause an insufficient electricity. Also, a promotion of coal power plant production in south to be a reserve capacity is not obviousness yet. Thus, a policy of reserve capacity transfer through transmission system or distribution system from other regions is still necessary for south area. 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 rapidly 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.

17.1.2 Risk of dependence on large clients

In 2016, the company sold products to approximately PEA offices in different areas for the value of 504.89 million baht or equal to 15.00% of the company's sale income according to consolidated financial statements.

Major customers of the company are regular customers who have maintained contact and business with the company for a long time and have a good relationship. Maintaining good standards of goods and services quality for over 30 years, the company is confident that it will continue to gain trust of customers. However, the company has a policy to reduce risk of dependence on any particular customer in each market, by constantly seeking new customers in order to expand customer base and to create more business opportunities and



development of new products such as development of energy-saving LED light bulbs for distribution to the government sector and private sector, the LED lamps classified under the consumer products with a high market value. The lighting products are available in all buildings. Also, it is a product that has been promoted by the government for purchasing to replace instead of the traditional lamp that uses more electricity or power.

17.2 Risk of exchange rate fluctuation

As the nature of business of the Group involves export to 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:

- Make a balance between revenue and expense or debt which is a foreign currency to be natural hedge.
- Manage foreign currency deposit.
- Do the forward currency trading contract.
- Use financial derivatives in order to have a right to trade foreign currency with an appropriate exchange rate.

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

17.3 Possible risks to the power generation and supply business

17.3.1 Risk of power generation performance

The ability to generate electricity of a solar power plant depends on two main parts, i.e. the quality of the solar panels and the amount of losses incurred in the electricity generation system. 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.

Present, 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 and efficiency of power plant construction.

After the completion of solar farms, the Company's joint venture partners and other operators have placed trust in the Company with the signing of operation and maintenance agreements for power plants more than 160 MW and making commercial sales. 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.

For biomass power plant, the Company is in between development and promotion of energy crops plant from agricultural sector with the experienced adviser, in order to have fuel for continuously producing electricity and controlling cost. Also, in order to reduce a competition to fight over fuel with other traders.

17.3.2 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. According to the 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 as long as the company complies with the conditions specified in the contract. Due to the said conditions and the contract party being a government agency, it is considered that the Group has no risk from the inability to generate and supply electrical power, or the inability to collect payments.



For wind power plant, the risk in power generation is similar to solar power plant which is a Non-Firm type because of an unstable wind speed which caused by season factor. However, as the average of wind rate from each projects that the Company has installed wind measurement towers for 4 years. The result is that the areas are perfect for commercial power plant construction with the party, Provincial Electricity Authority and Electricity Generating Authority which have a high stability. It is considered that there has no risk from power generation.

For biomass power plant, the duration of the contract is around 20-25 years and a Non-Firm type which has no penalty in case that unable to generate power. Also, with a Feed-in-Tariff purchase form (FiT) that has a stable purchase price throughout the life of the project which can plan a properly management. Moreover, a buyer is still Provincial Electricity Authority, so there has no risk from power generation as well.

17.4 Risks of economic and political factors

After the government of General Prayut Chan-o-cha started the administration in the year 2014, it can be seen that Thailand's overall economic situation was improved with high confidence from both domestic and international investors. The government has set various policies in stimulating the economy as the report of Office of the National Economic and Social Development Board (NESDB) indicated that the economy in the year 2016 expanded at 3.3 percent when compared to 2.8 percent in the year 2015. Both government and private sectors' investment projects indicated favorable adjustment in the second and third quarter of 2016 while the expectation of Thailand's economy in the year 2017 shall be increased to 3.4 percent which will come from continuously upward trend of government expense, especially the investment project of transportation infrastructure by rail, road and water. It is expected to start the project in 2017; such as, double track railway project, passenger ships between east to west and urban trains. Moreover, the Company has a major customer, State enterprise that has a lot of budget support. Including, the equipment that the Company produce and distribute will be relevant to government infrastructure investment projects. Therefore, our business is likely to grow as a result of the increased public investment. In addition, the economic outlook for the year 2017, farm income will improve in line with global market commodity prices. This will be a boost to a consumption of private sector recovery. In addition, the economic partner



countries are likely to have a better expansion. Also, the Thai baht trend is likely to weaken continuously which expected to affect the volume of export orders. Meanwhile, service exports are expected to continue to expand as foreign tourist arrivals expand on the domestic stability. It is expected that general inflation in 2017 will be 2.1 percent, rising from this year. According to increasing world oil price trends and tend to depreciation of the baht.

Moreover, energy policy is one of the significant policies in which the government is concerned about as the Energy Policy and Planning Office has passed the resolution in the Thailand Power Development Plan for the year 2015-2036 (PDP2015) in focusing the stability of power distribution by spreading fuel in energy generation, reducing natural gas dependability, adding the proportion of energy generation from clean coal technology, increasing foreign power supply, adding the proportion of energy generation from renewable energy, developing transmission and distribution system in order to support the development of renewable energy, joining in ASEAN Economic Community (AEC), arranging Energy Efficiency Development Plan (EEDP) and Alternative Energy Development Plan (AEDP) to be in the same timeframe with the PDP2015. In the future, these plans shall greatly support the Company's business growth in manufacturing and distributing equipment for transmission and distribution system, manufacturing and distributing energy-saving equipment (LED) and developing renewable and alternative power plants.

Source: <http://www.thaigov.go.th/>

On February 17, 2017, the National Energy Policy Council (NEPC), chaired by General Prayut Chan-o-cha, Prime Minister, approved the purchase of electricity from renewable energy in the form of feed-in tariff (FIT) for Small Power Producer (SPP Hybrid Firm) (10-50 MW) and Very Small Power Producer (VSPP Semi-Firm) (less than 10 MW).

Small Power Plant Hybrid Firm

With the target of purchasing 568 MW of electricity, it can use more than one type of fuel, unallocated and energy storage system (ESS), only Firm and EGA type contract. Power generation 100% during Peak and not over 65% during Off-peak which may be lower than 65%. This is in line with EGAT's stipulation, without using fossil fuels for power generation, except for the start-up phase. With the same electricity meter and installed



Unit Monitoring (UMM), with appropriate penalty if the electricity can't be delivered under the contract, including having a fuel supply plan and a plan to develop new fuels more in common areas, such as energy crops, etc. Scheduled Commercial Operation Date (SCOD) will be happen by 2020. The purchase of electricity is in form of Competitive Bidding by using FIT rate for competing with all fuel types. The project that will supply power in 2560 has the purchase rate at 3.66 baht per unit.

Very Small Power Plant Semi-Firm

The purchase of electricity from Very Small Power Producer Semi-Firm will be used only for new power plants, biomass, biogas (waste water/ waste) and biogas (energy crops) that can use energy storage system and must be a 6 months Firm type contract. (Power generation 100% during Peak and not over 65% during Off-peak which may be lower than 65%. This is in line with EGAT's stipulation). The month is expected to be used up to 4 months (March - June) and for the remaining 6 months it will be a Non-Firm contract by prohibiting use of fossil fuels to generate electricity, except for the start-up phase. Also, must have a fuel supply plan and a plan to develop new fuels more in common areas, such as energy crops, etc. Scheduled Commercial Operation Date (SCOD) will be happen by 2019. The purchase of electricity is in form of Competitive Bidding by using FIT rate divided by all fuel types.

- Biomass fuels at a rate of 4.24 - 4.82 baht per installed capacity unit.
- Biogas fuels (Wastewater / waste) at the rate of 3.76 baht per installed capacity unit.
- Biogas (energy crops) at the rate of Baht 5.34 per installed capacity unit.

FIT Premium is available at 0.30-0.50 Baht per unit for the electricity sales in Firm type with duration not exceeding 6 months. For the projects in the three southern border provinces and 4 districts in Songkhla Province will get another 0.50 baht per unit for Fit Premium.

At first, with the electricity purchasing from the small power producer project (SPP Hybrid Firm) at 300 MW, and then open to purchase 269 MW from the very small power producer project (VSPP Semi-Firm). By assigning to the Energy Regulatory Commission and the Department of Alternative Energy Development and Efficiency to quantify the electricity purchased by region according to the potential of each area and propose to the Energy Policy Administration Committee to approve before the power purchase announcement as follow the next step.

Source: thansettakij February 17, 2017



The results of the meeting of the National Energy Policy Committee, which approved the promotion of renewable electricity generation in the FIT for SPP Hybrid Firm and VSPP Semi-Firm, on February 17, 2017. Regarding as a policy from the public sector, there are significant changes to the Energy Industry. That must be prepared to accommodate the changes in the above-mentioned policies that, give rise to the following factors:

1. Development readiness to enter the full biomass and biological plant business.
2. Availability of sufficient raw material for electricity of the generation.
3. Prepare to plan and develop energy crops as the key raw materials for biomass and biogas plants.
4. Availability of preparation of co-operation areas with semester and communities surrounding the power plant area to ensure the availability and benefit of all parties.
5. Availability of personnel preparation and specialists in biomass and biogas plants.
6. Preparedness and Participation in Bidding to Acquire of the PPA in Competitive Bidding type.
7. The availability of space for construction of the power plants and the construction for the commercial distribution of electricity (SCOD) as scheduled. In this case of the power purchase agreement.
8. Availability of funding sources for the project in particular, project loans to supporting construction and capital for renewable energy management.
9. Availability of risk management in biomass and biogas power plant management. To be support of electricity generation, it's possible to distribute electricity at 100%, capacity for some periods, such as Peak season, due to fines if not feasible.
10. The readiness to manage the fluctuation of the price of raw materials, that is not stable according to the state Changing demand and supply each year.

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.



17.5 Risks of investing in solar power plant in Japan

17.5.1 Risk from the launch of the project, delayed than planned

The availability of solar project lighting depends on many factors, such as the implementation of the relevant license. Power plant construction funding and all related agreements that, meet the funding standards. If the project fails to proceed then will get the result delays in the commercial operation of the project or the result of the delay. The capital expenditures from investment companies are expected to be increase.

The risk management for construction projects of the Company has closely monitored the progress. By receive the reports from the contractors every week and hold meetings at the construction site to view the actual conditions of the project every month.

For the projects solar power plant under development, the Company has been monitoring the progress of the project periodically. The contractor will be consulted with the bank as a source of funding to ensure that, the company able to get a loan from the bank.

In order to manage the risk, the Company has entered into agreement with the developer to provide support until the starting commencement of commercial electricity distribution. The return that, the developer of the power plant project receives is based on the success of the project. The developers of the power plant project will oversee the development of the project in 4 sides. Details as follows:

1. To provide the professional partner who expertise in solar power plant construction through the evaluation process and the criteria selected by the company.
2. To manage the power plant construction and to obtain licenses to complete timely and consistent with the goals set forth by the power distribution commercially.
3. To recruit Japanese official who have the expertise in project management, controlling and maintenance of power plants after electricity commercially successful.
4. To manage and control the overall of projects, investment cost within the budget and also completion within the timeframe.



Refer that, the company proceeding the project management risks are monitored closely by the developer and the project developer is followed up in detail to ensure that the project is successful.

17.5.2 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 insurance, the company referring to a study conducted by Kyoritsu Insurance Brokers of Japan Co., LTD, a specialist in insurance to ensure that coverage is reasonable with the damage that happen.

17.5.3 Risk from Uncertain Power of Electricity Produced

The company has divided the risk into 2 types:

1. The risk of less than expected solar intensity

Due to solar power plants use the solar energy as a main factor in generating of electricity. The lower the intensity of light affect to the lower the amount of electricity produced. The project has lower revenue from electricity sales estimated.

In order to reduce this risk, the Company hired a technical advisor to calculate the average light intensity and bring the estimated and comparable values based on information from industry experts to reduce the risk.

2. Risks due to cell deterioration

The cell panels are the primary device for converting solar energy into electricity. By degraded cell panels, it provides the ability to convert sunlight into a drop of electricity. Even in the same light intensity. The power plant has decreased. That will result in revenue from sales and distribution of electricity.

In order to reduce this risk, the company has contracted with the contractor by ensuring the panel's performance guarantee. Which contractors that, is the responsibility to maintain a guaranteed value for the project.



17.5.4 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. So, the company manages the risk from selecting a contractor that will be the company that, has been accepted by the bank in Japan. The one of the conditions is that the company has experience in construction for a long time. The Company has also entered into a contract with the Company. An indemnity can be claimed for damages covered by the terms of claim compensation in accordance with industry standards.

17.5.5 Risk of Limited Power Purchase (Curtailment)

The limiting purchase of electricity, the company electricity sales can be reduced in volume, resulting in revenue from the sale of electricity. The policy on limiting the amount of electricity purchased in Japan can be categorized into 3 main policies, namely limiting the amount of electricity purchased in unlimited quantities. Limiting the purchase of electricity at 360 hours per year. And limiting the amount of electricity purchased at 30 days per year.

Due to the company that is not possible to predict the time. It will be limited to the purchase of power from an unlimited on the supply system. The company manages the risk by investing in projects that limit the amount of electricity purchased at 360 hours per year or 30 days per year only. To the company is possible to estimate the revenue from the distribution of electricity correctly.

17.5.6 Risk from fluctuation of exchange rate

Investing Consideration in a solar power plant project in Japan, for the Company is a fixed-rate of power purchase agreement. The Company considers that, the recognition of income in the Yen currency and the re-payment of a loan from a project loan in the same currency. It is considered as a protection of foreign exchange risk at 85% of project investment from using the same currency. The risk for investments in shareholders' equity at the rate of 15% will be the conversion of the financial statements from Yen to Baht, which will affect to the accounting records only. But without any effect on operating profit or loss in anyway.



18. Capital Structure and Shareholders

18.1 Capital

1) Common Stock

As of December 31, 2016, the Company had registered capital of THB 1,699,686,359.00 and had paid-up capital of THB 1,589,693,962.75 divided into 6,358,775,851 shares at par value of THB 0.25.

2) Warrants to purchase common shares of the Company

On August 19, 2015, as the Extra-Ordinary General Meeting of Shareholders No. 1/2015, the issuance of warrants to purchase ordinary shares of the Company No. 1 (GUNKUL-W) not exceeding 91,660,129 units at a par value THB 1.00 to the existing shareholders of the Company, the right to purchase new shares in proportion to the shares held by individual shareholders in the ratio of new shares allocated to existing shareholders 2 shares to 1 warrant unit the right to purchase one common share at the price of THB 27.00 per share exercise price and the exercise ratio may change in accordance with the conditions of adjustment and last up to two years from the date of issuance of the Warrants (date October 1, 2015). The date of the warrants 2 years of age and the last exercise date will coincide with the maturity date of the warrants which falls on September 29, 2017 (due on September 30, 2017 is a holiday), by the warrants will cease to be listed securities on the next working day.

As of March 31, 2016, 55 shareholders exercised the warrants at a par value THB 1.00; therefore, the number of unexercised warrants is 91,660,074 units.

On April 26, 2016, as the Annual General Meeting 2016 passed the approval resolution to change Company's par value from the par value of THB 1.00 to be THB 0.25 and approved the adjustment of purchasing right for the exercise of warrant No.1 (GUNKUL-W) due to the changing of par value of the Company. As 1 unit of warrant will be entitled to purchase 4.8 ordinary share at the price of 5.625 baht per share. However, On December, 2016, the warrants



have not been exercised during the quarter 4/2559 as a reserve for exercise of warrants. Therefore, the number of unexercised warrants is 91,660,074 units.

3) Bill of Exchange

As of December 31, 2016, the Company and subsidiaries have outstanding of Bill of Exchange as the following details:

Issuer	Aging	Outstanding (baht)
Kiatnakin Bank PCL	3-6 Months	2,010,000,000.00
KT ZMICO Securities PCL	3-6 Months	1,365,000,000.00
Capital Nomura Securities PCL	6 Months	200,000,000.00
Asia Plus Group Holdings PCL	6 Months	200,000,000.00
Phillip Securities (Thailand) PCL	6 Months	150,000,000.00
Total		3,925,000,000.00

4) Bond

In Domestic by unsecured and unsubordinated

Bond	Amount	Interest	Aging / Redemption Schedule
	(Million Baht)	Rate per year	
GUNKUL174A	300	Fixed interest rate of 3.60 percent (three point six zero).	Aging 1 year, 5 months, 29 days from the date of issuance. Maturity Date : April 28, 2017
GUNKUL190A	1,500	Fixed interest rate of 3.50 percent (three point five zero).	Aging 3 year from the date of issuance. Maturity Date : October 7, 2019
GUNKUL180A	130	Fixed interest rate of 3.37 percent (three point three seven).	Aging 1 year, 11 months, 17 days from the date of issuance. Maturity Date : October 1, 2018
GUNKUL180B	150	Fixed interest rate of 3.37 percent (three point three seven).	Aging 2 year, 1 days from the date of issuance. Maturity Date : October 22, 2018



18.2 Shareholders

Top ten major shareholders of the Company as of February 3, 2017, the latest closing date of share registration book is as the following.

No.	Shareholder Name	Share (s)	Percentage (%)
1.	Dhumrongpiyawut Family Group		
1.1	Gunkul Group Company Limited	3,166,165,200	49.792
1.2	Mr. Gunkul Dhumrongpiyawut	265,022,337	4.168
1.3	Miss Naruechon Dhumrongpiyawut	307, 996	0.005
Total Number of Share Holding by Dhumrongpiyawut Family Group		3,431,495,533	53.965
2.	Mr. Prakin Sricharoen	552,866,976	8.695
3.	Mr. Khanaphat Jirakasemphong	219,367,040	3.450
4.	Siam Commercial Bank Public Company Limited	199,200,000	3.133
5.	UOB KAY HIAN (HONG KONG) LIMITED - Client Account	185,447,360	2.916
6.	Miss Nanpapatr Piyapootinun	168,828,803	2.655
7.	Thai NVDR Company Limited	146,272,665	2.300
8.	CORE PACIFIC-YAMAICHI INTERNATIONAL (HK) LTD.	119,986,200	1.887
9.	Mr. Suraphong Triamchanchai	114,887,196	1.807
10.	Mr. Vichit Chinwongworakul	44,000,000	0.692
Total		5,182,351,773	81,499

Gunkul Group Company Limited is the holding company with paid-up capital of 110,000,000.00 baht as of February 3, 2017. Major shareholder is Dhumrongpiyawut family with 99.64% stake in Gunkul Group.

No.	Shareholder Name	Share (s)	Percentage (%)
1.	Dhumrongpiyawut Family Group		
1.1	Mr. Gunkul Dhumrongpiyawut	465,000	42.273
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 Share Holding by Dhumrongpiyawut Family Group		1,096,000	99.636
2.	Mr. Chaloepon Sricharoen	3,000	0.273
3.	Miss Nanpapatr Piyapootinun	1,000	0.091
Total		1,100,000	100.000



18.3 Dividend Payment Policy

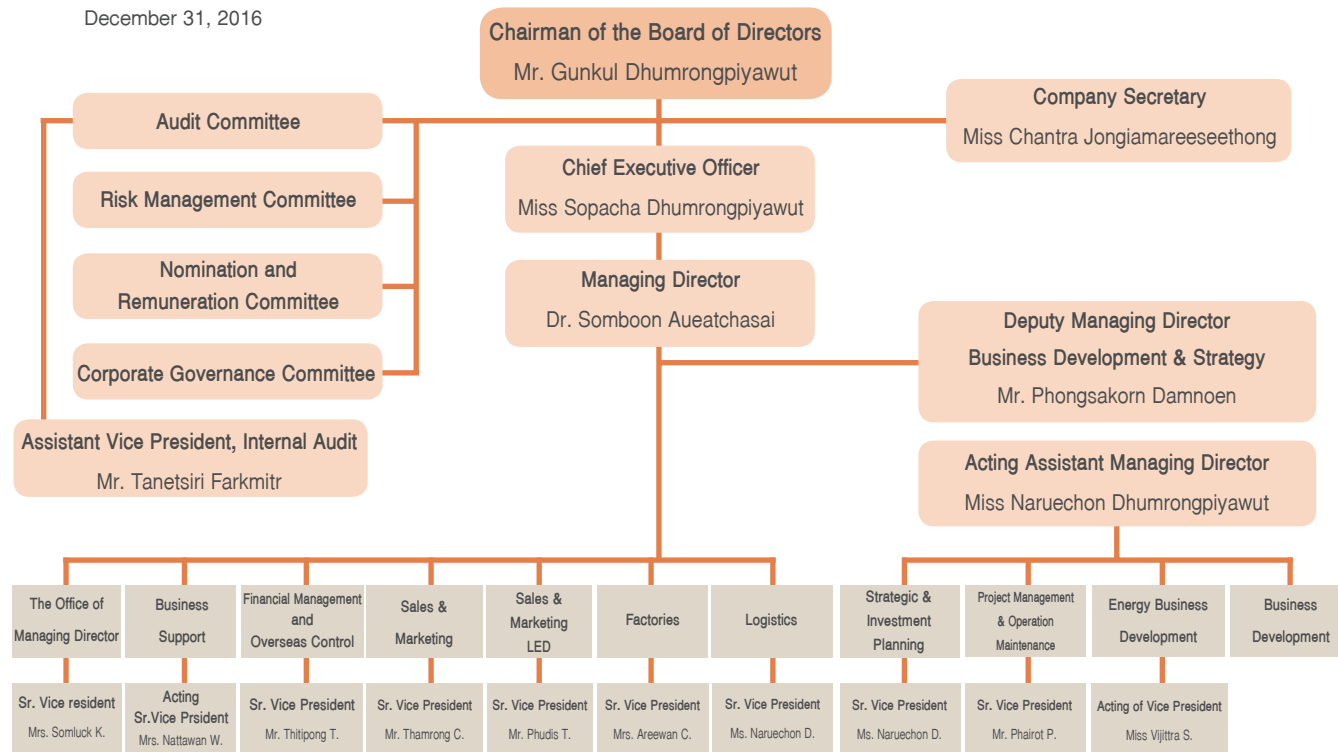
The Company has dividend payout ratio of at least 40% of net profit of the Company only (unconsolidated basis) in which net profit is after deducting corporate tax, legal reserve and other reserves. However, the Company may pay dividend less than mentioned above if necessity i.e. more working capital 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.



19. Management Structure

December 31, 2016



The Company's management structure comprises of board of directors, board committees and executives in which board of directors comes from independent directors, non-executive directors and executive directors. Independent directors represent one third of board of directors.

19.1 Board of Directors

As of December 31, 2016, board of directors comprised of nine persons as follows;

Name list	Position
1. Mr. Gunkul Dhumrongpiyawut	Chairman of the Board of Directors
2. Dr. Djitt Laowattana	Independent Directors
	Chairman of the Audit Committee
3. Pol.Maj.Gen. Visit Sukarasep	Independent Directors
	Chairman of the Nomination and Remuneration Committee
	Member of the Audit Committee
4. Dr. Chongrak Rarueysong	Independent Directors
	Chairman of the Good Corporate Governance Committee
	Member of the Audit Committee
5. Miss Sopacha Dhumrongpiyawut	Director
	Chairman of the Executive Committee / CEO
	Member of the Risk Management Committee
6. Dr. Somboon Aueatchasai	Director and Secretary of the Board of Directors
	Executive Director
	Managing Director
7. Miss Naruechon Dhumrongpiyawut	Director
	Executive Director
8. Mr. Chaloempon Sricharoen	Director
	Executive Director
9. Mrs. Areewan Chaloemdan	Director
	Executive Director
10. Miss Chantira Jongjamareeseethong	Company Secretary



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 two signatures from Mr. Somboon Aueatchasai or Mrs. Areewan Chaloeandan or Mr. Chaloeampon Sricharoen and then gets the Company's stamp.

Or Mrs. Areewan Chaloeandan, Mr. Chaloeampon Sricharoen and Mr. Somboon Aueatchasai all sign their names and get the Company's stamp.

Scope of Authority and Responsibility of Board of Directors

(Cited by "Board of Directors Charter")

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 chairman of the executive board 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 recruitment 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

(Cited by "Role, Authority, Duty and Responsibility of the Chairman, Chief Executive Officer and Managing Director")

- 1) The Chairman of the board of directors and the Chief executive officer 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.



19.2 Executives

As of December 31, 2016, there were 22 executives as follows:

Name list	Position
1. Miss Sopacha Dhumrongpiyawut	Chief Executive Officer
2. Dr. Somboon Aueatchasai	Managing Director
3. Mr. Phongsakorn Damnoen	Deputy Managing Director, Business Development & Strategic Planning
4. Miss Naruechon Dhumrongpiyawut	Acting Assistance Managing Director, Business Development & Strategic Planning Senior Vice President, Strategic Planning and Investment Senior Vice President, Logistics
5. Mrs. Areewan Chaloezman	Senior Vice President, Factory
6. Mrs. Somluk Kanuenghet	Senior Vice President, Executive Office
7. Mr. Thamrong Chankraithong	Senior Vice President, Sales & Marketing
8. Mr. Phudis Triwilaskul	Senior Vice President, Sales & Marketing-LED
9. Mr. Thitipong Techaratanyuenyong	Senior Vice President, Financial Management and Overseas Control, CFO
10. Mr. Phairot Phanukan	Senior Vice President, PM & OM
11. Mrs. Nattawan Wongchan	Acting Senior Vice President, Business Support
12. Mr. Janpon Ngamaroonchote	Acting Senior Vice President, Strategic Planning and Investment
13. Miss Chantira Jongjamareeseethong	Acting Senior Vice President, Office of Managing Director & Investor Relations
14. Mr. Chaloepon Srichaen	Vice President, Sales & Marketing
15. Ms. Vajittra Saengpredekor	Vice President, Energy Business Development
16. Ms. Suttirat Tangnorakul	Acting Vice President, Business Support Department (Accounting)
17. Ms. Kullawee Saenchaiakorn	Assistant Vice President, Financial Management and Overseas Control
18. Mr. Tanetsiri Farkmitr	Assistant Vice President, Internal Audit
19. Mr. Thanapat Wonghirulchayathorn	Assistant Vice President, Business Support Department (Technology)
20. Ms. Warinthip Rosarpitak	Assistant Vice President, Strategic Planning and Investment
21. Mr. Triditi Boonyayone	Acting Assistance Vice President, Energy Business Development
22. Ms. Vanita Limmaneeprasert	Acting Assistant Vice President, Strategic Planning and Investment



Role, Authority, Duty and Responsibility of the Chief Executive Officer

(Cited by "Role, Authority, Duty and Responsibility of the Chairman, Chief Executive Officer and Managing Director")

The board of directors of the company has assigned the chief of 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")

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.



Succession Plan and Talent Management Policy

(Cited by "Policy: Succession Plan and Talent Management")

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 Recruitment 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 Chairman of the executive board

To recruit/select and arrange the succession plan while the Recruitment and Remuneration Committee will prepare the succession plan in the level of managing director and Chairman of the executive board for presentation to the board of directors of the company for consideration. To recruit and select the executives of the company, the Recruitment and Remuneration Committee will monitor the succession plan when the executive posts in the level of the Chairman of the executive board/managing director are vacant or the person in the such post is unable to perform his duty. The company will arrange the system that the similar executive or the deputy post will take care of such post until the recruitment and selection of person with qualifications in accordance with the criteria of the company has been completed and such person shall possess the vision, knowledge, competence, experience suitable to the organization culture and the Recruitment and Remuneration Committee will recruit the persons for submission to the board of directors of the company for approval and appointment such suitable person to take such post.

Primary qualifications of the managing director and the chairman of the executive board

1. Graduated with at least bachelor degree
2. Experience in the management in the level of the line director or upper
3. Leadership and long-term vision
4. Competence in strategic planning and organization management



5. Careful decision and problem solving with consideration of the maximum benefits of the organization

1.2. Executive level from the deputy line supervisor to the vice managing director

If the executive post from the deputy line supervisor to the vice managing director 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 board and/or the Human Resource Committee appointed. The succession plan of the executive level of the company is as follows.

- 1.2.1 To analyze the business operation of the company in terms of policy, investment plan and expansion plan.
- 1.2.2 To assess the human resource availability in congruent with the strategy of the company, both short-term and long-term.
- 1.2.3 To determine the human resource availability through development of human resource or recruitment of personnel to replace the leaving employees.
- 1.2.4 To arrange the recruitment plan and employee training and development plan in advance of retirement or early resignation of the employees.
- 1.2.5 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.
- 1.2.6 To select, assess performance and potential of the employees to ensure suitability.
- 1.2.7 To employ the test and assess the personnel to determine the potential of the employees.
- 1.2.8 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.
- 1.2.9 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 chairman of the executive board 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 Chairman of the executive board and managing director.

19.3 Authorization for Credit Limit

(Cited by "Policy: Transaction measures with the related and non-related persons and table of approval authority")

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. 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.

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.

19.4 Company Secretary

Board of directors' meeting (13/2008) dated on October 27th, 2008 approved appointment of Miss Chantira Jongjamreeseethong as Company Secretary, effective since October 27th, 2008. Such person has education, knowledge, 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. In order 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.

19.5 Remuneration of Committee and Directors

19.5.1 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. Director who gets assignment to be in audit committee and executive committee will get more compensations as more works loaded.

Policy: Remuneration Determination for all Committees

"Remuneration determination policy for all committees" is prepared to serve as a framework and guideline in remuneration determination for each committee. 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

To reflect the duties, responsibility and mission of the committees, the components of remuneration determination are composed of the followings;

- Meeting attendance fee
- Annual remuneration
- Bonus or other similar remunerations

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;

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

Remuneration for directors and sub-committee comprises of meeting fee and annual compensation details are as follow;



Remuneration

Position	Board of Directors	Audit Committee	Good Corporate Governance Committee	Risk Management	Nomination and Remuneration Committee	Management Committee
1. Chairman	20,000	20,000	12,500	12,500	12,500	7,500
2. Member	17,000	17,000	10,000	10,000	10,000	5,000
3. Secretary of Committee	5,000	5,000	5,000	5,000	5,000	-

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	500,000	240,000	100,000	100,000	100,000	500,000
2. Member	200,000	200,000	50,000	50,000	50,000	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.



Bonus Remuneration Fee

Position	Good	Corporate		Nomination and		
	Board of	Audit	Governance	Risk	Remuneration	Executive
	Directors	Committee	Committee	Management	Committee	Committee
1. Chairman of the Board	<u>Criteria of Bonus Payment</u>					
2. President	1. Not exceeding 1 percent of total comprehensive income attributable to Equity holders of separated financial statement of the Company.					
3. Chairman of Any Committee	1.1 <u>Deduct</u> Gain from foreign exchange before tax					
<u>Except</u>	1.2 <u>Deduct</u> Gain from asset divestment before tax					
Chairman of the Board and	1.3 <u>Deduct</u> Revenue or profit from special income before tax					
President	1.4 If director is in committee more than one committee, the bonus payment from the committee that receive the highest payment.					
4. Managing Director	2. Calculation:					
5. Management Directors	2.1 Fixed bonus payment in amount of THB 1,500,000 for Chairman of the Board of Director.					
6. Director of	2.2 Total bonus of each committee					
Any Committee	Total amount from No. 1 - Total amount from No. 2.1 is equal to balance of bonus which will be paid the Director by considering the number of attendance from meeting of each committee divided by total number of meeting from every committees as shown in formula as follows:					
<u>Except</u>	$A = (\text{Total amount from No. 1} - \text{Total amount from No. 2.1}) \times \text{Number of attendance from meeting of each committee}$					
Management Directors	$\text{Total number of meeting from every committees}$					
	2.3 Individual Bonus for each committee					
	$\text{Individual Bonus} = \text{Total bonus of each committee (A)} / \text{number of member in each committee}$					

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

1.	Chairman of the Board of Directors	Maximum Payment	THB	2,500,000
2.	President	Maximum Payment	THB	1,800,000
3.	Chairman of any committee	Maximum Payment	THB	1,000,000
	(Except: Chairman of the Board of Director and President)			
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.



Board of Directors and sub-committees have scheduled meetings throughout the year, usually on a quarterly and special meetings 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 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.

For 2015 and 2016, the directors' remuneration totaled 9,709,790.00 Baht and 7,264,000.00 respectively. Details of the remuneration and attendance of each director are summarized as follows:



In 2015 and 2016, the directors' remuneration totaled Baht 9,709,790.00 and Baht 7,264,000.00 respectively, details of remuneration and attendance of each director. Summarized as follows

		Total number of years in current tenure (December 31, 2016)						
		Starting Date	Board of Directors	Risk Management and Audit Committee	The Nomination and Remuneration Committee	Corporate Governance Committee	Executive Committee	Date Resignation
No.	Name List	Position						
Directors and sub-committees								
1.	Mr. Gunkul Dhumrongpiyawut	August 10, 2009 ²⁾	7 years 5 months					
2.	Dr. Djitt Laowattana ¹⁾	August 18, 2014 ³⁾	2 years 5 months	2 years 5 months				
3.	Pol. Maj.Gen. Visit Sukarasep ¹⁾	August 10, 2009 ²⁾	7 years 5 months	7 years 5 months		7 years 5 months		
4.	Dr. Chongrak Rarueysong ¹⁾	July 3, 2015 ³⁾	1 year 6 months	1 year 6 months			1 year 6 months	
5.	Miss Sopacha Dhumrongpiyawut	August 10, 2009 ²⁾	7 years 5 months		7 years 5 months			7 years 5 months
6.	Dr. Somboon Aueatchasai	June 9, 2010	6 years 7 months					6 years 7 months
7.	Miss Naruechon Dhumrongpiyawut	August 10, 2009 ²⁾	7 years 5 months					7 years 5 months
8.	Mrs. Areewan Chaloezman	August 10, 2009 ²⁾	7 years 5 months					7 years 5 months
9.	Mr. Chaloezman Srichaoen	August 10, 2009 ²⁾	7 years 5 months					7 years 5 months
10.	AVM.Dr.Plan Totarong ¹⁾	November 9, 2012			4 years 2 months			
11.	Mr. Somchai Trairatanapirom ¹⁾	June 22, 2015 / February 25, 2013			1 year 7 months		3 years 11 months	
12.	Mr. Thitipong Techaratanyuenyong	November 12, 2014			2 years 2 months			
13.	Mr. Decha Chooligorn ¹⁾	November 9, 2012				4 years 2 months		
14.	Mr. Hathai Uthai ¹⁾	November 12, 2015				1 year 2 months		
15.	Mrs. Somluk Kanuenghet	August 10, 2009				7 years 5 months		
16.	Mr. Phongthep Thitapan ¹⁾	February 25, 2013					3 years 11 months	
Directors resigned during 2016, receive compensation								
- No -								
Directors resigned during 2015, receive compensation								
1.	Mr. Sathaporn Khoteeranuruk ¹⁾	August 10, 2009 ²⁾						May 25, 2015
2.	Mr. Charan Lertteerapo ¹⁾	November 9, 2012						November 12, 2015



Summary of compensation Number of meetings And the number of attendance Of each board (continued)

No. Name List		Attendance of various committees													
		The number of months Holding positions		Board of Directors		Audit Committee		Risk Management Committee		Nomination and Remuneration Committee		Corporate Governance Committee		Executive Committee ⁴⁾	
		2015 (Month)	2016 (Month)	2015 (15 Times)	2016 (9 Times)	2015 (9 Times)	2016 (5 Times)	2015 (6 Times)	2016 (6 Times)	2015 (4 Times)	2016 (4 Times)	2015 (4 Times)	2016 (6 Times)	2015 (56 Times)	2016 (30 Times)
Directors and sub-committees															
1.	Mr. Gunkul Dhumrongpiyawut	12	12	15/15	9/9										
2.	Dr. Djitt Laowattana ¹⁾	12	12	15/15	9/9	9/9	5/5					2/2			
3.	Pol. Maj.Gen. Visit Sukarasep ¹⁾	12	12	15/15	9/9	8/9	5/5			4/4	4/4				
4.	Dr. Chongrak Rarueysong ¹⁾	6	12	8/8	9/9	5/5	5/5					2/2	6/6		
5.	Miss Sopacha Dhumrongpiyawut	12	12	15/15	9/9			6/6	6/6					56/56	30/30
6.	Dr. Somboon Aueatchasai	12	12	15/15	9/9									56/56	30/30
7.	Miss Naruechon Dhumrongpiyawut	12	12	13/15	9/9									55/56	30/30
8.	Mrs. Areewan Chaloeandan	12	12	15/15	9/9									56/56	30/30
9.	Mr. Chaloeumon Srichaoren	12	12	15/15	9/9									56/56	30/30
10.	AVM.Dr.Pian Tatarong ¹⁾	12	12					6/6	6/6						
11.	Mr. Somchai Trairatanapirom ¹⁾	12	12					2/2	6/6			4/4	6/6		
12.	Mr. Thitipong Techaratanayuenyong	12	12					6/6	6/6						
13.	Mr. Decha Chooligorn ¹⁾	12	12							4/4	4/4				
14.	Mr. Hathai Uthai ¹⁾	2	12							4/4	4/4				
15.	Mrs. Somluk Kanuenghet	12	12							4/4	4/4				
16.	Mr. Phongthep Thitapan ¹⁾	12	12									4/4	6/6		
Directors resigned during 2016, receive compensation															
- No -															
Directors resigned during 2015, receive compensation															
1.	Mr. Sathaporn Khoteeranuruk ¹⁾	5	-	7/7		4/4		2/2							
2.	Mr. Charan Lertteerapoj ¹⁾	2	-							4/4					



Summary of compensation Number of meetings And the number of attendance Of each board (continued)

No. Name List		Annual compensation of 2015 ⁵⁾			Annual compensation of 2019 ⁵⁾		
		(Meeting allowance, Annual compensation, Bonus (if applicable))			(Meeting allowance, Annual compensation, Bonus (if applicable))		
		Board of Directors ³⁾	Sub-Committee	Total Compensation	Board of Directors ³⁾	Sub-Committee	Total Compensation
Directors and sub-committees							
1.	Mr. Gunkul Dhumrongpiyawut	2,198,790.00	-	2,198,790.00	660,000.00	-	660,000.00
2.	Dr. Djitt Laowattana ¹⁾	438,000.00	471,411.29	909,411.29	353,000.00	340,000.00	693,000.00
3.	Pol. Maj.Gen. Visit Sukarasep ¹⁾	438,000.00	486,000.00	924,000.00	353,000.00	435,000.00	788,000.00
4.	Dr. Chongrak Rarueysong ¹⁾	250,201.18	268,630.13	518,831.31	353,000.00	460,000.00	813,000.00
5.	Miss Sopacha Dhumrongpiyawut	438,000.00	655,000.00	1,093,000.00	353,000.00	625,000.00	978,000.00
6.	Dr. Somboon Aueatchasai	558,000.00	230,000.00	788,000.00	448,000.00	210,000.00	658,000.00
7.	Miss Naruechon Dhumrongpiyawut	421,000.00	225,000.00	646,000.00	353,000.00	210,000.00	563,000.00
8.	Mrs. Areewan Chaloemdan	438,000.00	230,000.00	668,000.00	353,000.00	210,000.00	563,000.00
9.	Mr. Chaloepon Srichaen	438,000.00	230,000.00	668,000.00	353,000.00	210,000.00	563,000.00
10.	AVM.Dr.Plan Totarong ¹⁾	-	175,000.00	175,000.00	-	175,000.00	175,000.00
11.	Mr. Somchai Trairatanapirom ¹⁾		148,550.30	148,550.30	-	220,000.00	220,000.00
12.	Mr. Thitipong Techaratanayuenyong		165,000.00	165,000.00	-	165,000.00	165,000.00
13.	Mr. Decha Chooligorn ¹⁾		90,000.00	90,000.00	-	90,000.00	90,000.00
14.	Mr. Hathai Uthai ¹⁾		6,830.60	6,830.60	-	90,000.00	90,000.00
15.	Mrs. Somluck Kanuenghet		135,000.00	135,000.00	-	135,000.00	135,000.00
16.	Mr. Phongthep Thitapan ¹⁾		90,000.00	90,000.00		110,000.00	110,000.00
Directors resigned during 2016, receive compensation							
- No -		-	-	-			
Directors resigned during 2015, receive compensation							
1.	Mr. Sathaporn Khoteeranuruk ¹⁾	187,798.82	224,408.28	412,207.10	-	-	
2.	Mr. Charan Lertteerapoj ¹⁾	-	73,169.40	73,169.40	-	-	
		5,805,790.00	3,904,000.00	9,709,790.00	3,579,000.00	3,685,000.00	7,264,000.00

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 will pay annual compensation once a year. The annual remuneration for 2015 will be paid in 2016. And for annual remuneration in 2016, the Company will pay all in 2017

⁵⁾ This is the annual meeting allowance and annual remuneration that, the Executive Committee receives from attending the meeting and holding the position of Executive Director. In 2015, 5 Executive Directors and Executive Directors who are Executive Directors will not be elected. The total meeting allowance will be 1,370,000.00 Baht. In 2016, five executive committee members do not wish to receive the total meeting allowance of 770,000.00 Baht

(2) Remuneration for Management Executive

In 2015, the Company had 19 executives, 4 were executives and directors and 15 were executives only.

In 2016, the Company had 22 executives, 4 were executives and directors and 18 were executives only. Remuneration payment is as follow;

(Unit : Baht)

Remuneration to management	Executives and Directors				Executive Only			
	2015		2016		2015		2016	
	No. of persons	Remuneration	No. of persons	Remuneration	No. of persons	Remuneration	No. of persons	Remuneration
Total salary	4	15,270,000	5	23,014,412.29	15	12,743,133.34	17	30,703,195.17
Total bonus	4	3,596,250	5	7,207,000.00	15	2,009,512.50	17	16,246,607.50
Total	4	18,866,250		30,221,412.29	15	14,752,645.84		46,949,802.67

19.5.2 Non-cash remuneration

- None -

19.6 Personnel

- Total employees of the Company and subsidiaries as of December 31, 2016. The total number of employees is 709 persons, classified by type and employee level, as of 2014, 2015, and 2016, details are as follow;

Number of Employees		Number of Employees Each Year		
		2014	2015	2016
Total Employees		552	635	709
	Monthly employees	415	526	583
	Daily employees	137	109	126
Number of Employees Classified by Employment Category				
	Permanent Employees	482	553	599
	Contract Employees	70	82	110
Number of Employees Classified by Sex				
	Male	331	390	440
	Female	221	245	269



Number of Employees	Number of Employees Each Year		
	2014	2015	2016
Number of Employees Classified by Employment Level			
Executive	17	25	25
Manager	34	48	56
Head Dept./Unit	74	77	78
Starter-Middle level Employee	195	291	312
Operational Employee	232	194	238

2. Employee remuneration

- In 2016, cash remuneration of employees of the Company and subsidiaries comprised of salary, bonus and provident fund with combined amount of 296,032,275.45 baht

Unit : Baht	2015	2016
Salary	239,368,374.84	262,180,555.10
Bonus	18,048,064.18	24,511,401.16
Provident Fund	6,438,249.92	9,340,319.19
Total	263,854,688.94	296,032,275.45

- 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.

3. Labor dispute over the past three years

- None -

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, the Company group continuously supports 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.





20. Details of the Board of Directors and Executives

20.1 Details of Directors and Executives

Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
1. Mr. Gunkul Dhumrongpiyawut Director with Authority to sign on behalf of the Company Chairman of the Board of Directors Non-Executive Director (10 th August 2009) ¹⁾	62	7 years 5 months (Director)	<ul style="list-style-type: none"> - Honorary Master of Engineering Western University in 2010 - Leader Program 15/2012 Capital Market Academy - Director Certification Program (DCP) 111/2008 - Thai Institute of Director (IOD) - Director Accreditation Program (DAP) 70/2008 - Thai Institute of Director (IOD) - Managing Finance for Business Owners by Peter Ho - Secrets to Doubling Your Sales, Productivity & Profits Programme Training in 2016 - 	4.168	Husband of Miss Sopacha Dhumrongpiyawut and Father of Miss Naruechon Dhumrongpiyawut	2012-Present 1982-2012 1991-Present 1996-Present 2000-Present 1994-Present 2009-2013	Chairman of the Board of Directors President Director Director Director Director Director	Gunkul Engineering Public Company Limited Gunkul Engineering Public Company Limited Gunkul Group Company Limited Gunkul Marine Line Company Limited Gunkul Engineering (2000) Company Limited G.M. Supply and Construction Company Limited Gunkul Powergen Company Limited

Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
				Period		Position	Company	
2. Dr. Djitt Laowattana Company Director - Independent Director Chairman of the Audit Committee (18 th August 2014) ²⁾	55	2 years	- Bachelor of Engineering (Hons)	0.023	None	2015-Present	Chairman of the Audit Committee	Gunkul Engineering Public Company Limited
		5 months (Director)	King Mongkut's University of Technology Thonburi			2014-Present	Member of the Audit Committee/Independent Director	Gunkul Engineering Public Company Limited
			- precision Mechanics Kyoto University Japan			2014-2015	Chairman of Good Corporate Governance Committee	Gunkul Engineering Public Company Limited
			- Ph.D., Carnegie Mellon University, USA. (With two US patents: (1) Curve Controlling Apparatus for Endoscopic			2012-Present	Technology consultant	Siam Commercial Bank
			Conduits (2) A Mechanism for Assembly of Non-Axisymmetric Rigid Parts)			2010-Present	Director	Thai Engineering Company Limited
			- Certificate in Management of Technology and Innovation Massachusetts Institute of Technology (MIT), USA.			2005-Present	Confucius scholars the "brainchild".	Thai TV3
			- Finance for Non-Finance Director			2004-Present	Consultant	Robotics Society Thailand
			Thai Institute of Director (IOD)			2002-Present	Chairman of the Technical Committee	ABU RoboCon (Thailand)
			- Understanding the Fundamental of Finance Statement			2010-2011	Director and Audit Committee	TOT PUBLIC COMPANY LIMITED
			Thai Institute of Director (IOD)			2009-2011	Director, Risk Management Director And Executive Director of Information Technology.	Government Saving Bank
			- Director Certification Program (DCP) 93/2007			2008-2009	Assistant Director	National Electronics and Computer Technology Center
			Thai Institute of Director (IOD)			2008-2011	Director of the hard disk drive.	National Science and Technology Development Agency
			- Roles of Chairman Program, 19/2008			2008-2011	Directors and Audit Committee	KTB Computer Services Company Limited
			Thai Institute of Director (IOD)			2007-2008	Director / Chairman of the Finance Committee	TOT PUBLIC COMPANY LIMITED
			- Audit Committee Program, 29/2009			2007-2008	Director	ADC Company Limited
			Thai Institute of Director (IOD)			2007-2008	Consultant	Minister of Information and Communications Technology.
			- Monitoring the System of Internal and Risk Management, MIR 7/2009			2006-2007	Director	Thai National Grid Center
			Thai Institute of Director (IOD)			2006-2012	Director	National Research Council of Thailand (NRCT)
			- Monitoring Fraud Risk Management, MFM 1/2009			2006-2007	Director	Bangkok Crstal Company Limited
			Thai Institute of Director (IOD)					



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
2. Dr. Djitt Laowattana (continued)			<ul style="list-style-type: none"> - Monitoring Financial Reporting, MFR 9/2009 Thai Institute of Director (IOD) - Monitoring Internal Audit Function, MIA 7/2009 Thai Institute of Director (IOD) - Regulatory skills for directors and senior management of enterprises and public organizations, 3/2010. Public Director Institute - Financial Institutions Governance Program, FGP 3/2011 Thai Institute of Director (IOD) - Leader Program 15/2012 Capital Market Academy Training in 2016 -					
3. Pol.Maj.Gen. Visit Sukrasep	61	7 years	- Bachelor Degree in Public Administration	-	None	2012-Present	Chairman of the Nomination and Remuneration Committee	Gunkul Engineering Public Company Limited
Company Director -		5 months	Royal Police Cadet Academy			2009-Present	Member of the Audit Committee/Independent Director	Gunkul Engineering Public Company Limited
Independent Director		(Director)	- Management Course for Higher Rank Police 28			2014-2015	Commander	Chumphon Provincial Police Station, Ranong Province
Member of the Audit Committee			- Course for Superintendent 31			2013-2014	Commander	Ranong Provincial Police Station, Ranong Province
Chairman of the Nomination and Remuneration Committee			- Director Accreditation Program (DAP) 78/2009 Thai Institute of Director (IOD)			2013-2013	Commander	Administrative and Civil Affairs Division, Royal Thai Police
(10 th August 2009) ¹⁾			Training in 2016 -			2006-2012	Deputy Commander	Administrative and Civil Affairs Division, Royal Thai Police
						2005-2006	Superintendent	Administrative and Civil Affairs Division, Royal Thai Police



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
3. Pol.Maj.Gen. Visit Sukarasep (continued)						2000-2005	Superintendent (Disciplinary Development)	Disciplinary Division, Royal Thai Police
						1998-2000	Deputy Superintendent (Penalty Solicitor)	Disciplinary Division, Royal Thai Police
						1997-1998	Deputy Superintendent	Nongyasai District Provincial Police Station, Supanburi Province
						1992-1994	Chief of Police	Nongyasai District Provincial Police Station, Supanburi Province
4. Dr. Chongrak Rarueysong Company Director - Independent Director Member of the Audit Committee Chairman of Good Corporate Governance Committee (3 rd July 2015) ⁴⁾	63	1 years	- Ph.D., Economics	-	None	2015 -Present	Chairman of the Good Corporate Governance Committee	Gunkul Engineering Public Company Limited
		6 months	University of Illinois at Urbana - Champaign, U.S.			2015 -Present	Member of the Audit Committee/Independent Director	Gunkul Engineering Public Company Limited
		(Director)	- Bachelor of Economics (Hons) Thammasat University			2015 -Present	Chief Executive Group	Apple Wealth Securities Public Company Limited
			- Economic Statistics, United Nations			2004-2014	Director and Chairman of the Audit Committee	KTb Computer Services Company Limited
			- Public Finance, International Monetary Fund			2002-2003	Director and Audit Committee	PTT Public Company Limited
			- Securities Market, U.S. Securities and Exchange Commission			2001-2002	Director	Petroleum Authority of Thailand
			- Directors Certification Program (DCP) 14/2002			2004-2007	Director	Thai Bond Dealing Centre
			Thai Institute of Director (IOD)			1998-2007	Director	Thailand Securities Institute
			- Effective Audit Committee 4/2002			1998-2007	Director	TRIS Corporation Limited
			Thai Institute of Director (IOD)			1998-2009	Director and Executive Director	Thai Securities Finance Company Limited
			- Japan Capital Market, Japan Securities Dealers Association			1996-2012	President	Association of Thai Securities Companies
			Training in 2016			1996-2012	President	ASCO Training Institute
			-			1995-1996	Managing Director	Vachira Dhanadun Securities Company Limited
						1992-1995	Director of Research and Development	The Stock Exchange of Thailand
						1991-1992	Assistant Vice President, Research Office	Dhana Siam Finance and Securities Public Company Limited
						1983-1991	Senior Specialist	- Loan Policy Division - Fiscal and Tax Policy Division Fiscal Policy Office, Ministry of Finance



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
5. AVM.Dr.Pian Totarong Chairman of the Risk Management Committee (Non-Executive Risk Management Committee) (9 th November 2012)	62	4 years 2 months (RMC)	- Ph.D.in Electrical Engineering University of Pittsburgh, USA. (Supreme Command HQ Scholarship)	-	None	2013-Present	Chairman of The Risk Management Committee	Gunkul Engineering Public Company Limited
			- M.S. in Electrical Engineering, Ohio University, USA. (Supreme Command HQ Scholarship)			2016-2017	Laboratory Consultant	Ministry of Industry and Trade - Lao PDR
			- B.Sc. (Honours) in Physics Mahidol University (Ministry of Defence Scholarship)			2014-2015	Metrology Center Consultant	Department of Standardization and Metrology - Lao PDR
			- Air War College, Royal Thai Air Force, Class No. 31			2012-2013	Member of The Risk Management Committee	Gunkul Engineering Public Company Limited
			- National Defence College, Class No. 48			2012-2013	Advisor (Quality System Development)	Food and Drug Quality Control Center, Ministry of Public Health, Lao PDR
			- Director Certification Program (DCP 120/2009) Thailand Institute of Director (IOD)			2003-2011	Director of National Institute of Metrology (Thailand)	Ministry of Science and Technology
			- Advanced Defence Management, Class No. 1 Association of National Defence College Training in 2013			2001-2003	Director of Science & Technology R&D Division	Military R&D Center, Supreme Command HQ
			- Quality Systems Assessment Program ISO/IEC 17025 Office of Industrial Standards			1997-2001	Director of Communication & Electronic R&D Division	Military R&D Center, Supreme Command HQ
			- Technical Assessment Program Professional Qualification Institute (Public Organization)			1993-1997	Deputy Director of Communication & Electronic R&D Division	Military R&D Center, Supreme Command HQ
			- Human Resources Certification Course ISO/ IEC 17024 Management System Certification Institute Training in 2016			1980-1993	Researcher (Communication Systems and Electronic Warfare Systems)	Military R&D Center, Supreme Command HQ
			-			Experience as Director (domestic)		
			-			2015-Present	Director, Board of Appeal Committee	Central Bureau of Weights and Measures
			-			2015-Present	Director, Board of National Standards Committee	
			-			2004-Present	Director, Metrology Association of Thailand	
			-			2007-2015	Director of Thai Biomedical Engineering Research Association	
			-			Experience as a System Development Consultant ISO/IEC 17025		
			-			2016	Calibration Laboratory - Olshi Co., Ltd.	
			-			2015-2016	Transformer Testing Laboratory - Thai Maxwell electric Co., Ltd.	
			-			2014-2015	Metrology center, Department of Standardization and Metrology - Lao PDR	
			-			2013-2014	Sanitary Ware Testing Laboratory - Mogen Co., Ltd.	
			-			2012-2013	Laboratory of drug analysis, Food and Drug Quality Control Center - Lao PDR	



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
6. Mr. Decha Choolgorn Member of the Nomination and Remuneration Committee (Non Executive Nomination and Remuneration Committee) (9 th November 2012)	54	4 years 2 months (NRC)	<ul style="list-style-type: none"> - MBA Marketing and Finance Case Western Reserve University, USA Year 1988 - BA Economics, Thammasat University - 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 - Training in 2016 - 	-	None	2012-Present	Member of the Nomination and Remuneration Committee	Gunkul Engineering Public Company Limited
						2005-Present	Managing Director	Integrated Management Consultant Co., Ltd.
						2003-2005	Assistant Managing Director	Thai Rung Union Car Public Company Limited
						2001-2003	Deputy Managing Director	Advance Power Supply Public Company Limited
7. Mr. Hathai Uthai Member of the Nomination and Remuneration Committee (Non Executive Nomination and Remuneration Committee) (12 th November 2015)	62	1 year 2 months (NRC)	<ul style="list-style-type: none"> - Bachelor of Engineering (Mechanical). Khonkaen University - Bachelor of Laws - Thammasat University - Management of public and private programs. National Institute of Development Administration - Training in 2016 - 	-	None	2012-Present	Member of the Nomination and Remuneration Committee	Gunkul Engineering Public Company Limited
						2014-2015	Secretary General of the Thai Industrial Standards Institute	Thai Industrial Standards Institute
						2013-2014	The Ministry of Industry	Ministry of Industry
						2012-2013	Deputy director Office of Industrial Economics Ministry of industry	Ministry of Industry
						2008-2012	Deputy Secretary General of the Thai Industrial Standards Institute Ministry of industry	Ministry of Industry



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
8. Mr. Somchai Trairatanirom Member of the Good Corporate Governance Committee (25 th February 2013) Member of the Risk Management Committee (22 nd June 2015) Non-Executive Good Corporate Governance Committee and Risk Management Committee	56	3 years	- Doctor's Degree, Faculty of Monetary Economics Gobe University, Japan (Governing Japanese Scoolarship)	-	None	2015-Present	Member of the Risk Management Committee	Gunkul Engineering Public Company Limited
		11 months	(Governing Japanese Scoolarship)			2013-Present	Member of Good Corporate Governance Committee	Gunkul Engineering Public Company Limited
		1 year	- Maseter Degree, Faculty of Economics			2013-Present	Deputy Managing Director	Institute of Research and Development for Public Enterprises (IRDP)
		7 months	(International Finance and Banking)			1998-Present	CEO-Leadership Succession Program(LSP))	State Enterprise Policy Office, Ministry of Finance
		(RMC)	Thammasart University				Team Leader/Specialist/Advisor, Performance Appraisal of State Enterprises	
			- Bachelor Degreee, Faculty of Economics			2012-Present	Member of Sub-Committee, Appraisal of Good Corporate Govanance	Thai Health Promotion Foundation
			(International Finance, Banking and Marketing)			2009-2012	Advisor, Project of Certificate Issuing and Annual Performance Appraisal for Governor	Office of The Attorney General
			Thammasart University			2012-2013	Advisor, Performance Controlling along with Appraisal System in quality of State Enterprises	State Enterprise Policy Office, Ministry of Finance
			- Advanced Certificate Course in Public Administration and Public Law (PorRorMor 4)			2008-2012	Deputy Managing Director	Tris Coporation Company Limited (TRIS)
			- Certificate of the Program on Management of Technology The Association for Overseas Technical Scholarship			2011-2012	Advisor, Follow-up and Project Appraisal - Development Policy Loan 2012, Area 4 North-East of Thailand	Public Debt Management Office, Ministry of Finance
			(Scholarship AOTS), Japan			2011-2012	Advisor, Competency Development in KPI and Appraisal Determination	International Institute for Trade and Development (Public Organization)
			Director Certification Program (DCP 118/2552)			2011-2012	Advisory, Risk Management and Internal Audit	National Innovation Agency (Public Organization)NIA,
			Thai Institute of Director (IOD)			2010-2011	Advisory, Cost Analysis and NGV Price Determination	Petroleum Institute of Thailand (PTIP)Energy Policy and Planing office, Ministry of Energy
			- Certificate Course of Corporate Governance Public Sufficiency Manangement for Executive, Advanced Course No. 1, the Office of the Public Sector Development Commission			2010-2012	Advisory, Follow-up and Performance Appraisal of GISTDA	Informatics and Space Technology Development Agency (Public Organization) - GISTDA
			Training in 2016			2010-2011	Team Leader, Performance Appraisal of The Nation Telecommunicaitions Commission, 2012-2011	Office of The National Broadcasting and Telecommunications Commission (NBTC)
			-			2009	Competency Appraisal of Personnal of Individual Development, Agricultural Reserch Development Agency (ARDA)	Ministry of Public Health



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
8. Mr. Somchai Trairatanapirom (continued)						2008-2012	Advisory, Performance Appraisal in Working Capital Budget	The Comptroller General's Department (CGD), Ministry of Finance
						2008-2012	Advisory, Performance Appraisal of Ministry of Energy	Ministry of Energy
						2007-2012	Advisory, SET Award Project	The Stock Exchange of Thailand
						2007-2011	Member of Sub-Committee, Agreement Negotiation and Performance Appraisal to Certificate Issuing of Annual Government Performance	Office of the National Anti-Corruption Commission
						2007-2011	Advisory, Efficiency and Effectiveness Development of Government Performance	Office of the National Anti-Corruption Commission
						2007-2011	Advisory, Capacity Building Seminar Arrangement	Office of the National Anti-Corruption Commission
						1999-2008	Senior Assistant Managing Director	Thai Rating and Information Services Company Limited (TRIS)
						2003-2012	Team Leader, Advisory in Certificate Issuing for Government Performance	Office of Public Sector Development Commission (OPDC)
						2000-2012	Team Leader, Performance Appraisal	The Institute for the Promotion of Teaching Science and Technology (IPST)
						2010-2012	Advisory, Risk Management and Internal Audit	The Institute for the Promotion of Teaching Science and Technology (IPST)
9. Mr. Phongthep Thitapan	58	3 years 11 months (GCGC)	- Master of Public Administration National Institute of Development Administration (NIDA) - Bachelor of Laws Program Ramkhamhaeng University - Degree in WorPoror 54/2011, National Defense College	-	None	2013-Present	Member of Good Corporate Governance Committee	Gunkul Engineering Public Company Limited
						2010-Present	Director	Totol Industrial Services Co., Ltd.
						2010-Present	Director	PTT LNG Company Limited
						2008-Present	Director of Inspection and Performance (Level 9)	Ministry of Finance
						2014	Head of the Office of the Minister Ministry of Finance (Level 9)	Ministry of Finance
						2008-2014	Specialist, Special Business of Financial System (Level 9)	Ministry of Finance

(25th February 2013)



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
9. Mr. Phongthep Thitapan (continued)			<ul style="list-style-type: none"> - Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives No.6, King Prajadhipok's Institute, 2008 - Advanced Certificate Course in Public Administration and Public Law for Executives No.8, King Prajadhipok's Institute, 2009 - Director Certification Program (DCP) 125/2009 Thai Institute of Director (IOD) - MOF EXECUTIVE PROGRAM (2005), Ministry of Finance - Certificate of "LEADERSHIP", 2012 RIPA INTERNATIONAL LONDON, ENGLAND 			2004-2014	Committee and Secretary	Center of Problem Solving for Public Debt, Ministry of Finance
						2007-2008	Director, Office of Development of Community along as Sufficiency Economy	The Secretariat of the Cabinet
						2003-2008	Director, Performance Appraisal	Office of the Permanent Secretary
10. Miss Sopacha Dhumrongpiyawut Director with Authority to sign on behalf of the Company Chief Executive Officer Member of the Risk Management Committee (10 th August 2009) ¹⁾	50	7 years 5 months (Director)	- Bachelor of Nurse Srinakharinwirot University	-	Wife of Mr.Gunkul	2012-Present	Chief Executive Officer / Member of Risk Management Committee	Gunkul Engineering Public Company Limited
		7 years 5 months (Executive Director)	- Advanced Security Management Program : ASMP 6/ 2014 Dhumrongpiyawut			2008-Present	Director	Gunkul Engineering Public Company Limited
		7 years 5 months (Director)	The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King			1998-2012	Managing Director	Gunkul Engineering Public Company Limited
		7 years 5 months (RMC)	- Leader Program 18/2014 Capital Market Academy			2015-Present	Director	Gunkul Solar Power 3 Company Limited
			- Director Certification Program (DCP) 111/2008 Thai Institute of Director (IOD)			2015-Present	Director	Gunkul Solar Power 4 Company Limited
						2015-Present	Director	Gunkul Solar Power 5 Company Limited
						2015-Present	Director	Korat Wind Energy Company Limited
						2015-Present	Director	Siam Future Company Limited
						2015-Present	Director	Happy Green 2558 Company Limited
						2015-Present	Director	Tech-Green Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
10. Miss Sopacha Dhumrongpiyawut (continued)			- Director Accreditation Program (DAP) 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 21/2009 Thai Institute of Director (IOD) Training in 2016 -			2015-Present	Director	Thanasap 2558 Company Limited
						2015-Present	Director	Entrity Sam Company Limited
						2014-Present	Director	Gunkul Solar Community Company Limited
						2013-Present	Director	NK Power Sola Company Limited
						2013-Present	Director	Siam Wind Energy Company Limited
						2013-Present	Director	Gunkul Tech Company Limited
						2003-Present	Director	Gunkul Solar Power 1 Company Limited
						2013-Present	Director	Gunkul Solar Power 2 Company Limited
						2013-Present	Director	Siam Gunkul Solar Energy Company Limited
						2013-Present	Director	Gunkul Solar Roof 1 Company Limited
						2013-Present	Director	Gunkul Solar Roof 2 Company Limited
						2013-Present	Director	Gunkul Power Development Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 1 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 2 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 3 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 4 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 5 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 6 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 8 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 9 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 10 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 16 Company Limited
						2013-Present	Director	WHA Gunkul Green Solar Roof 17 Company Limited
						2010-Present	Director	G-Power Source Company Limited
						2008-Present	Director	G.K.Assembly Company Limited
						2002-Present	Director	Gunkul Trading and Agency Company Limited
						2000-Present	Director	G.K.Power Product Company Limited
						2009-2012	Director	Gunkul Chubu Powergen Company Limited
						2000-2010	Director	K.N.P. Supply Company Limited
						2013-Present	Director	Gunkul Myanmar Central Power 1 Pte. Ltd.
						2009-2012	Director	Gunkul Chubu Powergen Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
				Period		Position	Company	
11. Dr. Somboon Aueatchasai Director with Authority to sign on behalf of the Company Executive Director Secretary to the Board of Directors (9 th June 2010) ²⁾ Managing Director	46	6 years 7 months (Director)	- Doctor's Degree, Industrial Business Administration King Mongkut's Institute of Technology Ladkrabang	0.377	None	2012-Present	Managing Director	Gunkul Engineering Public Company Limited
		6 years 7 months (Secretary to the Board of Directors)	- Master in Managerial Accounting Thammasat University			2010-Present	Director	Gunkul Engineering Public Company Limited
		6 years 7 months (Executive Director)	- Diploma in Auditing Thammasat University			2010-2012	Deputy Managing Director	Gunkul Engineering Public Company Limited
			- Bachelor in Accounting Rajamangala University of Technology Phra Nakhon			2007-2010	Assistant Managing Director, Business Support	Gunkul Engineering Public Company Limited
			- Advanced Security Management Program : ASMP 7/ 2015			2015-Present	Director	Korat Wind Energy Company Limited
			The Association National Defence College of Thailand under the Royal Patronage of His Majesty the King			2015-Present	Director	Infinite Alternative Energy Company Limited
			- Capital Market Leader Program, 1/2014 The Securities and Exchange Commission			2015-Present	Director	Gio Bio Energy Company Limited
			- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives No.17, King Prajadhipok's Institute, 2013			2015-Present	Director	Outgrow A Company Limited
			- Public Economics Management for Executives No.10 King Prajadhipok's Institute, 2012			2015-Present	Director	Outgrow B Company Limited
			- Director Certification Program (DCP) 139/2011 Thai Institute of Director (IOD)			2015-Present	Director	Outgrow D Company Limited
			- Director Accreditation Program (DAP) 84/2010 Thai Institute of Director (IOD)			2015-Present	Director	Outgrow E Company Limited
						2015-Present	Director	Outgrow Wood Supply A Company Limited
						2015-Present	Director	Outgrow Wood Supply B Company Limited
						2014-Present	Director	Gunkul Solar Community Company Limited
						2013-Present	Director	NK Power Sola Company Limited
						2013-Present	Director	Siam Wind Energy Company Limited
						2013-Present	Director	Gunkul Solar Roof 1 Company Limited
						2013-Present	Director	Gunkul Solar Roof 2 Company Limited
						2013-Present	Director	Gunkul Power Development Company Limited
						2013-Present	Director	Gunkul Tech Company Limited
						2012-Present	Director	Wind Energy Development Company Limited
						2011-Present	Director	G-Power Source Company Limited
						2009-Present	Director	Gunkul Chubu Powergen Company Limited
						2015-Present	Director	Gunkul LED Lighting Company Limited
						2015-Present	Director	Eco Thai Energy Company Limited
						2016-Present	Director	Gunkul Bio Energy Company Limited
						2008-Present	Director	Seangunithai LPG Company Limited
						2014-Present	Lay Judge	The Prachuaphirikhan Juvenile and Family Court



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
11. Dr. Somboon Aueatchasai (continued)			<ul style="list-style-type: none"> - 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 - Outstanding alumni (Doctoral degree) by Administration and Management College King Mongkut's Institute of Technology Ladkrabang - Outstanding alumni Rajamangala University of Technology Phra Nakhon Training in 2016 <ul style="list-style-type: none"> - Leader Program 23, Capital Market Academy The Stock Exchange of Thailand 			2016-Present	Advisor to the Sub-Commission on Alternative Energy Education	National Legislative Assembly Committee 1(8)/ 2016
						2015-Present	Advisor to the Sub-Commission on Propagation, Renewable Energy and Energy Conservation	National Reform Steering Assembly
						2015-Present	Specialist members of the Council of Propagation, Renewable Energy and Energy Conservation	National Reform Steering Assembly
						2015-Present	Advisor	Audit Association of Thailand
						2016-Present	Highly qualified director of Business Administration Faculty and a Special Instructor	Faculty of Business Administration, Rajamangala University of Technology Phra Nakhon
						2014-2015	Former expert of the Member of the National Reform Council	National Reform Steering Assembly
						2014	Former expert of the Senator	Senator
12. Mr. Phongsakorn Damnoen Deputy Managing Director, Business Development & Strategic Planning	39	-	<ul style="list-style-type: none"> - M.Sc. (Electrical Engineering) Hannover University, Germany - B. Eng. (Telecommunication) Rajamangala University of Technology - Leadership Succession Program (LSP) 6/2016 Institute of Research and Development for Public Enterprises - Director Certification Program (DCP) 149/2011 Thai Institute of Director (IOD) - Wind Turbine Technology course People Republic of China - PV Conference Japan - Biomass Conference USA. Training in 2016 <ul style="list-style-type: none"> - 	0.429	None	2016-Present	Deputy Managing Director, Business Development & Strategic Planning	Gunkul Engineering Public Company Limited
						2014-2015	Assistant Managing Director, Business Development & Strategic Planning	Gunkul Engineering Public Company Limited
						2010-2014	Senior Vice President, Business Development and Special Project	Gunkul Engineering Public Company Limited
						2009-2010	Manager, Business Development and Special Project	Gunkul Engineering Public Company Limited
						2007-2009	Supervisor, Business Development and Special Project	Gunkul Engineering Public Company Limited
						2016-Present	Director	Gunkul Bio Energy Company Limited
						2015-Present	Director	ECO Thai Energy Company Limited
						2015-Present	Director	Gunkul Solar Power 1 Company Limited
						2015-Present	Director	Gunkul Solar Power 3 Company Limited
						2015-Present	Director	Gunkul Solar Power 4 Company Limited
						2015-Present	Director	Gunkul Solar Power 5 Company Limited
						2015-Present	Director	Korat Wind Energy Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
12. Mr. Phongsakorn Damnoen (continued)						2015-Present	Director	Bright Green Power Company Limited
						2015-Present	Director	Rangngen Solution Company Limited
						2015-Present	Director	Gio Bio Energy Company Limited
						2015-Present	Director	Outgrow A Company Limited
						2015-Present	Director	Outgrow B Company Limited
						2015-Present	Director	Outgrow D Company Limited
						2015-Present	Director	Outgrow E Company Limited
						2015-Present	Director	Outgrow Wood Supply A Company Limited
						2015-Present	Director	Outgrow Wood Supply B Company Limited
						2014-Present	Director	Grenovation Power Company Limited
						2013-Present	Director	NK Power Sola Company Limited
						2013-Present	Director	Siam Gunkul Solar Energy Company Limited
						2013-Present	Director	Gunkul Myanmar Central Power 1 Pte. Ltd.
						2012-Present	Director	Wind Energy Development Company Limited
13. Miss Naruechon Dhumrongpiyawut Director with Authority to sign on behalf of the Company Executive Director (10 th August 2009) ¹⁾ Acting Senior Vice President, Business Development and Strategic Planning Senior Vice President, Logistics	33	7 years 5 months (Director) 7 years 5 months (Executive Director)	- Master of Business Administration Boston University USA. - Master of Management Harvard University USA. - Bachelor of Engineering Chulalongkorn University - Director Accreditation Program (DAP) 70/2008 Thai Institute of Director (IOD) - Financial Advisor Licence 2013, Investment Banking Club Association of Thai Securities Company Training in 2016 -	0.005	Daughter of Mr.Gunkul Dhumrongpiyawut	2016-Present	Acting Senior Vice President, Business Development and Strategic Planning	Gunkul Engineering Public Company Limited
						2016-Present	Senior Vice President, Logistics	Gunkul Engineering Public Company Limited
						2012-Present	Senior Vice President, Strategic Planning and Investment	Gunkul Engineering Public Company Limited
						2008-Present	Director	Gunkul Engineering Public Company Limited
						2015-Present	Director	Infinite Alternative Energy Company Limited
						2015-Present	Director	Rangngen Solution Company Limited
						2015-Present	Director	Gio Bio Energy Company Limited
						2015-Present	Director	Outgrow A Company Limited
						2015-Present	Director	Outgrow B Company Limited
						2015-Present	Director	Outgrow D Company Limited
						2015-Present	Director	Outgrow E Company Limited
						2015-Present	Director	Outgrow Wood Supply A Company Limited
						2015-Present	Director	Outgrow Wood Supply B Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
13. Miss Naruechon Dhumrongpiyawut (continued)						2015-Present	Director	Siam Future Company Limited
						2015-Present	Director	Happy Green 2558 Company Limited
						2015-Present	Director	Tech-Green Company Limited
						2015-Present	Director	Thanasap 2558 Company Limited
						2015-Present	Director	Enrity Sam Company Limited
						2014-Present	Director/Managing Director	Gunkul LED Lighting Company Limited
						2014-Present	Director	Greenovation Power Company Limited
						2014-Present	Director	Gunkul Solar Community Company Limited
						2013-Present	Director	Gunkul Investment (Singapore) Pte., Ltd.
						2013-Present	Director	Gunkul Myanmar Power (Hlawga) Pte., Ltd.
						2012-Present	Director	Wind Energy Development Company Limited
						2004-Present	Director	Noppakun Company Limited
14. Mr. Chaloepon Sricharoen Director with Authority to sign on behalf of the Company Executive Director (10 th August 2009) ¹⁾ Vice President Sales & Marketing	47	7 years 5 months (Director)	- Bachelor of Arts Ramkhamhaeng University	-	Brother of Miss Sopacha	2008-Present	Director	Gunkul Engineering Public Company Limited
		7 years 5 months (Executive Director)	- Public Economics Management for Executives No.12 Dhumrongpiyawut King Prajadhipok's Institute, 2014			2014-Present	Vice President, Sales and Marketing	Gunkul Engineering Public Company Limited
			- Director Accreditation Program (DAP) 70/2008 Thai Institute of Director (IOD)			2010-Present	Director	K.N.P. Supply Company Limited
			- Effective Senior Manager course			2007-2014	Private Sales Manager	Gunkul Engineering Public Company Limited
			- Managing Finance for Business Owners by Peter Ho Training in 2016			2006-2007	Manager of Office of Managing Director Department	Gunkul Engineering Public Company Limited
			- Advanced Certificate Course in Public Administration and law for Executives gen.15 King Prajadhipok's Institute			2003-2005	Manager of Business Development	Gunkul Engineering Public Company Limited
			- Cautions for Directors to Prevent Legal Risks, Responsibility of Directors according to Civil and Criminal Law			2001-2003	Assistant General Manager of Private Sales	Gunkul Engineering Public Company Limited
			SET and SEC					

Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
15. Mrs. Areewan Roonpraphan Director with Authority to sign on behalf of the Company Executive Director (10 th August 2009) ¹⁾ Senior Vice President, Factory	47	7 years 5 months	- Bachelor's degree in Accounting Dhurakij Budit University	-	None	2008-Present	Director	Gunkul Engineering Public Company Limited
		(Director)	-			2010-Present	Senior Vice President, Factory	Gunkul Engineering Public Company Limited
		7 years 5 months	- Director Accreditation Program (DAP) 70/2008			2009-Present	Director	G.K. Assembly Company Limited
		(Executive	Thai Institute of Director (IOD)			2009-Present	Director	G.K. Power Product Company Limited
		Director)	- Effective Senior Manager course			2008-2010	Assistant General Manager, Logistics	Gunkul Engineering Public Company Limited
			Training in 2106 - Superior Executive Program for Advanced Management Gen. 1 Rajamangala University of Technology Phra Nakhon - Pioneering Leadership Training Program Canaan Farmers School, Korea			2007-2008	Assistant General Manager, Factory	G.K. Power Product Company Limited
16. Mrs. Somluk Kanuenghet Member of the Nomination and Remuneration Committee and Secretary (10 th August 2009) ¹⁾ Senior Vice President Executive Office	51	7 years 5 months	- Bachelor of Arts Srinakharinwirot University	-	None	2010-Present	Senior Vice President, Executive Office	Gunkul Engineering Public Company Limited
		(NRC)	-			2010-Present	Director	G.K. Assembly Company Limited
		7 years 5 months	- Effective Senior Manager course			2010-Present	Director	G.K. Power Product Company Limited
		(Secretary of	- Performance Appraisal by Balance Scored Card course			2008-Present	Member of Nomination and Remuneration Committee	Gunkul Engineering Public Company Limited
		NRC)	- Career Planning & Development & Succession Planning course			2006-2010	General Manager, Executive Office	Gunkul Engineering Public Company Limited
			- Salary Administration for Line Manager course			2003-2008	Manager, Human Resources Department	Gunkul Engineering Public Company Limited
			- Effective Techniques for Job Analysis & Job Description course			1993-2002	Manager, Human Resources Department	Packlink (Thailand) Co., Ltd.
			- Effective Techniques for Job Evaluation & Salary Survey course					
			Training in 2016 -					



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
17. Mr. Thamrong Chankraithong Senior Vice President, Sales & Marketing	45		<ul style="list-style-type: none"> - M.Sc. (Information Technology) King Mongkut's Institute of Technology Ladkrabang - B.Sc. (Applied Physics) King Mongkut's Institute of Technology Ladkrabang - 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 Equipments by TEMA, Italy - Meter Training Program by General Electric Co., USA - Meter Testing Equipments by ZERA Electric, Germany - Energy Conservation for Factory - Business Opportunities in Marketing Energy Efficiency Training in 2016 - 	-	None	2010-Present	Senior Vice President, Sales and Marketing	Gunkul Engineering Public Company Limited
						2011-Present	Director/Senior Vice President, Sales and Marketing	K.N.P. Supply Company Limited
						2008-2010	Assistant General Manager, Public Sector and International	Gunkul Engineering Public Company Limited
18. Mr. Thitipong Techaratanayuenyong Member of the Risk Management Committee and Secretary (12 th November 2014) Senior Vice President, Financial Management and Controlling Foreign Affairs Chief Financial Officer	41	2 years 2 months (RMC)	- Master of Business Administration (MBA) Sasin Graduate Institute of Business	-	None	2014-Present	Member of the Risk Management Committee and Secretary	Gunkul Engineering Public Company Limited
		2 years 2 months (Secretary of RMC)	Administration of Chulalongkorn University			2014-Present	Senior Vice President, Financial Management and Controlling Foreign Affairs	Gunkul Engineering Public Company Limited
			- Bachelor of Economics (Major in International Economics) Chulalongkorn University			2014-Present	Chief Financial Officer	Gunkul Engineering Public Company Limited
			- Bachelor of Engineering (Major in Civil & Environmental Engineering) Chulalongkorn University			2008-2013	Assistant Vice President	Charoen Pokphand Foods Public Company Limited
			- Business Leader Program by Dr. Noel M. Tichy			2002-2008	Manager of Invest Management	Shir Corporation Public Company Limited
						1999-2002	Senior Corporate Dealer	Kasikorn Bank Public Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
18. Mr. Thitipong Techaratanayuenyong (continued)			<ul style="list-style-type: none"> - Engaging Your People & Develop Coaching skills - Global Business Leader Development - CPF Good & Smart Team Management - Building Relationships and Team Leading - Building Relationships and Team Leading - Strategic CFO in Capital Markets Program 2015 Training in 2106 -					
19. Mr. Phairot Phanukan Senior Vice President, PM & OM	49	-	<ul style="list-style-type: none"> - Master of Business Administration (MBA) - Huachiew Chalermprakiet University - Bachelor of Engineering - King Mongkut's Institute of Technology Ladkrabang Training in 2016 -	-	None	2015-Present	Senior Vice President, PM & OM	Gunkul Engineering Public Company Limited
20. Mr. Phudis Triwilaskul Senior Vice President Sales & Marketing-LED	43	-	<ul style="list-style-type: none"> - Master Degree in Logistics Management - Chulalongkorn University - Bachelor's degree in Accounting - Dhurakij Bundit University - SAP User Interface Team of Siam Cement Group (Module : MM) - Essential Knowledge for Purchasing Professionals - Oversea Purchasing Techniques - Purchasing Knowledge for Cost Saving - Self Certification Scheme - Supply Chain & Logistics Management Training in 2016 -	-	None	2016-Present 2011-2015 2014-Present 2007-2010 2005-2007 1993-2005	Senior Vice President Sales & Marketing-LED Vice President, Logistics Director Manager, Purchasing Manager, Sourcing Department Purchasing Supervisor	Gunkul Engineering Public Company Limited Gunkul Engineering Public Company Limited Gunkul LED Lighting Company Limited Gunkul Engineering Public Company Limited L.V. Technology Public Company Limited Siam Fibre Cement Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
21. Miss Chantira Jongjamaareeseethong Company Secretary (10 th August 2009) Secretary to the Good Corporate Government Committee Acting Senior Vice President, The Office of Managing Director & Investor Relations	49	7 years 5 months	- Master Degree in Business Administration, Major accounting Ramkhamhaeng University	-	None	2015-Present	Company Secretary and Investor Relations Manager	Gunkul Engineering Public Company Limited
		(Company Secretary) 3 years 11 months	- Bachelor's Degree (accounting) Siam University - Bachelor of Arts Thammasat University - 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 Training in 2016 - Cautions for Directors to Prevent Legal Risks, Responsibility of Directors according to Civil and Criminal Law SET and SEC - Group Litigation Securities and Exchange Commission, Thailand - Rules of shareholders meeting, Board Meetings Company Secretary Course - IR Professional Training 2016 EGS for IR - Anti-Corruption the Practical Guide (ACPS)			2005-2007	Coordinator	Integrated Management Consultant Company Limited
		(Secretary of GCGC)				2003-2005	Secretary to Assistant Managing Director	Thai Rung Union Car Public Company Limited
						2000-2003	HR and Administration, Manager	ASL Automated Co., Ltd. (Hong Kong)
						1997-2000	Secretary and Coordinator	KBC Bank N.V., (Belgium)
						1990-1997	HR and Administration, Supervisor	Thai Sunrock Co., Ltd. and Nissho Iwai Corporation (Japan)
22. Mrs. Patchanee Tangjitjaroen (Resigned 17 th May 2016) Audit Committee Secretary (12 th November 2015) Assistant Vice President - Internal Audit	43	7 months	- Master of Business Administration Ramkhamhaeng University	-	None	2015-Present	Assistant Vice President - Internal Audit	Gunkul Engineering Public Company Limited
		(Audit Committee Secretary)	- Bachelor's Degree, B.B.A. of Industrial Management (2 nd Honor) Rajamangala University of Technology Thanyaburi - Bachelor's Degree, Accounting Sukhothai Thammathirat Open University - Diploma in Management Development Program (MDP), 1/2012			2014-2015	Senior Manager, Internal Audit	Berli Jucker Public Company Limited
						2012-2014	Division Manager Internal Audit	Bangkok Glass Public Company Limited
						2010-2012	Assistant Manager Internal Audit	Crown Seal Public Company Limited
						1995-2010	Accountant, Chief Internal Audit	Tri Petch Isuzu Sales Company Limited



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
22. Mrs. Patchanee Tangitjaroen (continued)			Chulalongkorn University - Certified Professional Internal Auditor of Thailand (CPIAT), 18/2011 The Institute of Internal Auditors Thailand (IIAT) Training in 2016 -					
23. Miss Suttirat Tangnorakul Acting Vice President, Business Support Department	43	-	- Degree Master of Business Administration Ramkhamhaeng University - Degree Bachelor's Degree (accounting) Ramkhamhaeng University - Mini MBA I Taxation (Major in General Business) School of Tax - Modern Accountants Program) Class 13 Faculty of Commerce and Accountancy, Chulalongkorn University - Specialist Tax Law Practice Course 2015 Training in 2016 - Techniques to create a good system 1/2016 - Accountancy in accordance with business conditions and accurate financial reports	-	None	2016-Present 2012-2015 2011-2012 2005-2007 1999-2005 1997-1998	Acting Vice President, Business Support Department Accounting Manager Project Accounting Manager Assistant Account Bookkeeper Assistant Auditor	Gunkul Engineering Public Company Limited Gunkul Engineering Public Company Limited Gunkul Engineering Public Company Limited Kim Chong Him Trading Company Limited Wattanasuk International Company Limited Suttithom Group law and accounting office
24. Miss Waraporn Rukgikamkar (Resigned 17 th NOV 2016) Assistant Vice President, Business Support Department	46		- Master degree in Accountancy Chulalongkorn University - Diploma in Auditing Thammasat University - Bachelor in Accounting Rajamangala University of Technology - Micro MBA Program Chulalongkorn University Training in 2016 -	-	None	2015-Present 2009-2015 2003-2008	Assistant Vice President, Business Support Department AGM Accounting & Finance Division Accounting and Audit Manager	Gunkul Engineering Public Company Limited BAF (Thailand) Co., Ltd. Thai Yarn Yon Group



Name-Surname Position (Appointed Date)	Age (Year)	Holding a Director Position (Year)	Educational Qualifications	Share Holding Percentage (%)	Relationship	Working Experience during the Past 5 Years		
						Period	Position	Company
25. Miss Kullawee Saenchaiorn Assistance Vice President, Financial Management and Controlling Foreign Affairs	32		- Master degree of Business Administration (MBA) Chulalongkorn Business School (Chulalongkorn University)	-	None	2015-Present	Assistant Vice President, Financial Management and Controlling Foreign Affairs	Gunkul Engineering Public Company Limited
			- Bachelor degree of Commerce and Accountancy (Major in Accounting) Chulalongkorn University			2011-2015	Finance and Account Director	Howden Insurance Brokers (Thailand) Co., Ltd.
			- Certified Public Accountant, CPA (Thailand)			2006-2011	Senior Auditor	PricewaterhouseCoopers ABAS (Thailand)
			- Young Researcher Competition (Professional in securities investment) Thailand Securities Institute - CFO Current Issues 2015 Training in 2016 -					
26. Mr. Tanetsiri Farkmitr Audit Committee Secretary (20 th October 2016) Assistant Vice President - Internal Audit	40	3 months (Audit Committee Secretary)	- Master Degree in Accounting Thammasat University	-	None	2016-Present	Assistant Vice President - Internal Audit	Gunkul Engineering Public Company Limited
			- Bachelor's Degree, Accounting Thammasat University			2015-2016	Group Manager, Internal Audit	Tipco Asphalt Public Co., Ltd.
			- Certified Public Accountant, CPA (Thailand) Training in 2016			2014-2015	Manager, Technology and Information Systems Internal Audit	Banpu Public Company Limited.
			- IRPC Cubic Academy Program 4/2016			2012-2014	Senior Auditor, Internal Audit	Banpu Public Company Limited.
						2007-2012	Manager, Internal Audit Department	Banpu Public Company Limited.

¹⁾ GUNKUL is transformed into a public company on August 10, 2009. The date was registered with the Department of Business Development for the first Board of Directors.

²⁾ The date of being registered as director of the company shall be reported to the Department of Business Development.



20.2 Details Position Titles of Directors in Subsidiary Companies

Name	Subsidiary Companies																																				
	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	29	30	31	32	33	34	35	36	
	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 Solar Co., Ltd.	Gunkul Solar Power 1 Co., Ltd.	Gunkul Solar Power 2 Co., Ltd.	Gunkul Solar Power 3 Co., Ltd.	Gunkul Solar Power 4 Co., Ltd.	Gunkul Solar Power 5 Co., Ltd.	Bright Green Co., Ltd.	Slam Gunkul Solar Energy Co., Ltd.	Solar Energy Society Co., Ltd.	Gunkul Solar Roof 1 Co., Ltd.	Gunkul Solar Roof 2 Co., Ltd.	Gunkul Solar Community Co., Ltd.	Gunkul Power Development Co., Ltd.	Gunkul LED Lighting Co., Ltd.	Infinite Alternative Energy Co., Ltd.	Pangrign Solution Co., Ltd.	Go Bio Energy Co., Ltd.	Outgrow A Co., Ltd.	Outgrow B Co., Ltd.	Outgrow D Co., Ltd.	Outgrow E Co., Ltd.	Outgrow Wood Supply A Co., Ltd.	Outgrow Wood Supply B Co., Ltd.	Eco Thai Energy Co., Ltd.	Gunkul Bio Energy Co., Ltd.	Gunkul International (Mauritius)	Gunkul Investment (Singapore) Pte. Ltd.	Gunkul Myanmar Power (Havaga) Pte. Ltd.	Gunkul Myanmar Central Power 1 Pte. Ltd.	Future Asset Management Kabushiki Kaisha	
Mr. Gunkul Dhumrongpiyawut																																					
Miss Sopacha Dhumrongpiyawut	I	I				I	I	I	I	I	I	I		I		I	I	I	I																	I	
Mr. Somboon Aueatchasai				I		I	I									I	I	I	I	I	I		I	I	I	I	I	I	I	I	I						
Mr. Phongsakorn Damnoen				I	I	I	I	I		I	I	I	I	I								I	I	I	I	I	I	I	I	I	I					I	
Miss Naruechon Dhumrongpiyawut				I	I													I		I	I	I	I	I	I	I	I	I	I	I			I	I	I		
Mr. Chaloepon Srichaloen			I																																		
Mrs. Areewan Roonpraphan	I	I																																			
Mrs. Somluk Kanuenghet	I	I																																			I
Mr. Thamrong Chankraithong			I																																		
Mr. Phudis Triwilaskul																			I																		
Mr. Janpon Ngamaroonchote					I		I								I																		I				
Ms. Vijitra Saengpredekorn															I								I	I	I	I	I	I	I								
Mr. Tridti Boonyayone				I																																	
Mr. Kritsanapan Piboonwattanakit																							I	I	I	I	I	I	I								

Remark I = Director

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

[illegible]



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

Name	Company	Subsidiary Companies																																					
		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	29	30	31	32	33	34	35	36		
	Gunkul Engineering PCL	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.	Gunkul Solar Power 4 Co., Ltd.	Gunkul Solar Power 5 Co., Ltd.	Bright Green Co., Ltd.	Siam Gunkul Solar Energy Co., Ltd.	Solar Energy Society Co., Ltd.	Gunkul Solar Roof 1 Co., Ltd.	Gunkul Solar Roof 2 Co., Ltd.	Gunkul Solar Community Co., Ltd.	Gunkul Power Development Co., Ltd.	Gunkul LED Lighting Co., Ltd.	Infinite Alternative Energy Co., Ltd.	Rangigen Solution Co., Ltd.	Glo Bio Energy Co., Ltd.	Outgrow A Co., Ltd.	Outgrow B Co., Ltd.	Outgrow D Co., Ltd.	Outgrow E Co., Ltd.	Outgrow Wood Supply A Co., Ltd.	Outgrow Wood Supply B Co., Ltd.	Eco Tha Energy Co., Ltd	Gunkul Bio Energy Co., Ltd.	Gunkul International (Mauritius)	Gunkul Investment (Singapore) Pte. Ltd.	Gunkul Myanmar Power (Hawga) Pte. Ltd.	Gunkul Myanmar Central Power 1 Co., Ltd.	FutureAsset Management Kabushiki Kaisha		
16. Mrs. Nattawan Wongchan	V																																						
17. Mr. Janpon Ngamaroonchote	V				I		I									I																	I						
18. Miss Chantra Jongjamareeseethong	V, VI																																						
19. Ms. Vijittra Saengpredekorn	V															I								I	I	I	I	I	I										
20. Ms. Suttirat Tangnorakul	V																																						
21. Ms. Kullawee Saenchakorn	V																																						
22. Mr. Tanetsiri Farkmitr	V																																						
23. Mr. Thanapat Wonghirulchayathorn	V																																						
24. Ms. Warinthip Rosarpitak	V																																						
25. Mr. Tritdi Boonyayone	V				I																																		
26. Ms.Vanita Limmaneeprasert	V																																						
27. Mr. Kritsanapan Piboonwattanakit	-																							I	I	I	I	I	I										

Remark

X = Chairman, President

I = Director

II = Executive Director

III = Audit Committee

V = Executive

VI = Company Secretary

[illegible]



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

Name	Joint Venture														Related Companies																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	G-Power Source Co., Ltd.	Gunkul Chulabul Powergen Co., Ltd.	Sam Wind Energy Co., Ltd.	WHA Gunkul Green Solar Roof 1 Co., Ltd.	WHA Gunkul Green Solar Roof 2 Co., Ltd.	WHA Gunkul Green Solar Roof 3 Co., Ltd.	WHA Gunkul Green Solar Roof 4 Co., Ltd.	WHA Gunkul Green Solar Roof 5 Co., Ltd.	WHA Gunkul Green Solar Roof 6 Co., Ltd.	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.	WHA Gunkul Green Solar Roof 17 Co., Ltd.	Gunkul Group Co., Ltd.	Future Electrical Control Co., Ltd.	Kunatee Co., Ltd.	Gunkul Trading and Agency Co., Ltd.	Gunkul Marine Line Co., Ltd.	Gunkul Engineering (2000) Co., Ltd.	G.M. Supply and Construction Co., Ltd.	Sam Gunkul Power Co., Ltd.	Sam Future Co., Ltd.	Happy Green Co., Ltd.	Tech-Green Co., Ltd.	Thanasap 2558 Co., Ltd.	Entrytes Sap Co., Ltd.	Gunkul Tech Co., Ltd.	Noppakul Co., Ltd.	Thai Engineering Co., Ltd.	Sanguithai Gas LPG Co., Ltd.
16. Mrs. Nattawan Wongchan																															
17. Mr. Janpon Ngamaroonchote																															
18. Miss Chantra Jongjamareeseethong																															
19. Ms. Vijitra Saengpredekorn																															
20. Ms. Suttirat Tangnorakul																															
21. Ms. Kullawee Saenchalkorn																															
22. Mr. Tanetsiri Farkmitr																															
23. Mr. Thanapat Wonghirulchayathorn																															
24. Ms. Warinithop Rosarpitak																															
25. Mr. Tritdi Boonyayone																															
26. Ms.Vanita Limmaneeprasert																															
27. Mr. Kritsanapan Piboonwattanakit																															

Remark

X = Chairman, President

I = Director

II = Executive Director

III= Audit Committee

V = Executive

VI = Company Secretary

21. Corporate Governance

21.1 Good Corporate Governance Policy

(Citation to Good Corporate Governance Policy, Revision dated on December 29, 2016)

Our board of directors, sub-committees, corporate governance executive and employees of the organization that adhere to the principles of good corporate governance. Therefore, it is a guideline for the operation of the Company. To determine the quality management system. 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 enhance competitiveness. |
| 6. | Ethics | Ethics and code of the conduct for operation business. |

This corporate governance policy has been agreed and approved in writing by the board of directors at board meeting 9/2016 on December 23, 2016. 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 good corporate governance practices of the Company, has conducted and made good corporate governance recommendations for the listed companies continuously. Updated with the Stock Exchange of Thailand. And the Company has continually reviewed and updated to ensure that, in line with corporate 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. To support 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 that will be 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 2016, the Company held general shareholders' meeting for the year 2016 dated on April 26, 2016, 2nd floor, Chaopraya Park Hotel, No. 247 Ratchadapisek Road, Dindang, Bangkok 10320. There were every director of committees, Directors, Executives, Secretary of every committees and secretary of company, Auditor representative of financial advisor and representative of Lawyer participate total 37 directors and management executives participating to explain meeting agenda and answer questions from shareholders. The Company assigned Thailand Securities Depository as registrar to send letter of shareholders meeting and related documents to shareholders for at least 21 days in advance before meeting takes place. The Company also published letter of shareholders meeting and related documents via company's website, www.gunkul.com, for at least 30 days in advance, so shareholders can reach related information regarding shareholders' meeting as convenient and as quick as possible.

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. Both the information before the shareholders' meeting. Protection of the rights of minority shareholders Prevention of internal data usage. 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. Due to the financial information. May cause a risky incident or cause the Company to use the internal information.

After the company. The information is publicly available. To be 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. Use internal information of the company. Possible or likely to affect the price of the Company's securities. Which is not publicly available. Used for 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 the company. Has been damaged 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

- Require those who are involved or have an interest in the item considered. Must notify the company that know your relationship or stake in the list. If director that 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

- 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 that priority is given to the rights of all stakeholders in accordance with existing laws or agreements with the Company. Including 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 all personnel in the company. Confiscated as a guideline there is a mechanism to follow to ensure compliance. There is also a way to get feedback or complaints. That is 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 that is business with honesty, transparency, integrity and ethics. By developing business to thrive. Make a good return on your own accord, shareholders and investors are continuing and sustainable. |
| 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:	The Company is responsible for ensuring that the Company does not operate. Affect Community and social environment. Including compliance with relevant laws and regulations. And the company also carry out Corporate Social Responsibility (CSR) activities 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 and protect the notified.

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

Via E-mail : audit_committee@gunkul.com
 Via mail : Chairman of the Audit Committee
 Gunkul Engineering Public Company Limited
 1038-1046 Nakhonchaisri Road, Nakhonchaisri,
 Dusit, Bangkok 10300



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

(Refer to the Anti-Corruption Policy and a clue or complaint date on December 29, 2016)

The Board of Directors give priority to anti-corruption. Therefore, the Company is required to prepare "Anti-corruption Policy". And clues or complaints 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. 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. 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** has 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** has 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 Subject to complaints in relation to corruption. Channels for clues or complaints. Corrupt measures to protect and maintain confidentiality and the procedure for getting complaints. Investigations and penalties, including guidelines for disseminating anti-corruption policy. The Company has made a general acknowledgment in accordance with the documents referred to above in order to express that's will. To commit to anti-corruption.

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.
1038-1046 Nakornchaisri Road,
Nakornchaisri Road Sub-district,
Dusit District, Bangkok 10300



- 4) Submit via : “Whistle Blowing and Corruption Complaint”

(Box which is located in the Company and can be opened only by the Audit Committee and/or the Secretary of the Audit Committee.)

Measures to protect and maintain confidentiality

In order to protect the rights of complainants and information contributors who act in good faith, the Company will conceal the name, address or any information that may identify the complainant or the data provider. And keep the complainant and the information provider confidential. Only those who are responsible for investigating complaints can access such information. The person receiving the information from the performance of duties related to the complaint. That is the duty of the complainant and the information provider to keep the complaint and confidentiality information confidential. Do not disclose information to anyone who is not involved. Except as disclosed by the statutory duty.

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

E-mail: ir@gunkul.com

Website: www.gunkul.com

In 2016, the Company disclosed information and information related to the Company. Through various channels, shareholders and investors are acknowledged accurately and completely, such as informing the Company's operating results. And the Group of quarterly and annual Information on investment in various projects. Including the preparation of financial reports and general information of the Company. Include a report of the Board of Directors' responsibility for the financial report, along with the report of the Board of Directors. The auditor is included in the annual report. And to disclose matters in accordance with good corporate governance. 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 2016, the Company held quarterly and annual quarterly and financial statements. Investors and analysts (Opportunity Day) 4 times and publish a press release every time the 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. 0-2242-5867 and 0-2242-5861 facsimile no. 0-2242-5878 or e-mail ir@gunkul.com



Section 5 Responsibility of the Board of Directors

1. The Board of Directors

The Board of Directors shall be composed of not less than 5 Directors but not more than 12 Directors. Not less than one third of all Directors shall be Independent Directors. Not less than half of all Directors shall reside in Thailand. The Board of Directors is appointed by the shareholders' meeting. The terms of office is 3 years or from the Board of Directors meeting in accordance with the law. The composition of the Board of Directors should have a proportion of directors with diverse knowledge and expertise appropriate to the business. And there is a balance of power within the board of directors. Do not operate as a partner or to be a director in another company with the same conditions and conduct business in competition with the Company's business. In the case of an independent director and all the interests of the shareholders must be equally protected. They can also express themselves freely.

Features Tenure Scope of Authority and Responsibility. Including the number of times in the annual meeting of the Board of Directors. To comply with the charter of the Board of Directors and appointed a company secretary to perform the required tasks from the relevant regulatory authority.

On December 31, 2016, the Board of Directors consisted of 9 members, consisting of 5 directors, 4 non-executive directors, 1 non-executive independent director, and 3 independent directors. All of who are knowledgeable and experienced, expertise. In the business of the company. There are 3 independent directors who are responsible for balancing the voting power and review the management of the management to maximize the benefits to 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. Having sufficient knowledge and experience to be able to review the reliability of the financial statements.

Features Tenure Scope of Authority and Responsibility. Including the number of times in the annual meeting of the Board of Directors. To comply with the charter of the Board of Directors and appointed a company secretary to perform the required tasks from the relevant regulatory authority.

On December 31, 2016, the Audit Committee comprised of 3 independent directors, appointed by the Board of Directors. The policy is 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 must be at least 3 persons and not be the Company's management. The Board of Directors will appoint the Risk Management Committee. And a term of office of 3 years, selected by the director and / or a number of management of the company. And / or qualified the Risk Management Committee must be knowledgeable in the Company's business. Knowledge and experience in risk management. Investment Management or specialized expertise that is a key factor in providing business advice to the Company. To achieve the objectives of the company. The Risk Management Committee must not be a director, executive or entrepreneur. In companies operating in the same manner as the Company.



Features Tenure Scope of Authority and Responsibility Including the number of Annual Meetings of the Risk Management Committee. To comply with the charter of the Risk Management Committee.

On December 31, 2016, 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.

Features Tenure Scope of Authority and Responsibility Including the number of times in the annual meeting of the Nomination and Remuneration Committee. Comply with the charter of the Nomination and Remuneration Committee.

On December 31, 2016, 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) The 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. Features Tenure Scope of Authority and Responsibility. Including the number of times the annual meeting of the Good Corporate Governance Committee. To comply with the charter of the Good Corporate Governance Committee.

On December 31, 2016, 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.

To select from a number of directors and / or executives of the Company and / or the qualified persons. Not a member of the Audit Committee. The term of office is 3 years. The executive director must be a person with knowledge, ability and experience that will benefit the Company's business.

Be honest and ethical in running a business. Not a director, Executive or entrepreneur. In a business that operates in the same manner as the Company. Unless the entity is a subsidiary, joint venture of the Company. Features Tenure Scope of Authority and Responsibility Including the number of times the annual meeting of the Good Corporate Governance Committee. To comply with the charter of the Good Corporate Governance Committee.

On December 31, 2016, 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. 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. Will have to abstain from voting on that issue.

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. Participants must be present for clarity, completeness, reliability. To prepare 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

he Board of Directors requires at least 4 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 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 selects 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 committees have 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 should be set the schedule for the meeting in advance every year. To make an appointment with each director in advance by recording minutes after being certified. The Board of Directors and signed by the Chairman of the Board. That is stored in a file format. The original and the electronic version to facilitate the directors and related parties can be referenced, the Company must disclose details of the number of meetings and attendance in the past year of each director. Included in the annual report.

In 2016, the Company held a meeting of shareholders and each committees. 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 2016 is as follows:



Meeting type	Number of meetings
1) Annual General Meeting of Shareholders, 2016	1 Time
2) Extraordinary General Meeting of Shareholders	2 Times
3) Board of Directors Meeting	9 Times
4) Audit Committee Meeting	5 Times
5) Meet non-executive directors with the auditor to discuss issues related to corporate governance	1 Time
6) Risk Management Committee Meeting	6 Times
7) Nomination and Remuneration Committee Meeting	4 Times
8) Good Corporate Governance Committee Meeting	6 Times
9) Executive Board Meetings	30 Times

The details of the directors attending the meeting individually. Including the remuneration for each director. These 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. Therefore, 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

To reflect the duties, responsibility and mission of the committees, the components of remuneration determination are composed, can divided 3, such as Meeting attendance fee, Annual remuneration and Bonus or other similar remunerations.

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 2016 that, the Company paid to directors and executives. (Details as shown in the "Management Structure" section of this Annual Report.



6. Performance evaluation of the Board of Directors, committees and CEO

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 Chairman of the Administration Committee 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.

6.1) Performance evaluation of the Board of Directors

The Company's policy requires the Board of Directors to evaluate the performance of the Directors, 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

6.2) Performance evaluation of the committee

The Company's policy requires the committees to evaluate their own collective performance.

6.3) Performance evaluation of the CEO

The Company's policy requires the Board of Directors to evaluate the performance of the CEO.

6.4) Processes and criteria for evaluation

The process and criteria for evaluation will be reviewed by the Board each year. And sub committees, the process and criteria for assessment are as follows:



Self-Assessment Process

Board of Directors and Subcommittees, the process of Self-Assessment has been defined as follows:

Process of Self-Assessment of the Board of Directors and Sub-committees

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. In addition, the form of performance appraisal of the Chairman of the Executive Committee, which is the top management of the organization, is set out once a year to serve as a framework for evaluating the performance of the Executive Committee. And / or good practice. Also used as a tool to review and improve the performance over the past year.
2. The Board of Directors shall approve and review the performance appraisal form of the Board. Including the performance evaluation form of the Executive Chairman. The sub-committee shall approve and revise the self-assessment form of the faculty. To be accurate, complete and in accordance with the rules prescribed by the regulatory body.
3. Company secretary, the self-assessment form of the Board of Directors and the form of performance appraisal of the Chairman of the Executive Board shall be submitted to the Board of Directors. Including Sub-committee secretary. Deliver the self-assessment form of the faculty. Within December every year.
4. The Company's Board of Directors made the self-assessment form of the Board of Directors and the performance evaluation form of the Chairman of the Executive Committee. Including committees of committees. Make a self-assessment and return the secretary to the subcommittee. Within January of every year.
5. Company Secretary / Secretary to the Board Summary the results of the assessment and input into the agenda of the Board of Directors. To analyze the performance evaluation results of the Board of Directors. Subcommittee and the Executive Chairman.
6. Secretary to the Board of Directors / Secretary to the Board of Directors Takes further analysis and comments from the Board of Directors. To make a plan to carry out the improvement.



Self-Assessment Criteria

The criteria used in the performance appraisal of the Board of Directors and subcommittees are as follows:

Self-Assessment form The Board of Directors		Self-Assessment Form Audit Committee	
Evaluation content	Number of items	Evaluation content	Number of items
Group		Group	
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. Audit Committee Meeting	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	64		28
Individually			
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	11		

Self-Assessment Risk Committee		Self-Assessment form Nomination and Remuneration Committee	
Evaluation content	Number of items	Evaluation content	Number of items
Group		Group	
1. Structure and Qualifications of the Risk Management Committee	7	1. Structure and Qualifications of the Nomination and Remuneration Committee	7
2. Risk Management Committee Meeting	6	2. Nominating and Remuneration Committee Meetings	6
3. Roles and Responsibilities of the Risk Management Committee	6	3. Roles and Responsibilities of the Nomination and Remuneration Committee	7
Total	19		20



Self-assessment form of Good Corporate Governance Committee			
Governance Committee		Evaluation form of the Executive Chairman	
Evaluation content	Number of items	Evaluation content	Number of items
Group		Section 1: Progress of the Plan Specify goals and status	
		Section 2: Performance Measurement	
1. Structure and Qualifications of the Risk Management Committee	7	1.1 Leadership	
	6	1.2 Strategic Planning	6
2. Risk Management Committee Meeting	6	1.3. Compliance Strategy	6
3. Roles and Responsibilities of the Risk Management Committee	5	1.4 Planning and Financial Performance	6
		1.5 Relationships with the Board	6
Total	18	1.6 External Relations	5
		1.7 Administration and relations with personnel	6
		1.8 Succession	3
		1.9 Product and service knowledge	4
		1.10 Private feature	6
			54
		Section 3: Development Executive Chairman	
		Specify comment	
		3.1 The strengths that the CEO should maintain	
		3.2 Issues that the CEO should receive.	
		Develop more in the next year.	

To allow the Board of Directors and sub-committee, to 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



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, 2016 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 Review dated February 3, 2017)

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. 2/2017 on February 3, 2017, the objective is to prepare and review the policy as follows:

1. To guide the work in accordance with 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. Including the participants for mutual benefit.
3. To understand the principles and practices of private interests of directors, executives and employees, as well as the interests of the Company and the Group. Without causing any 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 as a guideline for action towards the same goal, by defining the vision and mission of the organization. Business Ethics Including anti-corruption corruption. Ethics of Directors Management and staff Ethics to stakeholders this covers the responsibility to shareholders. Employees, customers, partners, competitors, trade secrets, safety, health and environment in the organization. And responsibility to the community and the environment, including the Code of Conduct for clarity. That is convenient for directors, executives and employees of the Company. Be aware of the standards of practice that the Company expects and adhere to as a guideline for its operations. To involve all stakeholders.

The Company determines the duties and responsibilities of all directors, executives, and employees who must acknowledge and understand the policies and practices set out in the Business Ethics. A meeting was held that make a media outreach. And do activities to continually understand. For the employees of the company. Be aware of and understand the importance of adhering to a business ethics policy. The Company requires its executives to take care of their employees under their supervisory line, to understand them and to promote their compliance with the Code of Business Ethics. And employees at all levels must act as a good example. In addition to the Code of Conduct set out in the Business Ethics Handbook, The Company has a Corporate Shared Values __program for its employees to enhance corporate values __and corporate culture. By providing clear instructions for employees what to do. What should ignore the practice? This is in line with the policy guidelines set out in the Business Ethics Handbook. This makes the practice more concrete. And if the company's personnel. Failure to do so is a violation of the Company's regulations. And require review. The "Business Ethics Policy" is regularly reviewed annually.

13) 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 years.



According to the resolution of the Board of Directors Meeting No. 9/2016, held on December 23, 2016, the Board reviewed the Company's vision and mission. The amendments have been amended as follows.

Vision

To become the leading producer of electricity from renewable energy, including the manufacturer and provider of equipment for energy saving product that meet the customers' needs and satisfaction and concurrently maximize stakeholders' return

Mission

1. Renewable Energy

Do business on renewable energy power plants in efficiency standards with focusing on social and environmental.

2. Sales

Provide equipment for power systems and channel of distribution, including full-option services that meet the customers' needs.

3. Technology

Develop manufacturing techniques and adopt new production technology to improve productivity and reduce production costs Increase capability and adopt Information technology to respond promptly to fast moving business environment.

4. Return

Maximize shareholders' and stakeholders' value and profitability.

5. Personal

Increase employees' capability to enhance the Company's competitiveness on a global scale and retain talent employees.

6. Management Framework

Create a strong management framework based on principles of good corporate governance.

21.2 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, 2016, 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. Djitt Laowattana ¹⁾	Chairman of the Audit Committee
2.	Pol.Maj.Gen. VisitSukarasep	Member of the Audit Committee
3.	Dr. Chongrak Rarueysong ¹⁾	Member of the Audit Committee
4.	Mr. Tanetsiri Farkmitr	Secretary of the Audit Committee

Remarks ¹⁾ Audit Committee who has knowledge and experience in auditing on the Company's financial statements.

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 one 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, 2016, the Good Corporate Governance Committee comprised of three independent directors as follow;

Name list		Position
1.	Mr. Chongrak Rarueysong	Chairman of the Good Corporate Governance Committee
2.	Mr. Phongthep Thitapan	Member of the Good Corporate Governance Committee
3.	Mr. Somchai Trairatanapirom	Member of the Good Corporate Governance Committee
4.	Miss Chantra Jongjamareeseethong	Secretary of the Good Corporate Governance Committee

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, 2016, the Risk Management Committee comprised of four persons including independent and executive directors as follow;

Name list		Position
1.	AVM.Dr.Pian Totarong	Chairman of the Risk Management Committee
2.	Miss Sopacha Dhumrongpiyawut	Member of the Risk Management Committee
3.	Mr. Somchai Trairatanapirom	Member of the Risk Management Committee
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, 2016, the Nomination and Remuneration Committee comprised of four persons including independent and executive directors as follow;

Name list		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
3.	Mr. Hathai Uthai	Member of the Nomination and Remuneration Committee
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, 2016, the Executive Committee comprised of five persons as follow;

Name list		Position
1. Ms. Sopacha	Dhumrongpiyawut	Chief Executive Officer
2. Dr. Somboon	Aueatchasai	Executive Director
3. Ms. Naruechon	Dhumrongpiyawut	Executive Director
4. Mr. Chaloepon	Sricharoen	Executive Director
5. Mrs. Areewan	Chaloemdan	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 review the charter of the executive committee annually.
15. 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.
16. 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.
 17. 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.

21.3 Selection and Appointment of Directors and Executives

Selection of Board of Directors

Though the Company doesn't have director search committee, the company's board of directors handles that job by using following criteria, knowledge, capability, experience, vision, creditability and professional qualification (no ban manner), to select director and then propose to shareholders' meeting for approval. The Company sets key criteria for director search as follow;

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 committee, 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 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, the laws, the requirements of the relevant supervising agency and the Company's association.

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) The executives shall obtain the recognition from the relevant business organizations.

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.

21.4 The Company's Share Trading and Securities Holdings Report

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. However, in 2016, the Board holds more than 25% of the Company's issued shares.

Auditor fee

1. Audit fee

In 2013 - 2016, 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.
2013	892,000.00
2014	892,000.00
2015	940,000.00
2016	1,100,000.00

Persons or businesses related to auditors or audit office, which was SP Audit Co., Ltd., was not related person or business of the Company.

2. Non-Audit fee

Unless the audit fees that paid in annual of the Company, the remuneration of the other service fee such as meeting attendance allowance 34,000.00 baht, over time 264,904.46 bath, transportation and administration fee 40,800.00 baht, and document binding fee 5,950.00 baht, confirmation fee 2,122.00 baht, by concluded in the total of 347,776.46 baht, which already paid in the year of 2016.



21.5 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.

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, the Company has completed filed a declaration of intent alignment Private Sector Collective Action Coalition Against Corruption in Thailand and is in the process of a self-assessment on anti-corruption measures to enter the certification process by submitting to the Thailand's Private Sector Collective Action Coalition Against Corruption for consideration.



22. Internal Control and Risk Management

22.1 Conclusion of Board of Directors' Opinion about the Company's Internal Control System.

Board of Directors realizing about the importance of risk management and have direct responsibility for risk management of the organization. The objective is to support the operations of the Company's management division to be more efficient and achieve goals by specifying the policy and risk management framework and involved in all sections of the business. And specify the internal regulation, preventive and decrease risk measure, reporting system, monitoring procedure and regularly evaluate to cover business risk factors.

Board of Directors has delegated to the Audit Committee which consists of 3 independent directors and each one is not an employee of the Company to take the responsibility of review and audit the internal control to ensure that the operations are effective by checking balances and controlling use of the property for the benefit of the Company. The Internal Audit Department performs to assess the risk and internal operation control activities and report about the financial reporting audit and risk management report to the Audit Committee quarterly.

In addition, the Company sets up its own internal audit department aim to check and evaluate the internal control system of the Company and its subsidiaries. The Company prepares business code of conduct so called work book, implements the Key Performance Indicator (KPI) to control and evaluate the Company's operations and incorporates risk assessment based guidance from COSO (The Committee of Sponsoring Organization of Treachery Commission). Internal audit department will report the auditing results and comments to audit committee and board of directors on quarterly basis.

Furthermore, the Board of Directors has authorized the Risk Management Committee which consists of 2 independent directors, 1 executive director and 1 management division to take the responsibility of specifying the policy and risk management framework including specifying the roles and responsibility of management, and also participating in targeted to practical use in the organization by supervising and assessing the risk of all activities to ensure that performing in the compliance transparency and impartiality to all stakeholders and related parties.



22.2 Conclusion of Audit Committee about the internal control

In the Board of Directors' meeting 2/2017 dated February 22, 2017, Audit and Corporate Governance Committee (three independent directors), management and internal audit participated in this meeting. Following is the conclusion from the meeting regarding internal control system covering five areas;

1. Control Environment
2. Risk Assessment
3. Control Activities
4. Information & Communication
5. Monitoring Activities

Boards of Directors and the Audit Committee have the same opinions as the internal audit which is the Company's internal control system is adequate and appropriate. The Company has provided adequate personnel to operate under the system effectively, including a system of internal control to monitor the operations of the subsidiaries to protect the assets of the Company and the subsidiaries from directors or the management team's abuse of asset spending, including transactions with the persons who may have conflicts and related party. Those are sufficient for internal control in other topics and the Committee considers that the Company has adequate internal control as well.

Audit and Corporate Governance Committee and management have continuously paid attention on corporate governance, internal control and risk management with aim to have good corporate governance, efficient internal control, acceptable risk management, reliable accounting and financial reports, and straight-forward rules and regulations.



22.3 Head of company's internal audit.

At the meeting of the Audit Committee Meeting No. 4/2016 which held on October 20, 2016 has appointed Mr. Tanetsiri Farkmitr, Assistant Vice President of Internal Audit to be the head of internal audit of the company and Secretary to the Audit Committee instead of Mrs. Patchanee Tangjitjaruen who resigned due to resignation. Mr. Tanetsiri has an experience in the practice of internal audit for a period of more than 9 years before appointment and has passed the training courses such as "the Certification of Internal Auditors of Thailand CPIAT Association of Internal Auditors of Thailand (IIAT)" by related to operational aspects of internal audit. Thus, he is appropriate to be assigned in this position.

In order to consider approving, transferring, dismissal of the incumbent as a head of internal audit of the company must be approved or get the approval from the Audit Committee.



23. Related Transaction

23.1 Shareholding in Subsidiaries and Joint Ventures

- The related transaction between GUNKUL, subsidiaries and joint ventures (associated companies or affiliates) for normal business which are useful for company procedure. GUNKUL is the shareholder of the following subsidiaries and joint ventures.
 - The subsidiaries which hold for 100% stake are GIM, GIS, GMP
 - The subsidiaries which invest for 100% stake are GK Sendai, GK Kimitsu, GD Utsunomiya, GK East Japan Solar 13 (GK Iwakuni)
 - The subsidiaries which hold 99.99% stake are GKA, GKP, KNP, WED, GNP, KWE, GSP-1, GSP-2, GSP-3, GSP-4, GSP-5, BGP SGSE, SES, GSR-1, GSC, GPD
 - The subsidiaries which hold for 99.97% stake are GSR-2
 - The subsidiaries which hold for 99.94% stake are GBE
 - The subsidiaries which hold for 89.99% stake are GUNKUL-LED
 - The subsidiaries which hold for 74.90% stake are GOB and OGA, OGB, OGD, OGE, OGW-A, OGW-B (GUNKUL is the shareholder of OGA, OGB, OGD, OGE, OGW-A, OGW-B pass GOB)
 - subsidiaries which hold for 67% stake are IAE and RNS (GUNKUL is the shareholder IAE)
 - subsidiaries which hold for 51% stake are GKMCP-1 and ECO
 - The joint venture which hold for 51% stake are GCPG
 - The joint ventures which hold for 40% stake are GPS SWE
 - The joint ventures (no sharing control) holding 25.01% stake are WHA GSR-1, WHA GSR-2, WHA GSR-3, WHA GSR-4, WHA GSR-5, WHA GSR-6, WHA GSR-8, WHA GSR-9, WHA GSR-10, WHA GSR-16, WHA GSR-17
- So that the related transaction between the Company and subsidiaries and affiliates or joint ventures will not cause any conflict in the future.





23.2 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.
- Rental contracts between the Company and subsidiaries and related persons are made under rental contracts and re-let contracts to match with rates appraised by independent appraiser, Noble Property Valuation Co., Ltd and Thai Surveyor Advisory Co., Ltd. Hence, these rental and re-let contracts by the Company' group have conditions and rental rates which are comparable to others and are 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 made solar power plant construction contracts, on part of civil works and steel structure for solar cell panels, with related companies at prices lower than those of solar power plant construction in the initial phase, and comparable to construction contract made with a company on the same site.
- The Company's group signed the hiring contract to build the solar power plant and civil work with the related company 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's or the shareholder's meeting (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's operation. Conditions and prices of these acquisitions are comparable to acquire from a third party.
- All lending transactions between the Group companies and related companies are based on 2.60-5.00 p.a. interest charges. Such interest rates are averagely close to or slightly lower than interest rates of financial institutions. These lending are necessary and reasonable and benefit the Company and related companies' operations.

Credit Facilities and Collateral

As of 31st December 2016, GUNKUL got credit lines from 5 commercial banks for total amount of 4,493 million baht. Details are as follows.

Amount Type	Credit line (Million Baht)	Credit Line Amount which the Company, subsidiaries and joint venture available to share (Million Baht)										
		GKA	GKP	KNP	WED	GNP	NK	GPD	GLD	RNS	GCPG	GPS
1. Overdraft Limit	32.00	1.00	1.00	1.00	-	-	-	1.00	1.00	-	-	-
2. Letter of Guarantee	345.00	180.00	-	50.00	-	-	-	-	-	1.21	-	-
3. Letter of Guarantee and Letter of Credit / Trust receipt (Multi) *	1,405.50	190.00	190.00	193.15	-	12.00	-	213.92	190.00	-	0.45	-
4. Letter of Credit / Trust Receipt	665.00	80.00	170.00	-	-	-	-	-	-	-	-	-
5. Long Term Credit Line	-	-	-	-	-	-	-	-	-	-	-	-
6. Foreign Exchange Forward Contracts	2,045.50	25.00	29.00	20.00	-	-	-	20.00	20.00	-	-0	-
Total	4,493.00	476.00	390.00	264.15	-	12.00	-	234.92	211.00	-	0.45	-

* Credit line of " Multi " Type which got from one commercial bank , the subsidiaries, associates and affiliates available to share this credit line, asking for approving at a time.

All these credit lines are guaranteed by the right to claim and pledge of deposit account of the Company and/or of the subsidiaries, mortgages of land, buildings and equipment of the Company, subsidiaries, affiliates and directors (Details in topic 5.1 The main fixed assets for business operation "Form 56-1") and pledge of GUNKUL shares held by GKG including the guaranteed by the subsidiaries, and Mr. Gunkul Dhumrongpiyawut and Miss Sopacha Dhumrongpiyawut, the company's directors.



Related companies/persons	Relationship	Summary	Reason and necessity
1. Mr. Gunkul Dhumrongpiyawut	Chairman of the Board	Borrowing collaterals, total value of 1,135.00 million baht	- Banks asked Mr. Gunkul Dhumrongpiyawut to place collateral for borrowings as he is a major shareholder and director.
2. Miss Sopacha Dhumrongpiyawut	Director/ Chief Executive Officer	Borrowing collaterals, total value of 900.00 million baht	- Banks asked Miss Sopacha Dhumrongpiyawut to place collateral for borrowings as she is a major shareholder and director.
3. G.K. Assembly Co., Ltd.	Subsidiary	Borrowing collaterals, total value of 410.00 million baht	- Banks asked the Company to place collateral for borrowings as it is a subsidiary and an owner of collateral assets.
4. G.K.Power Products Co., Ltd.	Subsidiary	Borrowing collaterals, total value of 178.00 million baht	- Banks asked GKP to place collateral for borrowings as it is a subsidiary, share the borrowing amount.
5. K.N.P. Supply Co., Ltd.	Subsidiary	Borrowing collaterals, total value of 410.00 million baht	- Banks asked KNP to place collateral for borrowings as it is a subsidiary, an owner of collateral assets, and shares the borrowing amount.

Note : Including foreign exchange forward contract

Opinion of Audit Committee : This transaction is useful for the company, without asking for any return from the subsidiaries, related company and the persons have placed collaterals for the Company's borrowing.

As of 31st December 2016, G.K. Assembly Co., Ltd., a subsidiary, got credit lines from 2 commercial banks, which are joint credit lines with the parent company for 476.00 million baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Overdraft Limit	-	1.00	7.00
2. Letter of Guarantee	-	180.00	180.00
3. Letter of Guarantee and Letter of Credit / Trust Receipt (Multi) *	-	190.00	190.00
4. Letter of Credit / Trust Receipt	-	80.00	200.00
5. Foreign Exchange Forward Contacts	-	25.00	40.00
Total	-	476.00	617.00

All these credit lines are guaranteed by mortgage of land and buildings of the above subsidiary and mortgage of buildings of the Company and affiliates, including the guaranteed by the parent company and affiliates and by Mr. Gunkul Dhumrongpiyawut and Miss Sopacha Dhumrongpiyawut, the company's directors.

Opinion of Audit Committee : This transaction is useful for the above subsidiary, without asking for any return from the subsidiaries, related company and the persons have placed collaterals for the subsidiary's borrowing.

As of 31st December 2016, G.K Power Products Co., Ltd, the subsidiary, got credit lines from 3 commercial banks, which are joint credit lines with the parent company for 390.00 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Overdraft Limit	-	1.00	7.00
2. Letter of Guarantee and Letter of Credit/ Trust Receipt (Multi)	-	190.00	190.00
3. Letter of Credit / Trust Receipt	-	170.00	590.00
4. Foreign Exchange Forward Contacts	-	29.00	50.00
Total	-	390.00	837.00

All these credit lines are guaranteed by mortgage of land of directors, mortgage of buildings of the Company and of the above subsidiary, including the guaranteed by the parent company, affiliate, and Mr. Gunkul Dhumrongpiyawut and Miss Sopacha Dhumrongpiyawut, the company's directors.

Opinion of Audit Committee : This transaction is useful for the above subsidiary, without asking for any return from the subsidiaries, affiliates and the persons have placed collaterals for the subsidiary's borrowing.

As of 31st December 2016, K.N.P. Supply Co., Ltd., the subsidiary, got credit lines from 5 commercial banks, which are joint credit lines with the parent company for 265.83 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Overdraft Limit	-	1.00	7.00
2. Letter of Guarantee	1.68	50.00	180.00
3. Loan Guarantee and Letter of Credit / Trust Receipt (Multi)	-	191.43	1,994.43
4. Foreign Exchange Forward Contracts	-	20.00	20.00
Total	1.68	264.15	2,201.43

All these credit lines are guaranteed by the right to claim the subsidiary's deposit which pledges deposit account to banks, mortgages of land and buildings of the Company, the subsidiaries and Mr. Gunkul Dhumrongpiyawut and Miss Sopacha Dhumrongpiyawut, the company's directors.

Opinion of Audit Committee : This transaction is useful for the company, without asking for any return from the subsidiaries, related company and the persons have placed collaterals for the subsidiary's borrowing.



As of 31st December 2016, Wind Energy Development Co., Ltd., the subsidiary, got credit lines from 2 commercial banks for 3,742.00 Million Baht and USD 80.00 Million. Details are as follows:

Amount Type	Currency	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Letter of Guarantee	THB	17.00	-	-
2. Working Capital	THB	50.00	-	-
3. Letter of Credit	USD	82.00	-	-
4. Long Term Credit Line (Project Loan)	THB	3,675.00	-	-

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, the right to claim the electrical contract and related contracts, mortgages of land, buildings and equipment of the above subsidiary, the subsidiary's share certificate.

Opinion of Audit Committee : This transaction is reasonable as the subsidiary have placed collaterals for the borrowing.

As of 31st December 2016, Greenovation Power Co., Ltd. ,the subsidiary, got credit lines from 1 commercial bank and joint credit lines with the parent company for total of 4,534.00 Million Baht and USD 80.00 Million. Details are as follows:

Amount Type	Currency	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Letter of Guarantee	THB	17.00	12.00	1,804.43
2. Working Capital	THB	50.00	-	-
3. Letter of Credit	USD	82.00	-	-
4. Long Term Credit Line (Project Loan)	THB	4,455.00	-	-

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, the right to claim the electrical contract and related contracts, mortgages of land, buildings and equipment of the above subsidiary, the subsidiary's share certificate.

Opinion of Audit Committee : This transaction is reasonable and no asking any return from the person who have placed collaterals for the borrowing.

As of 31st December 2016, N.K. Power Solar Co., Ltd., the subsidiary, got credit lines from 1 commercial bank for 24.00 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Long Term Credit Line	24.00	-	-
Total	24.00	-	-

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, the right to claim the electrical contract and related contract, mortgages of land, buildings and equipment of the Company, the subsidiary's share certificate.

Opinion of Audit Committee : This transaction is reasonable as the subsidiary have placed collaterals for the borrowing.

As of 31st December 2016, Gunkul Power Development Co., Ltd., the subsidiary, got credit lines from 2 commercial banks, which are joint credit lines with the parent company for the total of 384.92 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Overdraft Limit	-	1.00	7.00
2. Letter of Guarantee and Letter of Credit / Trust Receipt (Multi)	150.00	213.92	1,994.43
3. Foreign Exchange Forward Contacts	-	20.00	20.00
Total	150.00	234.92	2,021.43

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, GUNKUL pledge which held by GKG, mortgages of land, buildings of the directors including the guaranteed by the parent company.

Opinion of Audit Committee : This transaction is useful for the company, without asking for any return from the subsidiaries, related company and the persons have placed collaterals for the subsidiary's borrowing.

As of 31st December 2016, Gunkul LED Lighting Co., Ltd, .the subsidiary, got credit lines from 2 commercial banks, which are joint credit lines with the parent company for the total of 262.00 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Overdraft Limit	-	1.00	7.00
2. Letter of Guarantee	20.00	-	-
3. Letter of Guarantee and Letter of Credit / Trust Receipt (Multi)	-	190.00	190.00
4. Letter of Credit / Trust Receipt	30.00	-	-
5. Foreign Exchange Forward Contacts	1.00	20.00	30.00
Total	51.00	211.00	227.00

All these credit lines are guaranteed by mortgages of land and buildings of the Company's director, including the guaranteed by the parent company, subsidiaries, and Mr. Gunkul Dhumrongpiyawut and Miss Sopacha Dhumrongpiyawut, the company's directors.

Opinion of Audit Committee : This transaction is useful for the company, without asking for any return from the subsidiaries, related company and the persons have placed collaterals for the subsidiary's borrowing.

As of 31st December 2016, Rang Ngern Solution Co., Ltd., the subsidiary, got credit lines from 1 commercial bank, which are joint credit lines with the parent company for the total of 4,111.21 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Letter of Guarantee	-	1.21	-
2. Working Capital	30.00	-	-
3. Long Term Credit Lind (Project Loan)	4,080.00	-	-
Total	4,110.00	1.21	-

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, the right to claim the electrical contract and related contract, mortgages of land, buildings and equipment of the Company and the subsidiary's share certificate.

Opinion of Audit Committee : This transaction is reasonable as the subsidiary have placed collaterals for the borrowing.



As of 31st December 2015, Gunkul Chubu Powergen Co., Ltd, .the subsidiary, got credit lines from 1commercial bank, which are joint credit lines with the parent company for 2,347.55 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Loan Guarantee and Letter of Credit / Trust Receipt (Multi)	-	0.45	1,804.43
2. Long Term Credit Line (Project Loan)	2,347.10	-	-
Total	2,347.10	0.45	1,804.43

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, the right to claim the electrical contract and related contract, mortgages of land, buildings and equipment of the Company and the subsidiary's share certificate.

Opinion of Audit Committee : This transaction is reasonable as the subsidiary have placed collaterals for the borrowing.

As of 31st December 2015, G-Power Source Co., Ltd., the subsidiary, got credit lines from 1commercial bank, for 2931.00 Million Baht. Details are as follows:

Amount Type	Company's Credit Line (Million Baht)	Shared Credit Line of GUNKUL (Million Baht)	From GUNKUL Credit Line (Million Baht)
1. Long Term Credit Line (Project Loan)	2,931.00	-	-
Total	2,931.00	-	-

All these credit lines are guaranteed by the right to claim the above subsidiary's deposit account, the right to claim the electrical contract and related contract, mortgages of land, buildings and equipment of the Company and the subsidiary's share certificate.

Opinion of Audit Committee : This transaction is reasonable as the subsidiary have placed collaterals for the borrowing.



23.3 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	December 31, 2016 - GUNKUL was major shareholder of GIM for 100% stake.
Gunkul Investment (Singapore) Pte. Ltd.	GIS	Overseas Investment	December 31, 2016 - GIM was major shareholder of GIS for 100% stake.
Gunkul Myanmar Power (Hlawga) Ple, Ltd.	GMP	Overseas Investment	December 31, 2016 - GIS was major shareholder of GMP for 100% stake.
Subsidiaries : GUNKUL invest for 100% stake			
Sendai Okura Mega Solar Godo Kaisha	GK Sendai	Generating Electrical Power	December 31, 2016 - GIM and BGP invested in GK Sendai in total for 100% stake.
Kimitsu Mega Solar Godo Kaisha	GK Kimitsu	Generating Electrical Power	December 31, 2016 - GIM and BGP invested in GK Kimitsu in total for 100% stake.
GD Utsunomiya	GD Utsunomiya	Generating Electrical Power	- December 31, 2016 GIM and BGP invested in GD Utsunomiya in total for 100% stake.
GK East Japan Solar 13	GD Iwakuni	Generating Electrical Power	- December 31, 2016 GIM and BGP invested in GK Iwakuni in total for 100% stake.
Subsidiaries : GUNKUL holding 99.99% stake			
G.K. Assembly Co., Ltd.	GKA	Manufacturing Electrical Products	December 31, 2016 - 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.



Company	Symbol	Type of Business	Relationship
			<ul style="list-style-type: none"> - Shared directors between GKA and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mrs. Areewan Chaloezman.
G.K.Power Products Co., Ltd.	GKP	Manufacturing Electrical Products	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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 Chaloezman.
K.N.P. Supply Co., Ltd.	KNP	Supplying Electrical Products	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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 Sricharoen.
Wind Energy Development Co., Ltd.	WED	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of WED for 99.99% stake. - Shared shareholder between GUNKUL and WED is Mr. Gunkul Dhumrongpiyawut holding 0.001% 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.



Company	Symbol	Type of Business	Relationship
Greenovation Power Co., Ltd.	GNP	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.
NK Power Solar Co., Ltd.	NKP	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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 1 Co., Ltd.	GSP-1	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of GSP-1 for 99.99% stake. - Shared shareholders between GUNKUL and GSP1 are Miss Sopacha Dhumrongpiyawut holding 0.0001% stake and Mr. Somboon Aueatchasai holding 0.0001% stake in GSP-1. - Shared director between GSP-1 and GUNKUL is Miss Sopacha Dhumrongpiyawut.



Company	Symbol	Type of Business	Relationship
Gunkul Solar Power 2 Co., Ltd.	GSP-2	Generating Electrical Power	December 31, 2016 - GUNKUL was major shareholder of GSP-2 for 99.99% stake. - Share shareholders between GSP-2 and GUNKUL are Miss Sopacha Dhumrongpiyawut holding 0.0001% stake and Mr. Somboon Aueatchasai holding 0.0001% stake in GPS-2. - Shared director between GSP-2 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 3 Co., Ltd.	GSP-3	Generating Electrical Power	December 31, 2016 - GUNKUL was major shareholder of GSP-3 for 99.99% stake. - Shared director between GSP-3 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 4 Co., Ltd.	GSP-4	Generating Electrical Power	December 31, 2016 - GUNKUL was major shareholder of GSP-4 for 99.99% stake. - Shared director between GSP-4 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Gunkul Solar Power 5 Co., Ltd.	GSP-5	Generating Electrical Power	December 31, 2016 - GUNKUL was major shareholder of GSP-5 for 99.99 % stake. - Shared director between GSP-5 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
Bright Green Power Co., Ltd.	BGP	Generating Electrical Power	December 31, 2016 - GUNKUL was major shareholder of BGP for 99.99% stake.
Siam Gunkul Solar Energy Co., Ltd.	SGSE	Generating Electrical Power	December 31, 2016 - GUNKUL was major shareholder of SGSE for 99.99% stake. - Shared shareholders between SGSE and GUNKUL are Miss Sopacha Dhumrongpiyawut holding 0.0002% stake and 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	December 31, 2016 - GUNKUL was major shareholder of SES for 99.99% stake.



Company	Symbol	Type of Business	Relationship
Gunkul Solar Roof1 Co., Ltd.	GSR-1	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of GSR-1 for 99.99% stake. - Shared shareholders between GSR-1 and GUNKUL are Miss Sopacha Dhumrongpiyawut by holding 0.0005% stake and 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.
Gunkul Solar Community Co., Ltd.	GSC	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of GSC for 99.99% stake. - Shared shareholders between GSC and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut by holding 0.001% stake each 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	Contractors and Generating Electric Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of GPD for 99.99% stake. - Shared shareholders between GPD and GUNKUL are Miss Sopacha Dhumrongpiyawut holding 0.0002% stake and Mr. Somboon Aueatchasai holding 0.0002% stake in GPD. - Shared directors between GPD and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.



Company	Symbol	Type of Business	Relationship
Subsidiaries : GUNKUL holding for 99.97% stake			
GunKul Solar Roof 2 Co., Ltd.	GSR-2	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of GSR-2 for 99.97% stake. - Shared shareholders between GSR-2 and GUNKUL are Miss Sopacha Dhumrongpiyawut holding 0.01% stake and Mr. Somboon Aueatchasai holding 0.01% stake in GSR-2. - Shared director between GSR-2 and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Subsidiaries : GUNKUL holding for 99.94% stake			
Gunkul Bio Energy Co., Ltd.	GBE	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was a shareholder of GLED for 99.94% stake. - Shared shareholder between GBE and GUNKUL is Mr. Somboon Aueatchasai holding 0.02% stake in GBE. - Shared director between GBE and GUNKUL is Mr. Somboon Aueatchasai.
Subsidiaries : GUNKUL holding for 89.99% stake			
Gunkul LED Lighting Co., Ltd.	GUNKUL-LED	Generating LED Bulbs	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was a shareholder of GUNKUL-LED for 89.99% stake. - Shared shareholder between GUNKUL-LED and GUNKUL is Miss Naruechon Dhumrongpiyawut holding 0.0001% stake in GUNKUL-LED. - Shared directors between GUNKUL-LED and GUNKUL are Miss Naruechon Dhumrongpiyawut and Mr. Somboon Aueatchasai.



Company	Symbol	Type of Business	Relationship
Subsidiaries : GUNKUL holding for 74.90% stake			
G.O. Bio Energy Co., Ltd.	GOB	Investing in Generating Electrical Power Business Company	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.	OGA	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.
Outgrow B Co., Ltd.	OGB	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.



Company	Symbol	Type of Business	Relationship
Outgrow D Co., Ltd.	OGD	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.	OGE	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.
Outgrow Wood Supply A Co., Ltd.	OGW-A	Related to Power Plant Business	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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.



Company	Symbol	Type of Business	Relationship
Outgrow Wood Supply B Co., Ltd.	OGW-B	Related to Power Plant Business	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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 67% stake			
Infinite Alternative Energy Co., Ltd.	IAE	Investing in Generating Electrical Power Business Company	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was major shareholder of IAE for 67.00% stake. - Shared director between IAE and GUNKUL are Mr. Somboon Aueatchasai and Miss Naruechon Dhumrongpiyawut.
Rang Ngern Solution Co., Ltd.	RNS	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - IAE was major shareholder of RNS for 99.99% stake, GUNKUL held RNS pass IAE - Shared director between RNS and GUNKUL is Miss Naruechon Dhumrongpiyawut.
Subsidiaries : GUNKUL holding for 51% stake			
Eco Thai Energy Co., Ltd.	ECO	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GMP was major shareholder of GMCP-1 for 51.00% stake.



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	<p>December 31, 2016</p> <ul style="list-style-type: none"> - 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 Companies and Joint Ventures : GUNKUL holding for 40% stake			
G- Power Source Co., Ltd.	GPS	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was a shareholder of GPS for 40.00 % stake. - Shared directors between GPS and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai.
Siam Wind Energy Co., Ltd.	SWE	Generating Electrical Power	<p>December 31, 2016</p> <ul style="list-style-type: none"> - GUNKUL was a shareholder of SWE at 40.00% stake. - Shared shareholder between GUNKUL and SWE is Miss Naruechon Dhumrongpiyawut holding 0.01% stake in SWE. - Shared directors between SWE and GUNKUL are Miss Sopacha Dhumrongpiyawut and Mr. Somboon Aueatchasai, sharing control by GUNKUL.



Company	Symbol	Type of Business	Relationship
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	December 31, 2016 - 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 2 Co., Ltd.	WHA_GSR-2	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-2 for 25.01% stake. - Shared director between WHA GSR-2 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 3 Co., Ltd.	WHA_GSR-3	Generating Electrical Power	December 31, 2016 - 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 4 Co., Ltd.	WHA_GSR-4	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-4 for 25.01% stake. - Shared director between WHA GSR-4 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 5 Co., Ltd.	WHA_GSR-5	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-5 for 25.01% stake. - Shared director between WHA GSR-5 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 6 Co., Ltd.	WHA_GSR-6	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-6 for 25.01% stake. - Shared director between WHA GSR-6 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 8 Co., Ltd.	WHA_GSR-8	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-8 for 25.01% stake - Shared director between WHA GSR-8 and GUNKUL is Miss Sopacha Dhumrongpiyawut.



Company	Symbol	Type of Business	Relationship
WHA Gunkul Green Solar Roof 9 Co., Ltd.	WHA_GSR-9	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-9 for 25.01% stake - Shared director between WHA GSR-9 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 10 Co., Ltd.	WHA_GSR-10	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-10 for 25.01% stake. - Shared director between WHA GSR-10 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 16 Co.,Ltd.	WHA_GSR-16	Generating Electrical Power	December 31, 2016 - GUNKUL was a shareholder of WHA GSR-16 for 25.01% stake. - Shared director between WHA GSR-16 and GUNKUL is Miss Sopacha Dhumrongpiyawut.
WHA Gunkul Green Solar Roof 17 Co.,Ltd.	WHA_GSR-17	Generating Electrical Power	December 31, 2016 - 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 49.79% stake. - GKG is held by Dhumrongpiyawut family at 99.64% stake. - GKG has shared director with GUNKUL which is Mr. Gunkul Dhumrongpiyawut.
Future Electrical Control Co., Ltd.	FEC	Contractor	- FEC has joined major shareholder with GUNKUL which is GKG and Dhumrongpiyawut family by holding 95% and 3.60% respectively. - Previously, FEC was importer of transmission equipment to sell to GUNKUL. Now FEC has changed its business objective to contractor, while transmission equipment business was terminated since 2008.
Kulnatee Co., Ltd.	KNT	Marine Transport in Asian Region	- Major shareholder of KNT is Sricharoen family holding 97.93% stake, Sricharoen family is a family of Miss Sopacha Dhumrongpiyawut.



Company	Symbol	Type of Business	Relationship
Gunkul Trading & Agency Co., Ltd.	GKT	International Marine Transport	<ul style="list-style-type: none"> - 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.	GML	Operating Closed	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - GMS is held by Dhumrongpiyawut family holding 98.00% stake. - Shared director between GMS and GUNKUL is Mr. Gunkul Dhumrongpiyawut.
Siam Gunkul Power Co., Ltd.	SGP	Electricity Industry	<ul style="list-style-type: none"> - SGP is held by Dhumrongpiyawut family holding 75.00% stake. - Shared director between SGP and GUNKUL is Mr. Gunkul Dhumrongpiyawut.
Siam Future Co., Ltd.	SF	Electricity Industry	<ul style="list-style-type: none"> - Major shareholder of SF is GKG holding 99.97% stake. - Share directors between SF and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.01% stake each in SF. - Shared director between SF and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Happy Green 2558 Co., Ltd.	HPG	Electricity Industry	<ul style="list-style-type: none"> - Major shareholder of HPG is GKG holding 99.94% stake. Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each. - Shared directors between HPG and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Tech-Green Co., Ltd.	TG	Electricity Industry	<ul style="list-style-type: none"> - Major shareholder of TG is GKG holding 99.94% stake, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each. - Shared directors of TG and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.

Company	Symbol	Type of Business	Relationship
Thanasap 2558 Co., Ltd.	TNS	Electricity Industry	<ul style="list-style-type: none"> - Major shareholder of TNS is GKG holding 99.94% stake. Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each. - Shared directors between TNS and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Entirety Sap Co., Ltd.	ETS	Electricity Industry	<ul style="list-style-type: none"> - Major shareholder of ETS is GKG holding 99.94% stake, Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut holding 0.02% stake each. - Shared directors between ETS and GUNKUL are Miss Sopacha Dhumrongpiyawut and Miss Naruechon Dhumrongpiyawut.
Gunkul Tech Co., Ltd.	GTC	Technology	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Major shareholder of NPK is Miss Naruechon Dhumrongpiyawut holding 82.00% stake and Srirachoen family holds 9.00% stake. - Shared director between NPK and GUNKUL is Miss Naruechon Dhumrongpiyawut.
Joint venture between BE-FEC	JV-BE-FEC	Contractor	- Joint venture between BE and FEC has FEC as partner to do contracting business.
Joint venture between FEC and SAC	JV-FEC &SAC	Contractor	- Joint venture between FEC and SAC has FEC as partner to do contracting business.
Green Field Energy Co., Ltd.	Greenfield	Real Estate	- Shareholder of Greenfield is Mr. Khabaphat Jirakasempong, he is a relative of Mr. Gunkul 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
Related Person			
Mr. Gunkul Dhumrongpiyawut	-	Director	- Mr. Gunkul Dhumrongpiyawut and family holds 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 of GUNKUL.
Miss Naruechon Dhumrongpiyawut	-	Director	- Miss Naruechon Dhumrongpiyawut is Mr.Gunkul Dhumrongpiyawut's daughter. She is a Executive Director of GUNKUL.
Mr. Pawich Dhumrongpiyawut	-	Mr. Gunkul Dhumrongpiyawut's son	- Mr. Pawich Dhumrongpiyawut is Mr.Gunkul Dhumrongpiyawut's son.
Mr. Chaloepon Sritharoen	-	Director	- Mr.Chaloepon Sritharoen is Miss Sopacha Dhumrongpiyawut's younger brother. He is a Executive Director of GUNKUL.

23.4 Summary of related transactions in 2015 and 2016

(1) Sales of goods and rendering of service

Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL	GKA	Sale of goods	2.25	8.76	GUNKUL sold raw material to GKA on cost plus 5-30% profit, for production of finished goods.
		Account receivables	0.82	1.62	
		Advanced payment	-	0.01	
	GKP	Sale of goods	0.01	0.14	GUNKUL sold raw material to GKP on cost plus 5-30% profit, for production of finished goods.
		Account receivables	-	0.04	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	KNP	Sale of goods	21.35	10.82	GUNKUL sold finished goods to KNP for selling to the client who works in government group on cost plus 5-30% profit.
		Account receivables	1.36	0.98	
		Advanced payment	0.01	0.05	
	FEC	Sale of goods	1.56	18.13	GUNKUL sold finished goods to FEC for use in construction which is the main business of FEC on cost plus 5-30% which is comparable to other clients.
		Account receivables	1.11	0.55	
	KNT	Sale of goods	0.10	0.06	GUNKUL sold finished goods to KNT for use in marine transport on cost plus 5-30% which is comparable to other clients.
		Account receivables	0.02	0.01	
	GPS	Service revenue O&M	23.76	23.91	GUNKUL signed the Operation & Maintenance (O&M) contract amount 104.30 million baht of 4 solar power plants for GPS in the capacity of 6.5 MW x 4 sites, Takeed, Tasang, Dongkorn and Buengsampun for 5 years.
		Account receivables	-	5.53	
	GCPG	Account receivables - construction work	21.80	-	GUNKUL signed the EPC contract for additional Bankluay Phase I in the capacity of 0.69 MW for amount 19.70 million baht to GCPG cost plus 5-16% profit.
		Service revenue O&M	24.99	25.85	GUNKUL signed the Operation & Maintenance (O&M) with GCPG 4 solar power plants for 5 years, Site Vicienburi size 8MW for 40.80 million baht, Site Srichula size 8MW for 40.80 million baht, Site Nurnpor size 4.5 MW for 25.50 million baht and Buengsampun size 3 MW for 20.40 Million Baht.
		Unearned service revenue O&M	0.52	0.55	
		Advanced service revenue O&M	4.39	4.61	
		Service revenue S&A	4.54	4.72	
		Other receivables	0.41	0.42	GUNKUL signed the service agreement with GCPG for 5 years starting on 1st of January 2013 to 31st December 2017 by service fee of 375,000.00 baht per month (2016 : service fee 378,560.00 baht per month).



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	NKP	Service revenue O&M	1.50	1.51	GUNKUL signed the O&M agreement with NKP at Bo Ploy branch, Kanchanaburi province, capacity 0.94 MW amount 7.65 million baht for 5 years on November 16, 2013-November 15, 2018.
		Unearned income	-	0.05	
	GPD	Sale of goods	9.09	8.63	GUNKUL sold finished goods to GPD for solar power plant construction on cost plus 5-30%.
		Account receivables	9.46	0.02	
		Receivables advances	-	0.03	
		Service revenue O&M	-	8.61	
	GUNKUL-LED	Sale of goods	0.03	-	GUNKUL sold finished goods to GUNKUL-LED for solar power plant construction on cost plus 5-30%.
		Advanced payment	0.01	-	
	SGSE	Sale of goods	19.00	0.06	GUNKUL sold electrical and solar panel to SGSE for solar power rooftop on cost plus 5-30%.
	SES	Sale of goods	10.57	-	GUNKUL sold electrical equipment and Inverter to SES for solar cell rooftop on cost plus 5-30%.
	RNS	Sale of goods	1.72	0.44	GUNKUL sold finished goods PV, Inverter & DC to RNS for solar cell on cost plus 5-30%.
		Account receivables	1.85	-	
		Service revenue S&A	-	5.04	
GKA	KNP	Sale of goods	69.32	29.98	GKA sold finished goods to KNP for selling to the client who works in government group on cost plus 5-30% profit.
		Account receivables	-	2.44	
	GKP	Sale of goods	24.01	41.35	GKA sold raw material to GKP to produce finished goods on cost plus 5-30%
		Account receivables	3.56	12.89	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	GUNKUL-LED	Sale of goods	9.39	2.64	GKA Sold raw materials to GUNKUL-LED on cost plus 5-30%, for production of finished goods.
		Service revenue	0.07	-	
		Account receivables	9.25	-	
	FEC	Sale of goods	409.30	37.01	GKA manufactures metal parts and render services to FEC. FEC uses the goods for construction of steel structure of solar cell panels and EPC construction works from GUNKUL on cost plus 5-30%.
		Service revenue	54.98	4.16	
		Account receivables	16.06	38.88	
		Accrued service income	-	3.14	
	GCPG	Sale of goods	-	0.03	GKA sold solar panel to GCPG for spare part on cost plus 5-30%
	GPD	Sale of goods	0.09	0.11	GKA sold raw materials to GPD for production finished goods on cost plus 5-30%
		Account receivables	-	0.11	
GKP	KNP	Sale of goods	51.65	13.78	GKP sold finished goods to KNP for selling to the client who works in government group on cost plus 5-30% profit.
		Account receivables	7.28	-	
	GPD	Sale of goods	12.10	0.27	GKP sold finished goods to GPD for solar power plant construction on cost plus 5-30% which is comparable to other clients.
		Account receivables	8.42	0.29	
	FEC	Sale of goods	2.13	2.25	GKP sold finished goods to FEC uses for construction which is the main business of FEC on cost plus 5-30% which is comparable to other clients.
		Account receivables	0.01	0.08	
	RNS	Sale of goods	182.12	0.17	GKP sold finished goods to RNS for solar power work on cost plus 5-30%
		Account receivables	1.14	-	
	GCPG	Sale of goods	-	5.09	GKP sold finished goods to GCPG for use in solar power plant on cost plus 5-30% which is comparable to other clients.
		Account receivables	-	5.45	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL-LED	FEC	Sale of goods	0.71	-	GUNKUL-LED sold LED Lighting bulbs for FEC to install street lamp on cost plus 5-30% which is comparable to other clients.
GPD	WHA_GSR-1	Service revenue O&M	0.52	0.53	GPD signed the Operation & Maintenance (O&M) with WHA GSR-1, WHA GSR-3, and WHA GSR-6, WHA GSR-17 total 5 places for 5 years starting the contract on July 16, 2014 with contract value 14.13 million baht.
		Unearned service revenue O&M	0.04	0.05	
	WHA_GSR-3	Service revenue O&M	0.69	0.70	GPD signed the Operation & Maintenance (O&M) with WHA GSR-1, WHA GSR-3, WHA GSR-6, WHA GSR-17 total 5 places for 5 years starting contract on July 16, 2014 contract value 14.13 million baht.
		Unearned service revenue O&M	0.06	0.06	
	WHA_GSR-6	Service revenue O&M	0.50	0.70	GPD signed the Operation & Maintenance (O&M) with WHA GSR-1, WHA GSR-3, WHA GSR-6, WHA GSR-17 total 5 places for 5 years starting contract on July 16, 2014 contract value 14.13 million baht.
		Unearned service revenue O&M	0.06	0.06	
		Receivables advances	1.69	-	GPD advanced VAT fees for WHA GSR-6 to import electrical equipment from oversea
	WHA_GSR-17	Service revenue O&M	0.82	0.84	GPD signed the Operation & Maintenance (O&M) with WHA GSR-1, WHA GSR-3, WHA GSR-6, WHA GSR-17 total 5 places for 5 years starting contract on July 16, 2014 contract value 14.13 million baht.
		Unearned service revenue O&M	0.07	0.07	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	SES	Receivables advances	0.06	-	GPD advanced VAT fees for SES to import electrical equipment from oversea.
		Construction revenue	10.00	-	
		Account receivables construction work	1.60	1.60	GPD was hired by SES to build the solar rooftop capacity 873.60 KW at Pranakorn Nua 1, contract value 10.00 million baht.
	SGSE	Construction revenue	14.33	-	GPD was hired by SGSE to build the solar rooftop and the project Solar Roof SSW Donmuang capacity 873.60 KW contract value 14.33 million baht
	RNS	Sale of goods/services	-	0.17	GPD signed the Operation & Maintenance (O&M) with RNS total 10 places for 5 years starting contract on November 10, 2015 - October 10, 2020 total amount for 10 contracts is 259.09 million baht.
		Service revenue O&M	1.59	51.20	
		Unearned income	-	1.80	
	WED	Sale of goods/services	-	0.02	Material cost for recreational buildings construction that GDP charged from WED on cost plus 5-30% profit.
		Account receivable	-	0.02	

(2) Purchase of goods and taking of services

Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL	GKP	Purchase of goods	143.64	206.74	GUNKUL bought finished goods from GKP for selling to company's customer on cost plus 5-30% and hiring service from GKP on cost 5-30%
		Account payables	56.60	40.96	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	GKA	Purchase of goods	122.12	227.80	GUNKUL bought finished goods from GKA for selling to company's customer on cost plus 5-30%
		Account payables	20.41	73.55	
		Other payables	0.18	-	
	KNP	Purchase of goods	36.92	54.89	GUNKUL bought finished goods from KNP for selling to company's customer on cost plus 5-30%
		Account payables	-	23.22	
		Commissions payable	0.10	-	
	GUNKUL-LED	Purchase of goods	0.91	2.78	GUNKUL bought finished goods from bulbs and LED 1 from GUNKUL-LED
		Account payables	0.48	0.25	
	FEC	Construction work/Service	49.97	255.71	GUNKUL signed contract for the construction of the power plant and wind energy size 60 MW (Subplu1:8 MW, Subplu 2: 2 MW, Wayu: 50 MW) located at Huay Bong, Dan Khuntod, Nakornrachasrima, contract value 340 million baht.
		Advance payments for construction	42.33	-	
		Account payables	53.47	-	
		Creditor insurance contributions	14.81	36.36	
	GPD	Purchase of goods	7.45	-	GUNKUL bought the goods from GPD for selling to the company's customers on cost plus 5-30% profit
GKA	GKP	Purchase of goods	1.07	0.95	GKA bought raw material from GKP to production the finished goods on cost plus 5-30%
		Account payables	0.59	0.48	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	FEC	Purchase of goods	0.06	-	GKA bought Ground Screw from FEC on cost plus 5-30%
		Account payables	-	-	
	GUNKUL-LED	Purchase of goods	0.14	0.04	GKA bought LED bulbs from GUNKUL-LED for office uses.
		Account payables	0.02	-	
WED	FEC	Construction	99.22	14.89	WED hiring FEC to construct the electric post and electric high voltage line management 115 KV at Huaybong, Nakornrachasrima, value contract 147.07 million baht.
		Creditor insurance contributions	14.71	16.20	
GPD	FEC	Fees	58.02	34.05	GPD signed contract to hiring the power plant and solar power size 8 MW at Tahkwean, Wattana Nakorn, Sakaew contract valued 67.91 million baht and the management of Solar Roof project. Construction contract of solar power plant size 111 kW Sakaeporong, Amphur Muang, Buriram Province.
		Account payables	2.04	1.35	
		Creditor insurance contributions	6.12	-	
	GLED	Purchase of goods	-	0.01	GPD bought LED bulbs from GUNKUL-LED for office uses on cost plus 5-30%.
GKP	GUNKUL-LED	Purchase of goods	0.04	-	GKP bought LED bulbs from GUNKUL-LED for office uses.
		Account payables	0.01	-	
RNS	FEC	Construction work	-	80.58	RNS hired FEC to do a turnkey extra project, a flood protection system, an installation of pumping station, a civil and a public utility testing and a transmission system 115kV, value contract 93.12 million baht.
		Creditor insurance contributions	-	8.84	
		Asset payables	-	1.11	
KWE	FEC	Construction work	-	24.58	RNS hired FEC to construct a transmission system 115kV.
		Asset payables	-	19.86	



(3). Acquisition and divestment of assets and rental

Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL	GK2000	Rental	4.20	6.78	GK 2000 rented land and building from Mr. Gunkul dhumrongpiyawut and then re-rent it to GUNKUL to use land and building size 2,210 sq.m. as a warehouse (Ruamjit) size 560 sq.wah and a warehouse (Pichai) size 558 sq.wah with three-years contract starting from July 1, 2012 to June 30, 2015, at average rental rate of 467,000.00 baht/ month and renew a lease for 2 years from January 1, 2016 to December 31, 2017, at average rental rate of 565,000.00 baht/ month or 100.28 baht/ sqm. for land and a head office building. This rental rate is added with 10% from last year rate that is appraised by independent appraiser, Noble Property Company Limited, at 314.38 baht/sq.wah for Ruamjit and 452.63 baht/sq.wah for Pichai warehouse.
	GMS	Rental	1.43	1.54	GMS who leased 2 little deeds of land including building from Mr.Gunkul Dhumrongpiyawut in the toal 0-3-31 Rai (331 squaremeters) at Soi Watsawadiwari Srimaram, Nakornchaisri Road, Nakornchaisri, Dusit, Bangkok and sublease to GUNKUL in the purpose of office and garage using during April 17, 2013 - December 31, 2015 by rental fee in amount of 119,000 baht per month. Then, renew a lease for 2 years from January 1, 2016 to June 30, 2016 at average rental rate of 128,000 baht/ month and from July 1, 2016 to December 31, 2017 at average rental rate of 115,500 baht/ month due to a rental space is reduce to 302.50 sq.wah. This rental rate is added with 8% from last year rate which referred to the appraisal from independent appraiser, Thai Surveyor and Advisory Co., Ltd.



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	NK	Rental Income	0.18	0.38	NK Signed lease agreement with GUNKUL for title deed of land NorSor 3 no. 86 located at Nongkum, Borploy, Karnchanaburi Province in the total area of 19-2-23 Rai for solar power plant construction in the capacity of 0.94 Mw starting June 12, 2013 for 26 years in total rental amount of 6.06 million baht.
		Advance Rental Revenue	0.08	-	
		Rental Receivable	-	0.12	
	GSR1	Rental Income	0.02	0.02	GUNKUL allowed GSR1 to rent factory's rooftop in order to install solar panel 600 Sq.m during 3 years, rental fees 1 Sq.m./3 baht (starting September 3, 2014)
	GUNKUL-LED	Sale of Property	0.02	-	GUNKUL sold a set of computer to GUNKUL-LED
	WED	Sale of Property	26.26	-	An over Short-term Lending which happened during the construction of Supplu 1 & 2 is recorded into a project cost.
GKA	GKP	Rental Income	1.20	1.00	GKA rented manufacturing building size 1,384 sq.m. to GKP to use for goods assembly, with 3 year contract starting from July 1, 2012 to December 31, 2015 at rental rate of 100,000 baht/ month. Then, renew a lease for 2 years from January 1, 2016 to December 31, 2017 at average rental rate of 83,000 baht/ month
	GUNKUL-LED	Rental Income	0.58	0.40	GKA rented some part of factory area to GUNKUL-LED to manufacturing Led bulbs lighting, area size 380 sq.m. at 110/22 M.2, T.Mahasawat, Bang Kruay, Nonthaburi. Agreement during 3 years starting July 1, 2014 to June 30, 2017 rental 48,000.00 baht/month. However, an area size is change into 561 sq.m. and a rental rate is 33,000 baht/ month referred to the appraisal. The new contract will start from January 1, 2016 to December 31, 2017.
	GSR1	Rental Income	0.12	0.12	GKA rented factory rooftop area to GSR1 for install solar panels 3,456 sq.m. Agreement during 3 years rented per month is 3 baht/sq.m (starting September 2, 2014).



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	Director	Rental	0.69	0.69	GKA signed a contract to rent land 3,472 sq.m. on 2 title deeds of land, on Plai Bang Road, Nonthaburi from Mr. Gunkul Dhumrongpiyawut for use as supplies and goods storage where the land is located near GKA's factory. The term of rent agreement is 3 years starting from January 1, 2012 to December 31, 2015 at rental rate of 57,800 baht/ month. Then, renew a lease for 2 years from January 1, 2016 to June 30, 2017 at average rental rate of 57,800 baht/ month and from July 1, 2017 to December 31, 2017 at average rental rate of 63,600 baht/ month.
GKP	GMS	Rental	0.50	0.61	GMS rented land and building size 300 sq.wah from Mr. Gunkul dhumrongpiyawut and re-let them to GKP for use as office, testing building and warehouse in total of 850 sq.m. The term of rent agreement is 3 years starting from July 1, 2012 to December 30, 2015 at rental rate of 42,000 baht/ month. Then, renew a lease for 2 years from January 1, 2016 to December 31, 2017 at average rental rate of 51,000 baht/ month. This rental rate is added with 10% from last year rate that is appraised by independent appraiser, Noble Property Company Limited.
KNP	GK 2000	Rental	1.06	1.28	GK2000 who rented land and warehouse (Ratchaneekorn) from Mr. Gunkul Dhumrongpiyawut re-lets the land area size 150 sq.m. and warehouse (Ratchaneekorn) size 169 sq.wah. to KNP for use as an office, testing building and warehouse. The term of contract is 3 years from July 1, 2012 - December 30, 2015 at total rental rate of 88,500 baht/month. Then, renew a lease for 2 years from January 1, 2016 to December 31, 2017 at average rental rate of 107,000 baht/ month or 100.28 baht/ sq.m. for land and a head office building. The rental rate for land and a warehouse (Ratchaneekorn) is 544.86 baht/sq.m. This rental rate is added with 10% from last year rate that is appraised by independent appraiser, Noble Property Company Limited.



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL-LED	PMBG	Fees and Service	0.70	0.68	GUNKUL-LED rented the office area of PM and PMBG Building to be the head office size 225 sq.m. located at 23 Ruamjit Road, Nakornchisri, Dusit Bangkok during 3 years contract from January 9, 2015 - January 8, 2018, rental rate 28,125.00 baht/month including the service contract of the building at rate 28,125 baht/ month.

(4) Financial Support

Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL	WED	<u>Short-term borrowing</u>			GUNKUL borrowed money from WED for working capital by issuing promissory note with 2.60-5.00% p.a. (2013: 3.00-4.60% per year). The interest rates are mutually agreed.
		Borrowing	180.50	-	
		Payment	(180.00)	-	
		Balance	-	-	
		Interest expense	1.15	-	
	GNP	<u>Short-term borrowing</u>			GUNKUL borrowed money from GNP for working capital by issuing promissory note with 2.60-5.00% p.a. (2013: 3.00-4.60% per year). The interest rates are mutually agreed.
		Borrowing	50.00	-	
		Payment	(50.00)	-	
		Balance	-	-	
		Interest expense	0.51	-	
		Unpaid interest	0.23	-	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	GPD	<u>Short-term borrowing</u>			GUNKUL lent money to GPD for working capital by issuing promissory note with with 2.60-5.00% p.a. (2013: 3.00-4.60% per year). The interest rates are mutually agreed.
		Borrowing	-	230.00	
		Payment	-	(230.00)	
		Balance	-	-	
		Interest received	-	2.38	
	GLED	<u>Short-term borrowing</u>			GUNKUL lent money to GLED for working capital by issuing promissory note with with 2.60-5.00% p.a. (2013: 3.00-4.60% per year). The interest rates are mutually agreed.
		Borrowing	14.00	47.00	
		Payment	(7.00)	-	
		Balance	7.00	47.00	
		Interest received	0.06	1.00	
	GKA	<u>Short-term borrowing</u>			GUNKUL lent money to GKA for working capital by issuing promissory note with 3.15-3.24% p.a. The interest rates are mutually agreed.
		Borrowing	74.40	-	
		Payment	(74.40)	-	
		Balance	-	-	
		Interest received	0.79	-	
	BGP	<u>Short-term borrowing</u>			GUNKUL lent money to BGP for working capital by issuing promissory note with 3.24% per year. The interest rates are mutually agreed.
		Borrowing	6.00	40.33	
		Payment	(6.00)	-	
		Balance	-	40.33	
		Interest received	0.06	0.18	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	RNS	<u>Short-term borrowing</u>			GUNKUL lent money to RNS for working capital by issuing promissory note with 4.70% per year. The interest rates are mutually agreed.
		Borrowing	300	345	
		Payment	-	-	
		Balance	<u>300</u>	<u>345</u>	
		Interest received	<u>1.75</u>	<u>15.94</u>	
		Unpaid interest	<u>1.75</u>	<u>17.69</u>	
	WED	<u>Short-term borrowing</u>			GUNKUL lent money to WED for working capital by issuing promissory note with 3.06% per year. The interest rates are mutually agreed.
		Borrowing	150	493	
		Payment	-	(493)	
		Balance	<u>150</u>	<u>-</u>	
		Interest received	<u>0.05</u>	<u>3.86</u>	
	GIM	<u>Short-term borrowing</u>			GUNKUL lent money to GIM for working capital by issuing promissory note with 3.10% per year. The interest rates are mutually agreed.
		Borrowing	-	744.02	
		Payment	-	(91.20)	
		Investment	-	(658.86)	
		Exchange rate profit	-	<u>5.90</u>	
		Balance	-	-	
		Interest received	-	4.38	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GOB	ECO	<u>Short-term borrowing</u>			GUNKUL lent money to ECO for working capital by issuing promissory note with 5.00% per year. The interest rates are mutually agreed.
		Borrowing	-	25.00	
		Payment	=	=	
		Balance	=	<u>125.00</u>	
		Interest received	-	0.17	
		Unpaid interest	-	0.17	
	OGA	<u>Short-term borrowing</u>			GOB borrowed money from OGA for working capital by issuing promissory note with 6.30% p.a. The interest rates are mutually agreed.
		Borrowing	-	3.50	
		Payment	=	=	
		Balance	=	<u>3.50</u>	
		Interest expense		0.15	
		Unpaid interest		0.15	
	OGB	<u>Short-term borrowing</u>			GOB borrowed money from OGB for working capital by issuing promissory note with 6.30% p.a. The interest rates are mutually agreed.
		Borrowing	-	2.60	
		Payment	=	=	
		Balance	=	<u>2.60</u>	
		Interest expense	-	0.11	
		Unpaid interest	-	0.11	



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GK Sendai	OGD	<u>Short-term borrowing</u>			GOB borrowed money from OGD for working capital by issuing promissory note with 6.30% p.a. The interest rates are mutually agreed.
		Borrowing	-	0.60	
		Payment	-	-	
		Balance	-	<u>0.60</u>	
		Interest expense	-	0.03	
		Unpaid interest	-	0.03	
	OGE	<u>Short-term borrowing</u>			GOB borrowed money from OGE for working capital by issuing promissory note with 6.30% p.a. The interest rates are mutually agreed.
		Borrowing	-	0.40	
		Payment	-	-	
		Balance	-	0.40	
		Interest expense	-	0.02	
		Unpaid interest	-	0.02	
	GKG	<u>Borrowing from related person and company</u>			GK Sendai borrowed short term credit from GKG for company's uses with no interest.
		Borrowing	13.98	-	
		Payment	(13.98)	-	
		Balance	-	-	
KWE	Director	<u>Borrowing from related person and company</u>			KWE borrowed short term credit from Miss Sopacha Dhumrongpiyawut to pay the amount due of KWE with no interest.
		Borrowing	41.00	-	
		Payment	<u>(41.00)</u>	-	
		Balance	-	-	



(5) Other items

Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
GUNKUL	GKA	Dividend income	80.00	-	- No dividend payment in 2016
		Unreceived dividend income	50.00	-	- GUNKUL got dividend, from GKA approved by Board of director meeting no. 3/2015 on March 17, 2015 and meeting no. 6/2015 on December 18, 2015. Interim dividend payment was approved ending December 31, 2013 and September 30, 2014 rate of 15 baht/share and on September 30, 2015 rate of 25 baht/share for 199,998 shares held (par value 100.00 baht each), dividend totally 80.00 million baht (30+50 million baht) and expected to pay in March 2015 and March 2016 respectively.
	GKP	Dividend income	45.00	25.00	- GUNKUL got dividend, from GKP approved by Board of director meeting no. 4/2016 on July 25, 2016. Interim dividend payment was approved ending December 31, 2015 and March 31, 2016 rate of 250 baht/share for 99,998 shares held (par value 1000.00 baht each), dividend totally 25.00 million baht and expected to pay in July 2016 respectively
		Unreceived dividend income	25.00	-	- GUNKUL got dividend, from GKP approved by Board of director meeting no. 3/2015 on March 17, 2015 and meeting no. 6/2015 on December 18, 2015. Interim dividend payment was approved ending December 31, 2013 and September 30, 2014 rate of 200 baht/share and on September 30, 2015 rate of 250 baht/share for 99,998 shares held (par value 1000.00 baht each), dividend totally 45.00 million baht (20+25 million baht) and expected to pay in March 2015 and March 2016 respectively.



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	KNP	Dividend income	41.00	-	- No dividend payment in 2016
		Unreceived dividend income	21.00	-	- GUNKUL got dividend, from KNP approved by Board of director meeting no. 3/2015 on March 17, 2015 and meeting no. 8/2015 on December 17, 2015. Interim dividend payment was approved ending September 30, 2014 rate of 40.00 baht/share and on September 30, 2015 rate of 42.00 baht/share for 499,998 shares held (par value 100.00 baht each), dividend totally 41.00 million baht (20+21 million baht) and expected to pay in March 2015 and March 2016 respectively.
	GPS	Dividend income	96.35	88.54	- GUNKUL got dividend, from GPS approved by AGM 2016 on March 23, 2016. Dividend payment 2015 was approved from retained earnings rate of 12.00 baht/share from 3,719,998 shares held (par value 100.00 baht each), dividend totally 44.64 million baht. Interim dividend payment was approved from retained earnings rate of 11.80 baht/share. From 3,719,998 shares held (par value 100.00 baht each), dividend totally 43.90 million baht, expected to pay regarding to company's financial resource.
		Unreceived dividend income	71.28	91.40	- GUNKUL got dividend, from GPS approved by Board of director meeting no. 3/2015 on September 30, 2015. Interim dividend payment was approved no.1/2015 from Retained earnings rate of 13.10 baht/share. From 3,719,998 shares held (par value 100.00 baht each), dividend totally 48.73 million baht, expected to pay regarding to company's financial resource.



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	GCPG	Dividend income	124.96	119.09	-
		Unreceived dividend income	-	-	-
					<p>GUNKUL got dividend, from GCPG approved by AGM on April 4, 2016, Board of director meeting no. 2/2016 on May 10, 2016, no. 5/2016 on August 8, 2016 and meeting no. 7/2016 on November 8, 2016. Interim dividend payment was approved ending December 31, 2015 rate of 6.50 baht/share and on March 31, 2016 rate of 6.78 baht/share and on June 30, 2016 rate of 5.74 baht/share and on September 30, 2016 rate of 4.52 baht/share for 5,095,195 shares held (par value 100.00 baht each), dividend totally 119.09 million baht (32.88+34.30+29.04+22.87 million baht) and expected to pay in April, June, September and December 2016.</p> <p>GUNKUL got dividend, from GCPG approved by Board of director meeting no. 1/2015 on February 18, 2015 and meeting no. 4/2015 on August 6, 2015 and no. 5/2015 on November 5, 2015. Interim dividend payment was approved ending December 31, 2014 rate of 7.15 baht/share and on June 30, 2015 rate of 8.55 baht/share and on September 30, 2015 rate of 9.00 baht/share for 5,059,195 shares held (par value 100.00 baht each), dividend totally 124.96 million baht (36.17+43.26+45.53 million baht) and expected to pay in April, August and November 2015.</p>



Company	Related Companies	Type of Transaction	Size		Reason and necessity
			2015 (Million baht)	2016 (Million baht)	
	GSR-1	Dividend income	0.73	-	- No dividend payment in 2016
		Unreceived dividend income	0.73	-	- GUNKUL got dividend, from GSR-1 approved by Board of director meeting no. 2/2015 on December 17, 2015 to pay unappropriated retained earnings at the end of third quarter of the year, on September 30, 2015 rate of 3.50 baht/share for 210,000 shares held (par value 100.00 baht each), dividend totally 0.73 million baht expected to pay all in March 2016.
	GSP-2	Dividend income	2.14	-	- No dividend payment in 2016
		Unreceived dividend income	2.14	-	- GUNKUL got dividend, from GSR-2 approved by Board of director meeting no. 2/2015 on December 17, 2015 to pay unappropriated retained earnings at the end of third quarter of the year, on September 30, 2015 rate of 5.50 baht/share for 390,000 shares held (par value 100.00 baht each), dividend totally 2.14 million baht expected to pay all in March 2016.

23.5 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.

23.6 Policy and trend to do related transactions in the future

1. Trend of related transactions with persons with possible conflict of interest

- K.N.P.Supply Co., Ltd., G.K Assembly Co., Ltd., G.K. Power Products Co., Ltd., and Gunkul LED Lighting Co., Ltd. : The Company will continue to have related transactions with these subsidiaries, which are purchase/sale of goods, purchase/sell of assets, lending/borrowing including guarantees of loans, and taking pledges of the subsidiaries' assets for the Company's loans.
- Wind Energy Development Co., Ltd., Greenovation Power Co., Ltd., Korat Wind Energy Co.,Ltd., N.K.Power Sola Co., Ltd., Gunkul Solar Power 1 Co., Ltd., Gunkul Solar Power 2 Co., Ltd., Gunkul Solar Power 3 Co., Ltd., Gunkul Solar Power 4 Co., Ltd., Gunkul Solar Power 5 Co., Ltd., Bright Green Power Co., Ltd., Siam Gunkul Solar Energy Co., Ltd., Solar Energy Society Co., Ltd., Gunkul Solar Roof 1 Co.,Ltd., Gunkul Solar Roof 2 Co.,Ltd., Gunkul Solar Community Co., Ltd., Rang Ngern Solution Co., Ltd., GO Bioenergy Co., Ltd. and its subsidiaries, Eco Thai Energy Co., Ltd. and Gunkul Bioenergy Co., Ltd. : operate electricity power



production and generation business. Therefore, the subsidiaries may have related transactions constantly, which are sales of goods, purchase/sales of assets, lending/borrowing including guarantees of loans, and taking pledges of the subsidiaries' assets for the Company's loans.

In case, that any previous power plant has already entered Commercial Operation, will trend to reduce related transactions or non-related transactions. Upon any company that has enough incomes and circulating funds.

- Gunkul International (Mauritius), Gunkul Investment (Singapore) Pte. Ltd., and Gunkul Myanmar Power (Hlawga)Ple, Ltd. : Operating oversea investment. Therefore, the Company may have related transactions constantly, which are lending/borrowing including guarantees of loans, and taking pledges for the Company's loans.
- Gunkul Power development Co., Ltd. : operate solar rooftop construction and electricity power production and generating business. Therefore, the Company and the subsidiaries may have related transactions constantly, which are sale of goods, purchase/sale of assets, lending/borrowing including guarantees of loans, and taking pledges of the subsidiaries' assets for the Company's loans.
- GK Sendai, GK Kimitsu, GD Utsunomiya and KK Iwakuni Project : are the projects which GUNKUL invested for operating electricity power production and generation. Therefore, these projects might have related transactions constantly, which is financial supporting, lending/borrowing from the Company.
- Gunkul Chubu Powergen Co., Ltd. : operate electricity power production and generation business. Therefore, the Company and the associated company may have related transaction constantly, which are sale of goods and power plant maintenance.
- G-Power Source Co., Ltd. : operates electricity power production and generating business. Therefore, the Company and the associated company may have related transactions constantly, which are sale of goods and power plant maintenance.
- GunKul Group Co., Ltd. : Being the major shareholder of the Company, it has given the Company some financial supports such as loans and credit guarantees. After the successful debt restructuring, GUNGUL will seek less financial support from this company
- Future Electrical Control Co., Ltd., JV Sri-U-Thong & FEC, and JV FEC & SAC : As the Company and those JVs are in construction business for civil and system work, related transactions happens as usual like purchase of goods or hire to produce finished goods etc. Such related transactions are necessary and based



on normal business practice to support the Company's operations. The Company, however, has no policy to sell its products to JVs for any other purpose, such as for re-reselling, except for its core business. The Company also has no policy to give financial aids or guarantee/pledge to JVs.

- Gunkul Marine Line Co., Ltd. : GUNKUL will no longer give financial aids to this company.
- Kulnatee Co., Ltd., and Gunkul Trading & Agency Co., Ltd. : GUNKUL will no longer give financial aids to this company.
- Gunkul Engineering (2000) Co.,Ltd., and G.M. Supply and Construction Co., Ltd. : As these two companies rent land and buildings which belong to Mr.Gunkul Dhumrongpiyawut. So the Company has to sub-rent such land and buildings from these companies for use in business operations.
- Mr.Gunkul Dhumrongpiyawut and Ms.Sopacha Dhumrongpiyawut : Guarantees of credit line and use of the directors' assets for loan collateral will continue. Until the bank that gave credit facilities will release a guarantee.

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.



24. 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, 2016 have been examined by an external auditor, SP Auditor Co., 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, 2016. The Board of Directors also believes that all these financial statements have been prepared in accordance with generally accepted accounting principle and related regulations.



(Mr. Gunkul Dhumrongpiyawut)

Chairman of the Board

27 February 2017



25. Summary of Financial Statements

Financial Statements

(1) Independent Auditor's Report

- Miss Susan Eiamvanicha, Certified Public Accountant (Thailand) No. 4306 from S.P. Audit Company Limited 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 2014, 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.
- Miss Susan Eiamvanicha, Certified Public Accountant (Thailand) No. 4306 from S.P. Audit Company Limited 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 2015, 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.
- Miss Susan Eiamvanicha, Certified Public Accountant (Thailand) No. 4306 from S.P. Audit Company Limited 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 2016, 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.





(2) Table Summary of Financial Statements

Gunkul Engineering Public Company Limited and its subsidiary
Statements of Financial Position
As at 31 December 2014, 31 December 2015 and 31 December 2016

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)				
Current Assets						
Cash and cash equivalent	2,468,235,939.88	3,496,664,553.16	1,507,128,465.22	1,043,943,100.42	2,593,990,314.53	1,204,264,477.30
Current investments	964,357,175.43	367,225,824.42	-	949,668,647.09	367,225,824.42	-
Short-term deposits from financial institution pledged as collateral	585,106,437.47	74,125,428.07	-	-	-	-
Trade and other receivable - related parties	146,249,575.69	116,697,644.69	97,523,462.10	120,165,421.07	208,638,417.61	128,633,610.69
Trade and other receivable - third parties	797,560,761.18	974,949,454.15	602,486,607.13	483,255,603.89	590,808,106.22	506,915,332.77
Unbilled receivables	336,760,467.26	328,097,607.51	41,373,930.57	12,294,188.00	179,983,357.00	26,643,930.57
Advance for shares subscription	180,000,000.00	-	-	180,000,000.00	-	-
Deposit for purchase of goods	16,709,232.04	3,457,758.89	9,458,989.00	1,418,658.77	1,548,347.07	6,728,850.54
Advance payments to subcontractor	-	42,326,839.63	-	-	42,326,839.63	-
Deposit for purchase of assets	384,815,569.60	-	-	-	-	-
Retention receivables	223,800.01	998,652.00	600,214.92	-	-	-
Receivables from forward foreign exchange contracts	6,675,387.22	33,330,122.67	-	6,611,150.34	10,121,485.06	-
Revenue Department receivable	348,773,321.30	371,816,992.08	17,527,623.15	-	1,898,355.05	-

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
Inventories	402,243,854.28	(Reclassified) 363,596,340.15	304,009,652.19	226,817,715.61	220,641,101.80	198,364,600.98
Construction in progress	92,955.11	1,518,505.92	4,835,517.98	-	-	-
Short-term loan to related parties	-	-	-	557,327,750.00	457,000,000.00	7,000,000.00
Total Current Assets	6,637,804,476.47	6,174,805,723.34	2,584,944,462.26	3,581,502,235.19	4,674,182,148.39	2,078,550,802.85
<u>Non-Current Assets</u>						
Long-term deposits from financial institution pledged as collateral	47,007,084.13	216,750,091.22	47,580,371.20	45,572,105.42	195,402,927.95	45,715,704.57
Investments in associates	356,891,223.88	351,679,172.32	350,633,472.01	397,694,800.00	397,694,800.00	397,694,800.00
Investments in joint ventures	939,043,106.16	880,069,437.49	822,421,476.30	521,281,892.50	521,281,892.50	521,281,892.50
Investments in subsidiaries	-	-	-	10,135,282,119.61	6,557,342,005.83	2,759,568,958.31
Machinery for investment in advance	268,344,850.00	268,344,850.00	268,344,850.00	268,344,850.00	268,344,850.00	268,344,850.00
Investment property	-	-	-	3,143,657.99	3,143,657.99	3,143,657.99
Property, plant and equipment	13,604,874,868.51	7,646,247,634.48	918,201,817.03	70,861,342.73	78,827,991.97	54,603,023.00
Intangible assets	3,358,594,133.53	2,952,231,130.20	2,039,852,834.50	4,663,577.73	4,367,688.67	4,457,688.67
Retention receivables	61,761,757.46	14,596,379.21	2,083,402.51	61,761,757.46	14,596,379.21	1,483,187.58
Prepaid front-end fee	56,282,700.46	95,479,817.79	-	-	-	-
Prepaid land rental	209,441,988.27	179,762,100.00	169,329,450.59	-	-	-
Deferred tax assets	103,673,460.36	23,995,685.49	31,351,738.03	6,666,921.39	5,059,085.71	19,901,356.05
Other non-current assets	18,432,101.16	11,295,852.44	3,920,469.45	816,730.06	736,724.10	556,724.10
Total Non-Current Assets	19,024,347,273.92	12,640,452,150.64	4,653,719,881.62	11,516,089,754.89	8,046,798,003.93	4,076,751,842.77
TOTAL ASSETS	25,662,151,750.39	18,815,257,873.98	7,238,664,343.88	15,097,591,990.08	12,720,980,152.32	6,155,302,645.62



(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
LIABILITIES AND EQUITY		(Reclassified)				
Current Liabilities						
Short-term loans from financial institutions	3,980,796,802.32	3,875,611,128.49	2,091,061,778.99	3,922,101,801.66	3,656,882,213.51	2,031,647,597.72
Trade and other payable - related parties	26,989,444.29	100,499,379.05	17,741,404.78	142,590,741.45	135,719,755.41	159,928,214.98
Trade and other payable - third parties	688,427,577.59	567,261,656.65	326,960,896.07	231,525,009.39	369,353,100.25	267,992,884.61
Advances received from employers and construction revenue received in advance	220,548,132.25	99,655,583.55	-	1,844,128.45	99,655,583.55	-
Advances received for goods	7,650,159.17	3,302,023.11	16,961,608.94	2,427,074.86	2,983,355.23	16,961,608.94
Payable for purchase of subsidiary	-	388,800,000.00	713,441,125.00	-	388,800,000.00	371,450,000.00
Payable for purchase of assets	745,730,428.38	1,188,505,202.63	742,560.12	16,474.12	533,985.86	173,052.57
Revenue Department payable	12,781,005.10	5,711,964.78	8,129,507.09	6,359,001.02	-	6,019,888.12
Accrued income tax payable	5,141,588.16	73,840,451.59	34,880,917.35	1,762,540.38	39,644,804.88	11,825,306.33
Retention payable	292,188,858.72	14,365,387.66	32,316,190.55	27,603,885.23	7,447,102.92	32,142,471.00
Debenture	300,000,000.00	-	-	300,000,000.00	-	-
Current portion of obligation under finance lease	12,861,358.81	15,496,459.11	8,683,402.92	9,205,417.77	11,079,290.55	6,782,122.89
Current portion of long-term loans due within one year	528,346,273.84	38,773,475.40	156,500,000.00	-	-	-
Short-term loans from related parties	-	-	4,929,122.21	-	-	230,500,000.00
TOTAL LIABILITIES	6,821,461,628.63	6,371,822,712.02	3,412,348,514.02	4,645,436,074.33	4,712,099,192.16	3,135,423,147.16

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
Non-Current Liabilities		(Reclassified)				
Debenture	1,780,000,000.00	300,000,000.00	-	1,780,000,000.00	300,000,000.00	-
Retention payable	159,124,066.61	57,156,147.93	19,725,692.50	17,273,979.62	17,410,129.21	10,404,087.30
Obligation under finance lease	29,247,658.60	42,109,003.19	19,576,346.20	20,012,631.48	29,217,975.99	15,946,150.62
Long-term loans from financial institutions	6,781,774,330.83	3,027,190,016.55	-	-	-	-
Employee benefit obligation	22,641,602.27	19,200,212.98	14,405,191.00	15,136,780.00	12,851,220.00	10,136,451.00
Deferred income tax liabilities	287,270,496.80	402,033,521.21	409,628,484.91	-	-	-
Other non-current liabilities	31,376,685.70	5,521,584.68	3,280,818.05	19,656,204.11	981,035.77	952,944.46
Total Non-Current Liabilities	9,091,434,840.81	3,853,210,486.54	466,616,532.66	1,852,079,595.21	360,460,360.97	37,439,633.38
TOTAL LIABILITIES	15,912,896,469.44	10,225,033,198.56	3,878,965,046.68	6,497,515,669.54	5,072,559,553.13	3,172,862,780.54
Equity						
Share capital	-	-	-	-	-	-
Authorised share capital	1,699,686,359.00	1,374,905,589.00	879,999,929.00	1,699,686,359.00	1,374,905,589.00	879,999,929.00
Issued and paid up share capital	1,589,693,962.75	1,283,245,216.00	879,990,265.00	1,589,693,962.75	1,283,245,216.00	879,990,265.00
Premium on share capital	5,179,217,075.00	4,272,855,645.00	425,120,000.00	5,179,217,075.00	4,272,855,645.00	425,120,000.00
Surplus from reorganisation under common control	93,622,449.53	93,622,449.53	93,622,449.53		-	-
Retained earnings	2,335,589,681.51	2,394,007,655.64	1,958,422,516.09	1,831,165,282.79	2,092,319,738.19	1,677,329,600.08
Other components of shareholders' equity	(90,160,466.50)	19,649,513.74	(30,286.11)	-	-	-
Equity attributable to owners of the Company	9,107,962,702.29	8,063,380,479.91	3,357,124,944.51	8,600,076,320.54	7,648,420,599.19	2,982,439,865.08
Non-controlling interests of the subsidiaries	641,292,578.66	526,844,195.51	2,574,352.69			-
Total Shareholders' Equity	9,749,255,280.95	8,590,224,675.42	3,359,699,297.20	8,600,076,320.54	7,648,420,599.19	2,982,439,865.08
TOTAL LIABILITIES AND EQUITY	25,662,151,750.39	18,815,257,873.98	7,238,664,343.88	15,097,591,990.08	12,720,980,152.32	6,155,302,645.62



Gunkul Engineering Public Company Limited and its subsidiary

Statements of Comprehensive Income

For the Year ended 31 December 2014, 31 December 2015 and 31 December 2016

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Revenues						
Revenues from construction services	909,497,080.38	566,764,219.17	1,407,927,397.30	484,387,200.00	358,977,974.30	999,207,079.00
Sales of goods	2,130,372,430.35	3,811,481,281.84	1,500,011,051.92	1,203,428,169.64	2,962,369,269.44	1,289,114,126.64
Service income	80,074,233.67	70,118,395.02	55,318,158.80	87,424,814.82	66,495,337.67	55,607,186.45
Government grants	88,950,089.00	11,935,046.50	13,298,174.50	-	-	-
Dividend income	-	-	-	232,628,903.20	390,188,893.70	393,684,847.39
Benefit from machinery for investment in advance	47,980,455.88	64,603,078.73	34,927,288.07	47,980,455.88	64,603,078.73	34,927,288.07
Gain on exchange rate	-	13,998,340.34	27,006,463.19	-	19,715,938.68	9,029,981.46
Interest income	84,225,960.45	29,663,976.01	-	105,953,249.42	26,734,897.03	-
Other income	25,733,651.38	22,127,414.65	23,064,204.58	19,130,359.44	16,435,976.96	13,254,710.75
Total revenues	3,366,833,901.11	4,590,691,752.26	3,061,552,738.36	2,180,933,152.40	3,905,521,366.51	2,794,825,219.76
Expenses						
Cost of construction services	834,476,369.89	448,182,827.81	1,125,861,052.65	413,122,247.92	326,915,705.50	823,316,700.63
Cost of sales	1,208,192,758.58	2,956,368,705.33	1,102,390,387.44	892,774,491.48	2,401,217,019.88	1,046,291,448.19
Cost of service	51,547,864.58	36,388,863.20	25,210,174.47	41,241,578.20	33,850,098.66	24,537,242.76
Selling expenses	40,801,778.16	63,077,701.34	34,682,191.25	31,138,006.77	53,011,091.96	31,754,336.29
Administrative expenses	492,743,564.41	442,250,041.74	360,447,143.26	300,849,873.68	252,896,701.63	252,741,245.52
Loss on exchange rate	24,336,791.76	-	-	7,438,025.03	-	-
Finance cost	329,800,388.37	115,890,065.04	57,842,331.20	132,762,852.37	107,134,207.34	46,521,353.81
Total expenses	2,981,899,515.75	4,062,158,204.46	2,706,433,280.27	1,819,327,075.45	3,175,024,824.97	2,225,162,327.20

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Share of profit from investments in associates and joint ventures	271,815,171.02	280,003,751.81	269,279,790.23	-	-	-
Profit before income tax expenses	656,749,556.38	808,537,299.61	624,399,248.32	361,606,076.95	730,496,541.54	569,662,892.56
Income tax expense	(41,379,418.70)	(134,969,566.78)	(83,078,345.86)	(26,625,205.39)	(68,994,084.78)	(37,749,092.07)
Profit for the year	615,370,137.68	673,567,732.83	541,320,902.46	334,980,871.56	661,502,456.76	531,913,800.49
Other comprehensive income						
Items must be classified into profit or loss in the future Exchange differences on translation	(109,809,980.24)	19,679,799.85	(189,286.74)	-	-	-
Items must not be classified into profit or loss in the future						
Actuarial losses	-	(2,806,948.80)	-	-	(1,944,656.00)	-
Other comprehensive income (loss) for the year	(109,809,980.24)	16,872,851.05	(189,286.74)	-	(1,944,656.00)	-
Total comprehensive income for the year	505,560,157.44	690,440,583.88	541,131,615.72	334,980,871.56	659,557,800.76	531,913,800.49
Profit (loss) attributable to :						
Equity holders of the Company	537,717,352.83	685,136,879.54	545,270,215.32	334,980,871.56	661,502,456.76	531,913,800.49
Non-controlling interests of the subsidiary	77,652,784.85	(11,569,146.71)	(3,949,312.86)	-	-	-
	615,370,137.68	673,567,732.83	541,320,902.46	334,980,871.56	661,502,456.76	531,913,800.49
Total comprehensive income (loss) attributable to :						
Equity holders of the Company	427,907,372.59	702,009,730.59	545,080,928.58	334,980,871.56	659,557,800.76	531,913,800.49
Non-controlling interests of the subsidiary	77,652,784.85	(11,569,146.71)	(3,949,312.86)	-	-	-
	505,560,157.44	690,440,583.88	541,131,615.72	334,980,871.56	659,557,800.76	531,913,800.49
Basic earnings per shares	0.08	0.12	0.49	0.05	0.12	0.48
Weighted average number of ordinary shares (unit: share)	6,798,745,436.00	5,499,622,356.00	1,099,924,471.00	6,798,745,436.00	5,499,622,356.00	1,099,924,471.00

As at 31st December 2016, registered capital 1,699,686,359 baht and Issued and paid-up capital 1,589,693,962.75 baht

Total registered shares 6,358,775,851 shares, at par value of 0.25 per each.

Gunkul Engineering Public Company Limited and its subsidiaries
Statements of Cash Flows

For the Year ended 31 December 2014, 31 December 2015 and 31 December 2016

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Cash Flow from Operating Activities						
Profit before income tax expenses ¹⁾	579,096,771.53	820,106,446.32	628,348,561.18	361,606,076.95	730,496,541.54	569,662,892.56
Adjustments to reconcile profit before income tax expenses for cash received (used) from operations						
Bad debts and doubtful accounts (reversal)	(248,487.74)	(306,044.34)	(315,695.91)	-	(442,780.00)	(438,834.99)
Unrealized (gain) loss on exchange rate	34,063,951.31	(27,052,878.44)	(3,964,774.17)	6,901.31	(9,927,549.86)	(3,419,226.88)
Loss on decline in the value of inventories (reversal)	(2,580,478.06)	(19,084,068.54)	(9,623,055.01)	(5,094,842.64)	(16,363,941.22)	(7,509,546.79)
Amortization of front-end fee	4,123,364.70	-	-	-	-	-
Dividend income	-	-	-	(232,628,903.20)	(390,188,893.70)	(393,684,847.39)
Benefit from machinery for investment in advance	(47,980,455.88)	(64,603,078.73)	(34,927,288.07)	(47,980,455.88)	(64,603,078.73)	(34,927,288.07)
Depreciation and amortisation	264,535,187.49	36,309,608.87	26,349,911.03	12,264,033.77	9,604,841.67	9,988,754.21
Loss from impairment on assets	-	322,000.00	33,389.43	-	-	-
(Gain) loss from disposal and written off of assets	2,945,353.45	(232,976.63)	(233,510.54)	(32,938.90)	117,441.53	1,318,283.77
Provision for warranty (reversal)	542,699.87	159,098.70	76,678.18	(172,455.30)	19,238.56	(7,919.90)
Provision for sale return (reversal)	-	-	-	-	-	-



(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Provision for delivery delay (revesal)	3,048,603.90	(448,744.13)	60,451.76	1,214,584.55	(561,724.78)	244,984.56
Provision for employee benefits	3,435,811.00	2,947,759.98	1,846,054.00	2,285,560.00	1,947,351.00	1,252,675.00
Provision for project warranty	11,728,924.04	-	-	10,177,526.25	-	-
Gain on disposal of investment in joint ventures	-	-	(108,210.77)	-	-	-
Gain on disposal of investment in subsidiaries	(131,726.61)	-	-	-	-	-
Share of profit from investment in associates and joint ventures	(271,815,171.02)	(280,003,751.81)	(269,279,790.23)	-	-	-
Share of gain (loss) of non-controlling interests	77,652,784.85	(11,569,146.71)	(3,949,312.86)	-	-	-
Interest income	(84,225,960.45)	(29,663,976.01)	(8,258,621.88)	(105,953,249.42)	(26,734,897.03)	(7,675,037.04)
Interest expenses	329,800,388.37	115,890,065.04	57,842,331.20	132,762,852.37	107,134,207.34	46,521,353.81
Gains from operating activities before changes in operating assets and liabilities	903,991,560.75	542,770,313.57	383,897,117.34	128,454,689.86	340,496,756.32	181,326,242.85
(Increase) decrease in trade and other receivable - related parties	(9,426,731.60)	(3,967,636.99)	(31,469,114.58)	26,782,351.67	35,885,364.53	(17,777,960.52)
(Increase) decrease in trade and other receivable - third parties	160,374,390.81	(200,456,873.16)	(152,277,200.75)	93,019,995.71	(57,050,539.68)	(214,248,359.11)
(Increase) decrease in unbilled receivables	(8,662,859.75)	(286,723,676.94)	(6,119,576.34)	167,689,169.00	(153,339,426.43)	8,610,423.66
(Increase) decrease in deposit for purchase of goods	(13,251,473.15)	6,001,230.11	5,646,968.24	129,688.30	5,180,503.47	1,171,091.85
(Increase) decrease in advance payments to subcontractors	42,326,839.63	(42,326,839.63)	13,424,941.80	42,326,839.63	(42,326,839.63)	13,424,941.80





(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
(Increase) decrease in Revenue Department receivable	23,043,670.78	(176,659,478.71)	(197,613.24)	1,898,355.05	(1,898,355.05)	5,422,501.92
(Increase) decrease in inventories	(36,067,036.07)	(38,321,498.67)	56,449,514.99	(1,081,771.17)	(5,912,559.60)	34,779,587.29
(Increase) decrease in construction in progress	1,425,550.81	1,135,891.31	91,838,286.34	-	-	81,825,452.64
(Increase) decrease in retention receivables	(46,390,526.26)	(12,911,413.78)	143,519,497.81	(47,165,378.25)	(13,113,191.63)	143,519,497.81
(Increase) decrease in other non-current assets	(4,966,999.59)	(6,639,974.96)	1,432,316.00	(80,005.96)	(180,000.00)	86,981.00
(Increase) decrease in trade and other payable - related parties	(94,482,055.14)	95,078,907.75	759,893.25	6,870,986.04	(22,727,185.60)	(93,384,168.13)
(Increase) decrease in trade and other payable - third parties	77,003,053.05	219,124,075.18	68,653,312.15	(146,300,441.46)	99,801,032.25	101,519,327.82
(Increase) decrease in advances received from employers and construction revenue received in advance	120,892,548.70	99,655,583.55	(70,052,837.46)	(97,811,455.10)	99,655,583.55	(70,052,837.46)
(Increase) decrease in advance received for goods	4,348,136.06	(13,659,585.83)	12,374,826.81	(556,280.37)	(13,978,253.71)	12,374,826.81
(Increase) decrease in Revenue Department payable	7,069,040.32	(2,417,542.31)	(1,030,772.17)	6,359,001.02	(6,019,888.12)	6,019,888.12
(Increase) decrease in retention payables	379,791,389.74	19,479,652.54	(74,546,071.17)	20,020,632.72	(17,689,326.17)	(83,022,422.41)
(Increase) decrease in other non-current liabilities	-	-	-	-	-	-
Cash to pay employee benefits.	-	(1,663,402.00)	-	-	(1,663,402.00)	-

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Cash generate from Operations	1,507,018,499.09	197,497,731.03	442,303,489.02	200,556,376.69	245,120,272.50	111,595,015.94
Cash received from interest income	86,603,094.21	29,123,182.37	12,839,077.64	91,197,051.01	24,280,925.05	12,179,331.12
Cash paid for interest expense	(291,157,422.93)	(107,487,843.61)	(74,723,397.42)	(117,581,771.59)	(105,022,954.68)	(62,629,236.39)
Cash received from income tax return	-	-	6,150,861.56	-	-	6,150,861.56
Cash paid for income tax	(136,195,649.15)	(78,728,964.04)	(74,460,711.47)	(66,115,305.57)	(25,846,151.89)	(37,026,356.83)
Net Cash provided by Operating Activities	1,166,268,521.22	40,404,105.75	312,109,319.33	108,056,350.54	138,532,090.98	30,269,615.40
Cash Flow from Investing Activities						
Increase in current investments	(597,131,351.01)	(367,225,824.42)	-	(582,442,822.67)	(367,225,824.42)	-
Increase in short-term deposits from financial institution used as collateral	(510,981,009.40)	(74,125,428.07)	-	-	-	-
Cash paid for payable for purchase shares	(388,800,000.00)	(198,650,000.00)	(146,478,050.00)	(388,800,000.00)	(198,650,000.00)	(146,478,050.00)
Cash paid for advance for shares subscription	(180,000,000.00)	-	-	(180,000,000.00)	-	-
Cash paid for investment in associates	-	-	-	-	-	-
Cash paid of investment in joint ventures	-	-	(10,654,260.00)	-	-	(10,654,260.00)
Cash received (paid) from disposal of investment in subsidiary	(455,549.22)	-	-	(2,920,954,190.00)	(3,581,773,047.52)	(747,176,005.86)
Cash paid for purchase of investment in a subsidiary	-	(739,349,460.41)	(294,065,088.44)	-	-	(294,065,088.44)
Cash paid for non-controlling interests	-	-	(228,035,550.00)	-	-	(228,035,550.00)
Cash received from sales of investments in joint ventures	-	-	181,903.49	1,874,975.00	-	-



(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Dividend income	187,504,251.40	206,103,544.70	156,918,718.69	311,383,042.80	276,103,009.10	366,016,510.47
Benefit from machinery for investment in advance	60,484,887.46	39,175,204.23	34,927,288.07	60,484,887.46	39,175,204.23	34,927,288.07
(Increase) decrease in short-term loans to related parties	-	-	-	(753,288,382.66)	(450,000,000.00)	(7,000,000.00)
Cash paid for purchase of plant and equipment and payable for purchase of assets	(6,698,647,204.11)	(5,758,488,559.21)	(269,073,285.34)	(4,720,153.37)	(5,581,069.63)	(3,246,934.28)
Cash paid deposit for purchase of assets	(398,183,622.66)	-	-	-	-	-
Proceed from disposal of equipment	46,349.60	772,932.75	2,323,258.94	40,186.94	330,676.73	683,551.40
Cash paid to purchase intangible assets	(600,510,611.91)	(160,937,441.67)	(52,902,194.42)	(397,880.00)	-	(450,000.00)
Cash paid for prepaid land rental	(26,496,218.38)	-	-	-	-	-
(Increase) decrease in long-term deposits from financial institutions pledged as collateral	169,743,007.09	(132,053,046.80)	14,360,992.19	149,830,822.53	(149,687,223.38)	(180,814.48)
Net Cash Used in Investing Activities	(8,983,427,071.14)	(7,184,778,078.90)	(792,496,266.82)	(4,306,989,513.97)	(4,437,308,274.89)	(1,035,659,353.12)
Cash flow from Financing Activities						
Cash received from capital increment	906,361,430.00	4,031,056,390.00	-	906,361,430.00	4,031,056,390.00	-
Cash received from capital increment of non-controlling interests in subsidiaries	37,376,681.08	288,146,200.00	96,638,640.70	-	-	-
Increase (decrease) in bank overdrafts and short-term loans from financial institutions	103,857,583.88	1,778,906,708.88	1,871,175,834.35	265,162,051.14	1,624,967,307.71	1,931,796,893.83

(Unit : Million Baht)

Notes	Consolidated			Separate Financial Statements		
	2016	2015	2014	2016	2015	2014
		(Reclassified)		(Reclassified)		
Increase (decrease) in short-term loans from related parties	-	(38,419,122.21)	(13,338,877.79)	-	(230,500,000.00)	184,892,566.06
Proceed from debenture	1,780,000,000.00	300,000,000.00	-	1,780,000,000.00	300,000,000.00	-
Proceeds from long-term loans from banks	4,321,386,208.94	3,071,673,491.95	-	-	-	-
Cash paid for long-term loans from banks	(6,852,000.00)	(162,210,000.00)	(156,500,000.00)	-	-	-
Dividend payment	(289,669,715.04)	(24,633,156.10)	(25,079,444.66)	(289,669,715.04)	(24,633,156.10)	(25,079,444.66)
Cash paid for front-end fee	(35,922,791.00)	(95,479,817.79)	-	-	-	-
Repayment of obligation under finance lease	(15,496,444.89)	(14,182,203.44)	(7,889,987.68)	(11,079,217.29)	(10,676,932.95)	(6,192,156.78)
Repayment of interest-obligation under finance lease	(2,678,860.31)	(2,518,394.50)	(2,228,991.47)	(1,888,599.49)	(1,711,587.52)	(1,698,035.67)
Effect of exchange rate changes on cash and cash equivalent	(9,632,156.02)	1,567,964.30	(153,311.15)	-	-	-
Net Cash provided by Financing Activities	6,788,729,936.64	9,133,908,061.09	1,762,623,862.30	2,648,885,949.32	5,688,502,021.14	2,083,719,822.78
Increase (decrease) in Cash and Cash Equivalent - Net	(1,028,428,613.28)	1,989,534,087.94	1,282,236,914.81	(1,550,047,214.11)	1,389,725,837.23	1,078,330,085.06
Cash and cash equivalents increased - at the beginning of the year	3,496,664,553.16	1,507,128,465.22	224,891,550.41	2,593,990,314.53	1,204,264,477.30	125,934,392.24
Cash and cash equivalents increased - at the end of the year	2,468,235,939.88	3,496,662,553.16	1,507,128,465.22	1,043,943,100.42	2,593,990,314.53	1,204,264,477.30

Remarks ¹⁾ As per Thai Accounting Standard effective after 1 January 2008 determined to use profit before income tax for calculation of cash flow of operating activities.





(3) Table showing Key Financial Ratios

Description	Consolidated Financial Statements			Separate Financial Statements		
	2015	2014	2013	2015	2014	2013
Liquidity Ratio						
Liquidity Ratio (time)	0.97	0.97	0.76	0.77	0.99	1.24
Quick Liquidity Ratio (time)	0.91	0.91	0.67	0.72	0.95	0.60
Cash Flow Liquidity Ratio (time)	0.52	0.62	0.44	0.56	0.63	0.38
Trade Account Receivable Turnover (time)	2.51	4.30	4.90	1.58	5.69	4.51
Average Collection Period (days)	145.66	84.9	74.52	230.33	64.13	81.02
Inventory Turnover (days)	5.21	9.48	7.41	3.36	12.45	9.55
Average Selling Period (days)	70.11	38.51	49.24	108.7	29.32	38.22
Payable Turnover (time)	2.93	5.01	7.37	2.04	4.41	4.45
Credit Term (days)	124.69	72.89	49.54	179.29	82.69	82.07
Cash Cycle (days)	91.08	50.53	74.23	159.74	10.77	37.17
Profitability Ratio						
Gross Profit Margin (%)	34.74	23.21	24.29	21.94	22.07	21.48
Operating Profit Margin (%)	34.74	23.21	11.93	21.94	18.93	27.86
Net Profit Margin (%)	19.18	15.10	18.19	16.58	18.93	26.02
Return on Equity (%)	6.25	7.84	16.11	1.92	8.64	17.83

Description	Consolidated Financial Statements			Separate Financial Statements		
	2015	2014	2013	2015	2014	2013
Efficiency Ratio						
Return on Assets (%)	2.89	3.58	7.46	1.29	5.2	18.95
Return on Fixed Assets (%)	3.99	5.33	59.28	1.29	8.22	131.95
Asset Turnover (time)	0.15	0.24	0.41	0.08	0.27	0.45
Financial Ratio						
Debt to Equity Ratio (time)	1.31	1.19	1.16	0.49	0.66	1.07
Interest Coverage Ratio (time)	3.41	5.98	9.8	1.93	5.82	11.25
Dividend Payout (%)	84.02	48.17	45.19	343.32	46.62	45.99
Other Ratios						
Earnings Per Share (Baht)1	0.10	0.58	0.62	0.02	0.43	0.60
Basic Earnings Per Share (Baht)2	0.08	0.13	0.62	0.05	0.12	0.60
Book Value Per Share (Baht)2	1.33	6.37	3.82	1.33	2.43	4.52

Remarks 1) Earnings Per Share : calculate with the number of all average weighted common shares which have been paid up.

2) Basic Earnings Per Share and Book Value Per Share: 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 1 baht and 0.25 baht per share to be used for comparison.

26. Management Discussion and Analysis

- Operating Performance

Revenue

The main revenue of the Group during the years 2014 - 2015 comes from three main types of revenue: the revenue from manufacturing, supply and distribution of electrical equipment business. Renewable power plant and service revenue which began in 2014 and 2015, the Group generated 4,460.30 million baht from sales revenue according to consolidated financial statements 49.85% increase compared to 2014. The Significant increase in revenue is from sales to contractors who built renewable energy power plants for unrelated companies or subsidiaries that increased by 2,311.47 million baht, increased by 154.10% from the production and distribution of electrical appliances, and from the electricity service business by 14.80 million baht, increased by 26.75%

In 2016, the Company had revenue from production and distribution of electrical equipment for the year ended December 31, 2016 amounting to 1,351.39 million baht, decreased from the same period of last year with the total amount 3,772.26 million baht or decreased by 2,420.87 million baht or 64.17%.

As of year 2016, the total number licensing of Power Purchase Agreement (PPA), Solar Power Plant type has dropped dramatically, with only 67 projects totaling 281.32 MW in form of solar farm cooperatives. Compared to 2015, there are 178 projects totaling 1,013 MW which shows that a total M. dropped to 27.77%. As a result, the Company had lack of opportunity to distribute equipment that related with the construction of a solar power plant and has led to lower sales as mentioned above.

The Company has revenue from electricity production and distribution for the year ended December 31, 2016, total amount 867.93 million baht, increased from the same period of last year with the total amount 51.16 million baht or increased by 816.77 million baht or 1,596.50%.

As in 2016, the Company sold more commercial electricity in solar power plant project to 87MW, FIT type at the rate of 5.66 Baht per unit (67% owned by the Company) and the wind turbine project to 10 MW, Adder type at the rate 3.50 baht at Huai Bong, Dan Khun Thot District, Nakhon Ratchasima. The Company commenced 50 MW of commercial electricity distribution from turbine power plant type in the same area on December 26,



2016. As a result, the Company will get more commercial electricity revenue in 2017 and will create revenue stability for the Company much more from the success of commercial electricity distribution throughout the contract period.

Even though, the Company's Revenues from the sale of electrical equipment is decreased by 2,420 million baht in the previous year as explained. However, it was offset an impact by the significant increase in electricity sales revenue as noted above. As a result, we have not had much effect on the decrease of net profit for the year 2016 as mentioned above. For the year ended December 31, 2016, the total amount is 909.50 million baht, compared to the same period of last year by 566.76 million baht or increased by 342.74 million baht or 60.47%.

Revenue structure by product line

Revenue Type	2014		2015		2016	
	million(Baht)	%	million(Baht)	%	million(Baht)	%
1 Revenue from the manufacturing, supply and distribution of equipment business for electrical systems and renewable energy systems.						
1.1 Sourcing for Distribution						
- Protection and Control Equipments	237.36	7.97	376.43	8.44	261.39	8.15
- Accessories	109.54	3.68	2,892.43	64.85	431.41	13.44
- Equipment and Tools	3.35	0.11	38.72	0.87	54.12	1.69
- Street Lamp Accessories	75.25	2.53	39.01	0.87	45.05	1.40
- Wind Turbine Equipment	-	-	-	-	-	-
Total	425.5	14.3	3,346.59	75.03	791.97	24.68
1.2 Production for Distribution						
- Protection and Control Equipment	87.47	2.94	243.39	5.46	260.15	8.11
- Accessories	948.07	31.85	117.48	2.63	236.93	7.38
- Equipment and Tools	25.94	0.87	5.33	0.12	27.34	0.85
- Street Lamp Accessories	2.51	0.08	59.47	1.33	35.00	1.09
Total	1,063.99	35.74	425.67	9.54	559.42	17.43
2. Revenue from electricity generation and distribution business from renewable energy						
- Produce and sell electricity from solar energy	23.82	0.8	51.16	1.15	867.93	27.05
3. Revenue from construction of renewable energy power plants	1,407.91	47.3	566.76	12.71	909.5	28.34
4. Service Revenue	55.32	1.86	70.12	1.57	80.07	2.50
Total Revenue	2,976.55	100	4,460.30	100	3,208.89	100.00



The Group sells goods both domestically and internationally. The proportion of domestic sales was approximately 80% of total sales revenue of the Group in the years 2012-2014. Main customers of the Group are the government agencies both domestic and foreign and electricity generating business customers from renewable energy.

Revenue structure by customer Segment

Revenue	2014		2015		2016	
	million(Baht)	%	million(Baht)	%	million(Baht)	%
Public Sector Customer						
- Revenue from the sale of equipment for electrical and renewable energy systems	745.12	25.03	259.09	5.81	504.89	15.73
- Revenue from electricity distribution	23.82	0.8	51.16	1.15	867.93	27.05
Private Sector Customer						
- Revenue from the sale of equipment for electrical and renewable energy systems	308.04	10.35	3,554.09	79.68	894.33	27.87
- Revenue from construction of power plants	1,407.93	37.41	566.76	12.71	909.5	28.34
Foreign customers	491.65	16.06	29.2	0.65	32.24	1.00
Total Revenue	2,976.55	100	4,460.30	100	3,208.89	100.00

Cost of Sales and Gross margin

The Group's gross profit margin was 34.74%, 23.21% and 24.29% in 2016, 2015 and 2014, respectively. This trend of gross margin was in line with the increase in proportion of revenue from external production and supply for distribution and the Company's renewable energy business under the changing market demands.

Sales and Administrative Expenses

Sales and administrative expenses of the Company accounted for approximately 10-13% of total revenue of the Group, which was higher in proportion to the increase in revenue and the number of executive under the use of a flexible control budget system.

The Group's selling and administrative expenses were 533.55 million baht, 521.03 million baht, 395.13 million baht, accounted for 16.63%, 11.68% and 12.91% of sales and service income for the year 2016, 2015 and 2014, respectively, which was the ratio that varies with sales and expansion expenses including accounting standards.



Net Profit

The Company's net profit for the year 2016 was 615.37 million baht, the year 2015 was 673.57 million baht, decrease 58.20 million baht. The net profit decreased by 1.81%, considering the normal operating performance of the Company and subsidiaries based on the consolidated financial statements for the year 2016 compared with the same period last year. Due to the company discharged 60 MW of commercial electricity into the system and the cost of generating electricity were not very high compared to the received revenue. Therefore, the profit margin is higher than the revenue.

● Financial Status

Total Assets

The Company's total assets at the end of 2016, 2015 and 2014 are 25,662.15 million baht, 18,815.26 million baht and 7,259.20 million baht, respectively. The main items of current assets are Accounts Receivables and merchandise Inventory, which vary according to sales. Also the construction of renewable power plants for external companies and the ability of the Group to invoice customer. Investments in subsidiaries increase; 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 borrowing from financial institutions and disposal of investment. As a result, the Group debt-to-equity ratios are 1.31 times, 1.19 times and 1.15 times, according to the consolidated financial statements as at the end of 2016, 2015 and 2014, 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 60 days for both private and government customers and credit term 90 - 120 days for foreign customers.

As at the end of 2016, 2015 and 2014 according to consolidated financial statements, the Group had total Trade Account Receivables 1,280.57 million baht, 1,419.74 million baht, 760.27 million baht (excluding other receivables and allowance),



respectively. With an average collection period at the end of 2016, 2015 and 2014, was 146 days, 85 days and 75 days, respectively. In 2016, the Company's trade account receivables increased. Due to building construction loan, energy group and power plant customers that not yet due.

Details of the Group's Trade Account Receivables are as follows:

Related Party receivables

	2014		2015		2016	
	million(Baht)	%	million(Baht)	%	million(Baht)	%
Not Yet Due	3.06	8.87	23.27	52.47	12.81	23.54
Overdue						
- Not over 3 months	13.99	40.55	-	-	41.61	76.46
- Between 3-6 months	17.45	50.58	-	-	-	-
- Between 6-12 months	-	-	-	-	-	-
- More than 12 months	-	-	21.08	47.53	-	-
Total Trade receivable	34.50	100.00	44.35	100.00	54.42	100
Deduction of allowance for doubtful accounts	-	-	-	-	-	-
Net Trade Receivables	34.50	100.00	44.35	100.00	54.42	100

Other Trade Account Receivables

	2014		2015		2016	
	million(Baht)	%	million(Baht)	%	million(Baht)	%
Not Yet Due	356.52	61.54	382.82	44.45	462.48	68.45
Overdue						
- Not over 3 months	168.73	29.13	407.94	54.68	196.12	29.03
- Between 3-6 months	41.4	7.15	6.35	0.74	10.25	1.52
- Between 6-12 months	13.1	2.26	-	0	0.53	0.08
- More than 12 months	0.98	0.17	1.14	0.14	7.2	1.07
Total Trade receivable	580.75	100.25	861.25	100.01	676.58	100.13
Deduction of allowance for doubtful accounts	-1.46	-0.25	-0.9	-0.01	-0.89	-0.13
Net Trade Receivables	579.29	100	860.35	100	675.69	100

Inventory

When considering the consolidated financial statements as at the end of 2016, 2015 and 2014, the Group's inventories amounted to 402.24 million baht, 361.42 million baht and 304.01 million baht.



	2014		2015		2016	
	million(Baht)	%	million(Baht)	%	million(Baht)	%
Raw Material	81.32	23.61	74.02	19.34	94.03	23.38
Inter-Production	2.5	0.73	35.75	9.34	39.00	9.70
Instant Product	226.76	65.85	240.74	62.91	248.94	61.89
Good in Transit	33.79	9.81	32.18	8.41	20.27	5.04
Total	344.37	100	382.69	100	402.24	100.00
Deduction of allowance for devaluation	-40.35	-17.72	-12.52	-3.27	-	-
Net inventories	304.01	82.28	361.41	96.73	402.24	100.00

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 24.61 million baht and 24.37 million baht at year-end 2015, and 2014, respectively.

The Company has average selling period from 70 days, 39 days and 57 days in 2016, 2015 and 2014, most of them are products related to sourcing for distribution and for solar construction projects.

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)	
	2016	2015	2016	2015	2016	2015	2016	2015
G.K. Power Products Co., Ltd.	100,000	100,000	100	100	80,425	80,425	25,000	45,000
G.K. Assembly Co., Ltd.	200,000	200,000	100	100	163,188	163,188	-	80,000
K.N.P. Supply Co., Ltd.	50,000	50,000	100	100	41,408	41,408	-	41,000
Wind Energy Development Co., Ltd.	1,575,000	1,575,000	70	70	2,226,150	2,226,150	-	-
NK Power Sola Co., Ltd.	2,600	2,600	100	100	40,854	40,854	-	-
Gunkul Solar Roof 1 Co., Ltd.	21,000	21,000	100	100	21,000	21,000	-	735
Gunkul Solar Roof 2 Co., Ltd.	250	250	100	100	250	250	-	-
Solar Energy Society Co., Ltd.	20,400	20,400	100	100	20,400	20,400	-	-
Bright Green Power Co., Ltd.	89,900	33,340	100	100	89,900	33,340	-	-



Company Name	Paid-Up Capital		Proportion of		Cost Method		Dividend	
	(Thousand Baht)		Investment (%)		(Thousand Baht)		(Thousand Baht)	
	2016	2015	2016	2015	2016	2015	2016	2015
Gunkul Power Development Co., Ltd.	15,000	15,000	100	100	23,749	15,000	-	-
Gunkul Solar Power 1 Co., Ltd.	2,500	2,500	100	100	25,000	2,500	-	-
Gunkul Solar Power 2 Co., Ltd.	39,000	39,000	100	100	54,250	39,000	-	2,145
Gunkul International (Mauritius) Ltd.	3,239,983	1,016,552	100	100	3,239,983	1,016,552	-	-
Gunkul LED Lighting Co., Ltd.	40,600	40,600	89.99	89.99	36,540	36,540	-	-
Gunkul Solar Community Co., Ltd.	2,750	2,750	100	100	2,750	2,750	-	-
Siam Gunkul Solar Energy Co., Ltd.	40,900	40,900	100	100	40,899	40,899	-	-
Gunkul Bio Energy Co., Ltd.	125	-	100	-	125	-	-	-
Gunkul and UCI Power Co., Ltd.	-	2,500	-	-	-	1,875	-	-
Greenovation Power Co., Ltd.	1,138,100	436,025	100	100	1,569,600	867,525	-	-
Korat Wind Energy Co., Ltd.	778,360	336,750	100	100	1,210,110	768,500	-	-
Gunkul Solar Power 3 Co., Ltd.	2,500	2,500	100	100	25,000	2,500	-	-
Gunkul Solar Power 4 Co., Ltd.	2,500	2,500	100	100	25,000	2,500	-	-
Gunkul Solar Power 5 Co., Ltd.	2,500	2,500	100	100	25,000	2,500	-	-
Infinite Alternative Energy Co., Ltd.	1,590,000	1,590,000	67	67	1,105,996	1,105,996	-	-
Gio Bio Energy Co., Ltd.	34,300	34,300	74.9	74.9	25,690	25,690	-	-
Eco Thai Energy Co., Ltd.	76,500	-	51	-	42,015	-	-	-
Total					10,093,267	6,557,342	25,000	168,880

Land, Buildings and Equipments

The Company's offices and warehouses are located on the subleased land of Mr. Gunkul Dhumrongpiyawut. The Company had buildings and equipment net amount 70.83 million baht, 78.82 million baht and 54.60 million baht in 2016, 2015 and 2014, respectively. Since the Company has 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 2016, 2015 and 2014 were 13,604.87 million baht, 7,646.25 million baht and 657.67 million baht, respectively. The substantial increase in land, buildings and equipments were based on the consolidated financial statements as compared to the separate financial statements of the Company. It was due to the consolidation of land value, building and equipment of 4 subsidiaries especially GK Assembly Co., Ltd., which has land and buildings, is owned by the subsidiary itself. While the other 2 subsidiaries are located in the subleased area of



Mr. Gunkul Dhumrongpiyawut, are the same as the Company. The details of the property, building and equipment of the subsidiary are as follows:

- **Wind Energy Development Co., Ltd.**

In 2012, the Company purchased a land for constructing an energy power plant at the price of Baht 378 million. The construction of 60 MW energy power plant was underway.

- **Greenovation Power Co., Ltd.**

In 2014, the Company began acquiring land for the construction of the power plant by purchasing land assets for the power plant business in amount to 204 million baht.

In 2014 - 2015, the Company started to supply land in Japan for power plant construction. It is a land for the power plant business.

Total Liabilities

The Company's total liabilities at the end of 2016, 2015 and 2014 are 15,912.90 million baht, 10,225.03 million baht and 3,899.50 million baht, respectively. In 2016, the Group began to have a higher total liability. Since in 2016, the Company and its subsidiaries have grown and expanded. The Company has issued debentures to raise funds for investment expansion. As a result, the Company has short-term and long-term loans project and trust receipts to support sales and the increasing construction in 2016.

Total liabilities of the Company contain mostly current liabilities such as, overdraft and short-term loans from financial institutions accounted for 40-80% Of the Group's total liabilities. Accounts payable accounted for approximately 8% of total liabilities of the Group and Long-term loans accounted for 33% 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 ratio according to the consolidated financial statements for the year 2014-2016 was 0.76 times 0.97 times 0.97 times, respectively. For quick liquidity ratios, 0.67 times, 0.91 times and 0.91, the average repayment period was 50 days, 64 days and 125 days. The Company has a cash cycle of 74 days, 39 days and 70 days, respectively. The selling period was 49 days, 38 days and 70 days. The collection period was 100 days, 116 days and 146 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 2016 and 2015, the Company's debt-to-equity ratio increased significantly from 1.42 times to 1.31 times. In 2014, the Company has lower debt to equity ratio, due to the capital increase for investments for public utilities from renewable energy.

Shareholders' Equity

Shareholders' equity of the Company was 8,600.08 million baht, 7,648.42 million baht and 2,982.44 million baht at the end of the year 2016, 2015 and 2014, according to the separate financial statements, respectively.

For the consolidated financial statements as at the end of 2016, 2015 and 2014, The Group's shareholders' equity was 9,749.25 million baht, 8,590.22 million baht and 3,359.70 million baht, respectively. The increase in shareholders' equity in 2016, 2015 and 2014, as compared to the separate financial statements, was the result of the consolidation of assets, liabilities and operating results of subsidiaries. There was a surplus on business combination under common control, which was the difference between the acquisition cost of the subsidiary and the increasing book value of the subsidiary's net assets in 2016, due to the registration of capital increase and share premium. In order to invest in the construction of a solar power plant for outsider and from financial investments in subsidiaries, due to the acquisition of control in domestic and foreign subsidiaries, respectively.

Cash Flow

In 2016, the Company's net cash flow from operation was 1,166.27 million baht, due to in 2016, the Company has a higher revenue growth especially investing in subsidiaries in the renewable energy sector to invest in a subsidiary company on renewable energy. In the investment activity of 8,983.43 million and capital increase, there has cash flow from short-term and long-term loans from banks for investing in 60 MW of wind power projects.

In 2015, the Company's net cash flow from operating activities was approximately 40.41 million baht. Since in 2015, the Company has a considerably revenue grow from sales of equipment to power plant contractors. However, it was still get more repayment at 202.59. The Company has borrowed money to invest in the construction of the power plant and has paid interest of 110.33 million baht. The Company has paid income tax of 78.73 million baht because the Company has profit from sales.



However, the Company had cash flow from investing activities of Baht 8,983.43 million; for example, from an investment in a subsidiary and associates in the amount of 8,438.97 million baht. The proceeds from the capital increase will be invested in short-term investments and secured bank deposits of Baht 341.24 million and others of 203.22 million baht.

For the year 2016, the Company still had to raise funds from issuing new shares of 906.36 million baht, issuing debentures of 1,780 million baht and earnings from financial institutions amounted to 4,321.38 million baht. Meanwhile, the Company has already paid the debt from the financing of 70.66 million baht and has paid a dividend of 289.67 million baht. Cash flow was approximately 6,788.73 million baht to use in administration in the year 2017.

For the year 2016, the Company's net cash flow from operating activities was approximately 3,496.66 million baht. Since in 2015, the Company's revenue has increased from construction projects and equipment sales. But still get more repayment according to the proportion of sales. Cash flow from operating activities was 1,166.27 million baht. For the investment, the Company has cash flow to invest in; for example, from an investment in a subsidiary and associated companies amounting to 8,983.43 million baht, with a dividend of 187.50 million baht. The company has cash flow from investing activities. The Company conducts short-term loans from financial institutions for investment, business sale. The Company conducts short-term loans from financial institutions for investment in business sale.



27. Independent Auditor's Report, Financial Statements and Notes

To the Shareholders of Gunkul Engineering Public Company Limited

Opinion

I have audited the accompanying 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), which comprise the consolidated and separate statements of financial position as at December 31, 2016, and the related consolidated and separate statements of comprehensive income, consolidated and separate statements of changes in shareholders' equity and consolidated and separate statements of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the consolidated and separate financial position of the Gunkul Engineering Public Company Limited and its subsidiaries and of Gunkul Engineering Public Company Limited as at December 31, 2016, and its consolidated and separate financial performance and its consolidated and separate cash flows for the year then ended in accordance with Thai Financial Reporting Standards.

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Company in accordance with the Federation of Accounting Professions under the Royal Patronage of his Majesty the King's Code of Ethics for Professional Accountants together with the ethical requirements that are relevant to our audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that 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 financial statements of the current period. These matters were addressed in the context of my audit of the financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

The Group is required to annually test the amount of goodwill for impairment at the end of the accounting period (as disclosed in Note 3). This annual impairment of goodwill test was significant to our audit because the balance of the goodwill shown in the consolidated financial statement at Baht 220.95 million as at December 31, 2016 is material to the consolidated financial statements. In addition, management's assessment process for the recoverable amount is highly judgmental and required complex calculation that based on assumptions, especially the forecast of future cash flows, the estimate of the units of electricity generated at the decreasing rate due to the deterioration of solar cells over their usage period, the selling price increment rate, and the discount rate.

I have obtained an understanding of the management's assessment process for the impairment of goodwill to ensure the appropriateness of the said impairment assessment process. I evaluated the assumptions and the methodologies used by the Group, in particular those relating to the forecasted future cash flows, which based on the remaining contractual terms of the power purchase agreements, and other material assumptions such as the estimate of the units of electricity generated at the decreasing rate due to the deterioration of solar cells over their usage period, the future selling price adjustment rate, the cost increment rate, and the discount rate. In addition, I also tested the correctness of the said calculation for the impairment assessment.

Furthermore, I also focused on the adequacy of the Group's disclosures about those assumptions that have the most significant effect on the determination of the recoverable amount of goodwill.

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 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 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 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 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 to correct the materially misstatement.

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

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

In preparing the financial statements, management is responsible for assessing the Group'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 or to cease operations, or has no realistic alternative but to do so.

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

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the 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 Thai Standards on Auditing 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 financial statements.

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

- Identify and assess the risks of material misstatement of the 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 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 ability to continue as a going concern. If I conclude that a material uncertainty exists, I have required to draw attention in my auditor's report to the related disclosures in the 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 to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the 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 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.

SP Audit Company Limited



(Miss Susan Eiamvanicha)

Certified Public Accountant (Thailand) No. 4306

Bangkok

February 27, 2017



STATEMENTS OF FINANCIAL POSITION

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

AS AT DECEMBER 31, 2016

(Unit : Baht)

Notes	Consolidated		Separate financial statements	
	2016	2015	2016	2015
		(Reclassified)		
ASSETS				
Current Assets				
Cash and cash equivalent	2,468,235,939.88	3,496,664,553.16	1,043,943,100.42	2,593,990,314.53
Current investments	964,357,175.43	367,225,824.42	949,668,647.09	367,225,824.42
Short-term deposits from financial institution pledged as collateral	7 585,106,437.47	74,125,428.07	-	-
Trade and other receivable - related parties	6.1,8 146,249,575.69	116,697,644.69	120,165,421.07	208,638,417.61
Trade and other receivable - third parties	9 797,560,761.18	974,949,454.15	483,255,603.89	590,808,106.22
Unbilled receivables	10 336,760,467.26	328,097,607.51	12,294,188.00	179,983,357.00
Advance for shares subscription	11 180,000,000.00	-	180,000,000.00	-
Deposit for purchase of goods	16,709,232.04	3,457,758.89	1,418,658.77	1,548,347.07
Advance payments to subcontractor	-	42,326,839.63	-	42,326,839.63
Deposit for purchase of assets	384,815,569.60	-	-	-
Retention receivables	223,800.01	998,652.00	-	-
Receivables from forward foreign exchange contracts	6,675,387.22	33,330,122.67	6,611,150.34	10,121,485.06
Revenue Department receivable	348,773,321.30	371,816,992.08	-	1,898,355.05
Inventories	12 402,243,854.28	363,596,340.15	226,817,715.61	220,641,101.80
Construction in progress	92,955.11	1,518,505.92	-	-
Short-term loan to related parties	6.1 -	-	557,327,750.00	457,000,000.00
Total Current Assets	6,637,804,476.47	6,174,805,723.34	3,581,502,235.19	4,674,182,148.39

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF FINANCIAL POSITION (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

AS AT DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
Non-Current Assets			(Reclassified)		
Long-term deposits from financial institution					
pledged as collateral	13	47,007,084.13	216,750,091.22	45,572,105.42	195,402,927.95
Investments in associates	14	356,891,223.88	351,679,172.32	397,694,800.00	397,694,800.00
Investments in joint ventures	15	939,043,106.16	880,069,437.49	521,281,892.50	521,281,892.50
Investments in subsidiaries	16	-	-	10,135,282,119.61	6,557,342,005.83
Machinery for investment in advance	17	268,344,850.00	268,344,850.00	268,344,850.00	268,344,850.00
Investment property	18	-	-	3,143,657.99	3,143,657.99
Property, plant and equipment	19	13,604,874,868.51	7,646,247,634.48	70,861,342.73	78,827,991.97
Intangible assets	20	3,358,594,133.53	2,952,231,130.20	4,663,577.73	4,367,688.67
Retention receivables		61,761,757.46	14,596,379.21	61,761,757.46	14,596,379.21
Prepaid front-end fee		56,282,700.46	95,479,817.79	-	-
Prepaid land rental		209,441,988.27	179,762,100.00	-	-
Deferred tax assets	21	103,673,460.36	23,995,685.49	6,666,921.39	5,059,085.71
Other non-current assets		18,432,101.16	11,295,852.44	816,730.06	736,724.10
Total Non-Current Assets		19,024,347,273.92	12,640,452,150.64	11,516,089,754.89	8,046,798,003.93
TOTAL ASSETS		25,662,151,750.39	18,815,257,873.98	15,097,591,990.08	12,720,980,152.32

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF FINANCIAL POSITION (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

AS AT DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
			(Reclassified)		
LIABILITIES AND EQUITY					
Current Liabilities					
Short-term loans from financial institutions	22	3,980,796,802.32	3,875,611,128.49	3,922,101,801.66	3,656,882,213.51
Trade and other payable - related parties	6.1	26,989,444.29	100,499,379.05	142,590,741.45	135,719,755.41
Trade and other payable - third parties	23	688,427,577.59	567,261,656.65	231,525,009.39	369,353,100.25
Advances received from employers and construction revenue received in advance		220,548,132.25	99,655,583.55	1,844,128.45	99,655,583.55
Advances received for goods		7,650,159.17	3,302,023.11	2,427,074.86	2,983,355.23
Payable for purchase of subsidiary		-	388,800,000.00	-	388,800,000.00
Payable for purchase of assets		745,730,428.38	1,188,505,202.63	16,474.12	533,985.86
Revenue Department payable		12,781,005.10	5,711,964.78	6,359,001.02	-
Accrued income tax payable		5,141,588.16	73,840,451.59	1,762,540.38	39,644,804.88
Retention payables		292,188,858.72	14,365,387.66	27,603,885.23	7,447,102.92
Debenture	24	300,000,000.00	-	300,000,000.00	-
Current portion of obligation under finance lease	25	12,861,358.81	15,496,459.11	9,205,417.77	11,079,290.55
Current portion of long-term loans	26	528,346,273.84	38,773,475.40	-	-
Total Current Liabilities		6,821,461,628.63	6,371,822,712.02	4,645,436,074.33	4,712,099,192.16
Non-Current Liabilities					
Debenture	24	1,780,000,000.00	300,000,000.00	1,780,000,000.00	300,000,000.00
Retention payables		159,124,066.61	57,156,147.93	17,273,979.62	17,410,129.21
Obligation under finance lease	25	29,247,658.60	42,109,003.19	20,012,631.48	29,217,975.99
Long-term loans from financial institutions	26	6,781,774,330.83	3,027,190,016.55	-	-
Employee benefit obligation	27	22,641,602.27	19,200,212.98	15,136,780.00	12,851,220.00
Deferred tax liabilities	21	287,270,496.80	402,033,521.21	-	-
Other Non-Current Liabilities		31,376,685.70	5,521,584.68	19,656,204.11	981,035.77
Total Non-Current Liabilities		9,091,434,840.81	3,853,210,486.54	1,852,079,595.21	360,460,360.97
TOTAL LIABILITIES		15,912,896,469.44	10,225,033,198.56	6,497,515,669.54	5,072,559,553.13

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF FINANCIAL POSITION (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

AS AT DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
Equity			(Reclassified)		
Share Capital	28				
Authorised share capital					
6,798,745,436 ordinary shares of					
Baht 0.25 each		1,699,686,359.00	-	1,699,686,359.00	-
5,499,622,356 ordinary shares of					
Baht 0.25 each		-	1,374,905,589.00	-	1,374,905,589.00
Issued and paid up share capital					
6,358,775,851 ordinary shares of					
Baht 0.25 each		1,589,693,962.75	-	1,589,693,962.75	-
5,132,980,864 ordinary shares of					
Baht 0.25 each		-	1,283,245,216.00	-	1,283,245,216.00
Premium on share capital		5,179,217,075.00	4,272,855,645.00	5,179,217,075.00	4,272,855,645.00
Surplus from reorganisation under					
common control		93,622,449.53	93,622,449.53	-	-
Retained earnings					
Appropriated					
Legal reserve	29	159,000,000.00	129,000,000.00	159,000,000.00	129,000,000.00
Unappropriated		2,176,589,681.51	2,265,007,655.64	1,672,165,282.79	1,963,319,738.19
Other components of shareholders' equity		(90,160,466.50)	19,649,513.74	-	-
Equity attributable to owners of the					
Company		9,107,962,702.29	8,063,380,479.91	8,600,076,320.54	7,648,420,599.19
Non-controlling interests of the subsidiary		641,292,578.66	526,844,195.51	-	-
Total Shareholders' Equity		9,749,255,280.95	8,590,224,675.42	8,600,076,320.54	7,648,420,599.19
TOTAL LIABILITIES AND EQUITY		25,662,151,750.39	18,815,257,873.98	15,097,591,990.08	12,720,980,152.32

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF COMPREHESIVE INCOME

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
			(Reclassified)		(Reclassified)
Revenues					
Revenues from construction services		909,497,080.38	566,764,219.17	484,387,200.00	358,977,974.30
Sales of goods		2,130,372,430.35	3,811,481,281.84	1,203,428,169.64	2,962,369,269.44
Service income		80,074,233.67	70,118,395.02	87,424,814.82	66,495,337.67
Government granted		88,950,089.00	11,935,046.50	-	-
Dividend income		-	-	232,628,903.20	390,188,893.70
Benefit from machinery for investment in advance		47,980,455.88	64,603,078.73	47,980,455.88	64,603,078.73
Gain on exchange rate		-	13,998,340.34	-	19,715,938.68
Interest income		84,225,960.45	29,663,976.01	105,953,249.42	26,734,897.03
Other income		25,733,651.38	22,127,414.65	19,130,359.44	16,435,976.96
Total revenues		3,366,833,901.11	4,590,691,752.26	2,180,933,152.40	3,905,521,366.51
Expenses					
Cost of construction services		834,476,369.89	448,182,827.81	413,122,247.92	326,915,705.50
Cost of sales		1,208,192,758.58	2,956,368,705.33	892,774,491.48	2,401,217,019.88
Cost of service		51,547,864.58	36,388,863.20	41,241,578.20	33,850,098.66
Selling expenses		40,801,778.16	63,077,701.34	31,138,006.77	53,011,091.96
Administrative expenses		492,743,564.41	442,250,041.74	300,849,873.68	252,896,701.63
Loss on exchange rate		24,336,791.76	-	7,438,025.03	-
Finance cost		329,800,388.37	115,890,065.04	132,762,852.37	107,134,207.34
Total expenses		2,981,899,515.75	4,062,158,204.46	1,819,327,075.45	3,175,024,824.97
Share of profit from investments in associates and joint ventures		271,815,171.02	280,003,751.81	-	-
Profit before income tax expenses		656,749,556.38	808,537,299.61	361,606,076.95	730,496,541.54
Income tax expense	30	(41,379,418.70)	(134,969,566.78)	(26,625,205.39)	(68,994,084.78)

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF COMPREHENSIVE INCOME (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

Notes	Consolidated		Separate financial statements	
	2016	2015	2016	2015
Profit for the year	615,370,137.68	(Reclassified) 673,567,732.83	334,980,871.56	(Reclassified) 661,502,456.76
Other comprehensive income				
Items must be classified into profit or loss in the future				
Exchange differences on translation	(109,809,980.24)	19,679,799.85	-	-
Items must not be classified into profit or loss in the future				
Actuarial losses	-	(2,806,948.80)	-	(1,944,656.00)
Other comprehensive income (loss) for the year	(109,809,980.24)	16,872,851.05	-	(1,944,656.00)
Total comprehensive income for the year	505,560,157.44	690,440,583.88	334,980,871.56	659,557,800.76
Profit (loss) attributable to :				
Equity holders of the Company	537,717,352.83	685,136,879.54	334,980,871.56	661,502,456.76
Non-controlling interests of the subsidiary	77,652,784.85	(11,569,146.71)	-	-
	615,370,137.68	673,567,732.83	334,980,871.56	661,502,456.76
Total comprehensive income (loss) attributable to:				
Equity holders of the Company	427,907,372.59	702,009,730.59	334,980,871.56	659,557,800.76
Non-controlling interests of the subsidiary	77,652,784.85	(11,569,146.71)	-	-
	505,560,157.44	690,440,583.88	334,980,871.56	659,557,800.76
Earnings per shares				
Basic earnings per shares	31 0.08	0.13	0.05	0.12
Diluted earnings per share	31 0.08	0.13	0.05	0.12

Notes to financial statements are an integral part of these financial statements



CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

		Parent's Shareholders' Equity						holder interests of the subsidiary		Non-controlling Total		
		Issued and paid-up share capital	Premium on share capital	Surplus from reorganisation under common control	Retained earnings		Exchange on translation					Total equity differences of the Company
					Appropriated legal reserve	Unappropriated						
Notes												
		879,990,265.00	425,120,000.00	93,622,449.53	88,000,000.00	1,870,422,516.09	(30,286.11)	3,357,124,944.51	2,574,352.69	3,359,699,297.20		
		Change in equity for the year										
	28	403,254,951.00	3,849,735,645.00	-	-	-	-	4,252,990,596.00	-	4,252,990,596.00		
	28	-	(2,000,000.00)	-	-	-	-	(2,000,000.00)	-	(2,000,000.00)		
		-	-	-	-	-	-	-	539,751,860.99	539,751,860.99		
	29	-	-	-	41,000,000.00	(41,000,000.00)	-	-	-	-		
		-	-	-	-	(2,177,128.54)	-	(2,177,128.54)	(3,912,871.46)	(6,090,000.00)		
	32	-	-	-	-	(244,567,662.65)	-	(244,567,662.65)	-	(244,567,662.65)		
		-	-	-	-	685,136,879.54	19,679,799.85	704,816,679.39	(11,569,146.71)	693,247,532.68		
		-	-	-	-	(2,806,948.80)	-	(2,806,948.80)	-	(2,806,948.80)		
		1,283,245,216.00	4,272,855,645.00	93,622,449.53	129,000,000.00	2,265,007,655.64	19,649,513.74	8,063,380,479.91	526,844,195.51	8,590,224,675.42		
		Change in equity for the year										
	28	306,448,746.75	906,361,430.00	-	-	-	-	1,212,810,176.75	-	1,212,810,176.75		
		-	-	-	-	-	-	-	37,376,681.08	37,376,681.08		
	29	-	-	-	30,000,000.00	(30,000,000.00)	-	-	-	-		
		-	-	-	-	-	-	-	(581,082.78)	(581,082.78)		
	32	-	-	-	-	(596,135,326.96)	-	(596,135,326.96)	-	(596,135,326.96)		
		-	-	-	-	537,717,352.83	(109,809,980.24)	427,907,372.59	77,652,784.85	505,560,157.44		
		1,589,693,962.75	5,179,217,075.00	93,622,449.53	159,000,000.00	2,176,589,681.51	(90,160,466.50)	9,107,962,702.29	641,292,578.66	9,749,255,280.95		

Notes to financial statements are an integral part of these financial statements



SEPARATE STATEMENTS OF CHANGES IN EQUITY

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES
FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

		Retained earnings				
		Issued		Appropriated		
		and paid-up share capital	Premium on share capital	legal reserve	Unappropriated	Total
Notes						
Balance as at January 1, 2015		879,990,265.00	425,120,000.00	88,000,000.00	1,589,329,600.08	2,982,439,865.08
Change in equity for the year						
Increase from increment of capital	28	403,254,951.00	3,849,735,645.00	-	-	4,252,990,596.00
Expenses of issuing shares (net of income tax)	28	-	(2,000,000.00)	-	-	(2,000,000.00)
Legal reserve	29	-	-	41,000,000.00	(41,000,000.00)	-
Cash dividends and stock dividends		-	-	-	(244,567,662.65)	(244,567,662.65)
Profit for the year		-	-	-	661,502,456.76	661,502,456.76
Actuarial losses		-	-	-	(1,944,656.00)	(1,944,656.00)
Balance as at December 31, 2015		1,283,245,216.00	4,272,855,645.00	129,000,000.00	1,963,319,738.19	7,648,420,599.19
Change in equity for the year						
Increase from increment of capital	28	306,448,746.75	906,361,430.00	-	-	1,212,810,176.75
Legal reserve	29	-	-	30,000,000.00	(30,000,000.00)	-
Cash dividends and stock dividends	32	-	-	-	(596,135,326.96)	(596,135,326.96)
Profit for the year		-	-	-	334,980,871.56	334,980,871.56
Balance as at December 31, 2016		1,589,693,962.75	5,179,217,075.00	159,000,000.00	1,672,165,282.79	8,600,076,320.54

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF CASH FLOWS

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
			(Reclassified)		(Reclassified)
Cash Flow from Operating Activities					
Profit before income tax expenses		579,096,771.53	820,106,446.32	361,606,076.95	730,496,541.54
Adjustments to reconcile profit before income tax expenses for cash received (used) from operations					
Bad debts and doubtful debts (reversal)		(248,487.74)	(306,044.34)	-	(442,780.00)
Unrealized (gain) loss on exchange rate		34,063,951.31	(27,052,878.44)	6,901.31	(9,927,549.86)
Loss on decline in the value of inventories (reversal)		(2,580,478.06)	(19,084,068.54)	(5,094,842.64)	(16,363,941.22)
Amortization of front-end fee		4,123,364.70	-	-	-
Dividend income		-	-	(232,628,903.20)	(390,188,893.70)
Benefit from machinery for investment in advance		(47,980,455.88)	(64,603,078.73)	(47,980,455.88)	(64,603,078.73)
Depreciation and amortisation		264,535,187.49	36,309,608.87	12,264,033.77	9,604,841.67
Loss from impairment on assets		-	322,000.00	-	-
(Gain) loss from disposal and written off of assets		2,945,353.45	(232,976.63)	(32,938.90)	117,441.53
Provision for warranty (reversal)		542,699.87	159,098.70	(172,455.30)	19,238.56
Provisions for delivery delay (reversal)		3,048,603.90	(448,744.13)	1,214,584.55	(561,724.78)
Provisions for employee benefits		3,435,811.00	2,947,759.98	2,285,560.00	1,947,351.00
Provisions for project warranty		11,728,924.04	-	10,177,526.25	-
Share of profit from investments in associates and joint ventures		(271,815,171.02)	(280,003,751.81)	-	-
Share of gain (loss) of non-controlling interest		77,652,784.85	(11,569,146.71)	-	-
Gain on disposal of investments in subsidiary		(131,726.61)	-	-	-
Interest income		(84,225,960.45)	(29,663,976.01)	(105,953,249.42)	(26,734,897.03)
Interest expenses		329,800,388.37	115,890,065.04	132,762,852.37	107,134,207.34

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF COMPREHENSIVE INCOME (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

Notes	Consolidated		Separate financial statements	
	2016	2015	2016	2015
		(Reclassified)		(Reclassified)
Profit before changes in operating assets and liabilities	903,991,560.75	542,770,313.57	128,454,689.86	340,496,756.32
(Increase)decrease in trade and other receivable - related parties	(9,426,731.60)	(3,967,636.99)	26,782,351.67	35,885,364.53
(Increase)decrease in trade and other receivable - third parties	160,374,390.81	(200,456,873.16)	93,019,995.71	(57,050,539.68)
(Increase)decrease in unbilled receivables	(8,662,859.75)	(286,723,676.94)	167,689,169.00	(153,339,426.43)
(Increase)decrease in deposit for purchase of goods	(13,251,473.15)	6,001,230.11	129,688.30	5,180,503.47
(Increase)decrease in advances payment to subcontractors	42,326,839.63	(42,326,839.63)	42,326,839.63	(42,326,839.63)
(Increase)decrease in Revenue Department receivable	23,043,670.78	(176,659,478.71)	1,898,355.05	(1,898,355.05)
(Increase)decrease in inventories	(36,067,036.07)	(38,321,498.67)	(1,081,771.17)	(5,912,559.60)
Decrease in construction in progress	1,425,550.81	1,135,891.31	-	-
Increase in retention receivables	(46,390,526.26)	(12,911,413.78)	(47,165,378.25)	(13,113,191.63)
Increase in other non-current assets	(4,966,999.59)	(6,639,974.96)	(80,005.96)	(180,000.00)
Increase(decrease) in trade and other payable - related parties	(94,482,055.14)	95,078,907.75	6,870,986.04	(22,727,185.60)
Increase(decrease) in trade and other payable - third parties	77,003,053.05	219,124,075.18	(146,300,441.46)	99,801,032.25
Increase(decrease) in advances received from employers and construction revenue received in advance	120,892,548.70	99,655,583.55	(97,811,455.10)	99,655,583.55
Increase(decrease) in advances received for goods	4,348,136.06	(13,659,585.83)	(556,280.37)	(13,978,253.71)
Increase(decrease) in Revenue Department payable	7,069,040.32	(2,417,542.31)	6,359,001.02	(6,019,888.12)
Increase(decrease) in retention payables	379,791,389.74	19,479,652.54	20,020,632.72	(17,689,326.17)
Cash paid for employee benefits	-	(1,663,402.00)	-	(1,663,402.00)

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF COMPREHESIVE INCOME (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
			(Reclassified)		(Reclassified)
Cash generate from operation	1,507,018,499.09	197,497,731.03	200,556,376.69	245,120,272.50	
Cash received for interest income	86,603,094.21	29,123,182.37	91,197,051.01	24,280,925.05	
Cash paid for interest expense	(291,157,422.93)	(107,487,843.61)	(117,581,771.59)	(105,022,954.68)	
Cash paid for income tax	(136,195,649.15)	(78,728,964.04)	(66,115,305.57)	(25,846,151.89)	
Net Cash Provided from Operating Activities	1,166,268,521.22	40,404,105.75	108,056,350.54	138,532,090.98	
Cash Flow from Investing Activities					
Increase in current investments	(597,131,351.01)	(367,225,824.42)	(582,442,822.67)	(367,225,824.42)	
Increase short-term deposits from financial institution used as collateral	(510,981,009.40)	(74,125,428.07)	-	-	
Cash paid for payable for purchase shares	(388,800,000.00)	(198,650,000.00)	(388,800,000.00)	(198,650,000.00)	
Cash paid for advance for shares subscription	(180,000,000.00)	-	(180,000,000.00)	-	
Cash paid for increment of capital in subsidiaries	-	-	(2,920,954,190.00)	(3,581,773,047.52)	
Cash paid for acquisition of subsidiaries	-	(739,349,460.41)	-	-	
Cash received (paid) from disposal of investment in subsidiary	(455,549.22)	-	1,874,975.00	-	
Dividend income	187,504,251.40	206,103,544.70	311,383,042.80	276,103,009.10	
Benefit from machinery for investment in advance	60,484,887.46	39,175,204.23	60,484,887.46	39,175,204.23	
Increase in short-term loans to related parties	-	-	(753,288,382.66)	(450,000,000.00)	
Cash paid deposit for purchase of assets	(398,183,622.66)	-	-	-	
Cash paid for purchase of plant and equipment and payable for purchase of assets	(6,698,647,204.11)	(5,758,486,559.21)	(4,720,153.37)	(5,581,069.63)	
Proceed from disposal of equipment	46,349.60	772,932.75	40,186.94	330,676.73	
Cash paid for purchase of intangible assets	(600,510,611.91)	(160,937,441.67)	(397,880.00)	-	
Cash paid for prepaid land rental	(26,496,218.38)	-	-	-	

Notes to financial statements are an integral part of these financial statements



STATEMENTS OF COMPREHENSIVE INCOME (Continued)

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FOR THE YEAR ENDED DECEMBER 31, 2016

(Unit : Baht)

	Notes	Consolidated		Separate financial statements	
		2016	2015	2016	2015
			(Reclassified)		(Reclassified)
(Increase) decrease in Long-term deposits from financial institution and pledged as collateral		169,743,007.09	(132,053,046.80)	149,830,822.53	(149,687,223.38)
Net Cash Used in Investing Activities		(8,983,427,071.14)	(7,184,776,078.90)	(4,306,989,513.97)	(4,437,308,274.89)
Cash Flow from Financing Activities					
Cash received from capital increment		906,361,430.00	4,031,056,390.00	906,361,430.00	4,031,056,390.00
Cash received from capital increment of non-controlling interest in subsidiary		37,376,681.08	288,146,200.00	-	-
Increase in bank overdrafts and short-term loans from financial institutions		103,857,583.88	1,778,906,708.88	265,162,051.14	1,624,967,307.71
Decrease in short-term loans from related parties		-	(38,419,122.21)	-	(230,500,000.00)
Proceed from debenture		1,780,000,000.00	300,000,000.00	1,780,000,000.00	300,000,000.00
Proceed from long-term loans from banks		4,321,386,208.94	3,071,673,491.95	-	-
Cash paid for long-term loans from banks		(6,852,000.00)	(162,210,000.00)	-	-
Dividend paid		(289,669,715.04)	(24,633,156.10)	(289,669,715.04)	(24,633,156.10)
Cash paid for front-end fee		(35,922,791.00)	(95,479,817.79)	-	-
Repayment of obligation under finance lease		(15,496,444.89)	(14,182,203.44)	(11,079,217.29)	(10,676,932.95)
Repayment of interest-obligation under finance lease		(2,678,860.31)	(2,518,394.50)	(1,888,599.49)	(1,711,587.52)
Effect of exchange rate changes on cash and cash equivalent		(9,632,156.02)	1,567,964.30	-	-
Net Cash Provided from Financing Activities		6,788,729,936.64	9,133,908,061.09	2,648,885,949.32	5,688,502,021.14
Net Increase(decrease) in Cash and Cash Equivalent		(1,028,428,613.28)	1,989,536,087.94	(1,550,047,214.11)	1,389,725,837.23
Cash and Cash Equivalent at the Beginning of the Year		3,496,664,553.16	1,507,128,465.22	2,593,990,314.53	1,204,264,477.30
Cash and Cash Equivalent at the End of the Year	33.1	2,468,235,939.88	3,496,664,553.16	1,043,943,100.42	2,593,990,314.53

Notes to financial statements are an integral part of these financial statements



Notes to Financial Statements

GUNKUL ENGINEERING PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

DECEMBER 31, 2016

1. General information

Gunkul Engineering Public Company Limited ("the Company") is a public limited company and is incorporated in Thailand. The address of the Company's registered office is 1038-1046 Nakornchaisri Road, Nakornchaisri, Dusit, Bangkok.

The principal activities of the Company and subsidiaries ("the Group") involve manufacture, distribution and importation and exportation of electrical hardware and equipment including generate and sell electricity.

2. Basis of preparation of financial statements

The consolidated and separate financial statements are presented in Thai language and Thai Baht, and in conformity with Thai generally accepted accounting principles under the Accounting Act B.E. 2543, being those Thai Accounting Standards issued under the Accounting Profession Act B.E. 2547, and the financial reporting requirements of the Capital Market Supervisory Board under the Securities and Exchange Act B.E.2535 (or 1992).

The consolidated and separate financial statements have been prepared under the historical cost convention except as disclosed in the accounting policies below.

The preparation of financial statements in conformity with Thai Generally Accepted Accounting Principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the amounts of revenues and expenses in the reported periods. Actual results may differ from those estimates. Although the management has most well prepared the figures of estimation from the understanding of events and the things that have been done presently.



The financial statements issued for Thai report purposes are prepared in the Thai language. This English translation of the financial statements has been prepared for the convenience of readers not conversant with the Thai language.

The Federation of Accounting Profession (FAP) has notified to apply the following financial reporting standards to the financial statements having an accounting period beginning on or after January 1, 2016.

TFRS No. 2	Share-based Payment (revised 2015)
TFRS No. 3	Business Combinations (revised 2015)
TFRS No. 4	Insurance Contracts (revised 2015)
TFRS No. 5	Non-current Assets Held for Sale and Discontinued Operations (revised 2015)
TFRS No. 6	Exploration for and Evaluation of Mineral Resources (revised 2015)
TFRS No. 8	Operating Segments (revised 2015)
TFRS No. 10	Consolidated Financial Statements (revised 2015)
TFRS No. 11	Joint Arrangements (revised 2015)
TFRS No. 12	Disclosure of Interests in Other Entities (revised 2015)
TFRS No. 13	Fair Value Measurement (revised 2015)
TAS No. 1	Presentation of Financial Statements (revised 2015)
TAS No. 2	Inventories (revised 2015)
TAS No. 7	Statement of Cash Flows (revised 2015)
TAS No. 8	Accounting Policies, Changes in Accounting Estimates and Errors (revised 2015)
TAS No. 10	Events after the Reporting Period (revised 2015)
TAS No. 11	Construction Contracts (revised 2015)
TAS No. 12	Income Taxes (revised 2015)
TAS No. 16	Property, Plant and Equipment (revised 2015)
TAS No. 17	Leases (revised 2015)
TAS No. 18	Revenue (revised 2015)
TAS No. 19	Employee Benefits (revised 2015)
TAS No. 20	Accounting for Government Grants and Disclosure of Government Assistance (revised 2015)
TAS No. 21	The Effects of Changes in Foreign Exchange Rates (revised 2015)
TAS No. 23	Borrowing Costs (revised 2015)
TAS No. 24	Related Party Disclosures (revised 2015)
TAS No. 26	Accounting and Reporting by Retirement Benefit Plans (revised 2015)
TAS No. 27	Separate Financial Statements (revised 2015)
TAS No. 28	Investments in Associates and Joint Ventures (revised 2015)



TAS No. 29	Financial Reporting in Hyperinflationary Economies (revised 2015)
TAS No. 33	Earnings per Share (revised 2015)
TAS No. 34	Interim Financial Reporting (revised 2015)
TAS No. 36	Impairment of Assets (revised 2015)
TAS No. 37	Provisions, Contingent Liabilities and Contingent Assets (revised 2015)
TAS No. 38	Intangible Assets (revised 2015)
TAS No. 40	Investment Property (revised 2015)
TAS No. 41	Agriculture
TFRIC No. 1	Changes in Existing Decommissioning, Restoration and Similar Liabilities (revised 2015)
TFRIC No. 4	Determining whether an Arrangement contains a Lease (revised 2015)
TFRIC No. 5	Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds (revised 2015)
TFRIC No. 7	Applying the Restatement Approach under TAS 29 (revised 2015) Financial Reporting in Hyperinflationary Economies (revised 2015)
TFRIC No. 10	Interim Financial Reporting and Impairment (revised 2015)
TFRIC No. 12	Service Concession Arrangements (revised 2015)
TFRIC No. 13	Customer Loyalty Programmes (revised 2015)
TFRIC No. 14	TAS 19 (revised 2015) - The Limit on a Defined Benefit Assets, Minimum Funding Requirements and their Interaction (revised 2015)
TFRIC No. 15	Agreements for the Construction of Real Estate (revised 2015)
TFRIC No. 17	Distributions of Non-cash Assets to Owners (revised 2015)
TFRIC No. 18	Transfers of Assets from Customers (revised 2015)
TFRIC No. 20	Stripping Costs in the Production Phase of a Surface Mine (revised 2015)
TFRIC No. 21	Levies
TSIC No. 10	Government Assistance - No Specific Relation to Operating Activities (revised 2015)
TSIC No. 15	Operating Leases - Incentives (revised 2015)
TSIC No. 25	Income Taxes - Changes in the Tax Status of an Entity or its Shareholders (revised 2015)
TSIC No. 27	Evaluating the Substance of Transactions Involving the Legal Form of a Lease (revised 2015)
TSIC No. 29	Service Concession Arrangements : Disclosures (revised 2015)
TSIC No. 31	Revenue - Barter Transactions Involving Advertising Services (revised 2015)
TSIC No. 32	Intangible Assets - Web Site Costs (revised 2015)



The Group has adopted such financial reporting standards to the financial statements on the current period. The management believes that they don't have any significant impact on the financial statements for the current period.

Moreover, the Federation of Accounting Profession has notified to apply the following financial reporting standards to the financial statements in the future periods.

		<u>Effective date</u>
TFRS No. 2	Share-based Payment (revised 2016)	January 1, 2017
TFRS No. 3	Business Combinations (revised 2016)	January 1, 2017
TFRS No. 4	Insurance Contracts (revised 2016)	January 1, 2017
TFRS No. 5	Non-current Assets Held for Sale and Discontinued Operations (revised 2016)	January 1, 2017
TFRS No. 6	Exploration for and Evaluation of Mineral Resources (revised 2016)	January 1, 2017
TFRS No. 8	Operating Segments (revised 2016)	January 1, 2017
TFRS No. 10	Consolidated Financial Statements (revised 2016)	January 1, 2017
TFRS No. 11	Joint Arrangements (revised 2016)	January 1, 2017
TFRS No. 12	Disclosure of Interests in Other Entities (revised 2016)	January 1, 2017
TFRS No. 13	Fair Value Measurement (revised 2016)	January 1, 2017
TAS No. 1	Presentation of Financial Statements (revised 2016)	January 1, 2017
TAS No. 2	Inventories (revised 2016)	January 1, 2017
TAS No. 7	Statement of Cash Flows (revised 2016)	January 1, 2017
TAS No. 8	Accounting Policies, Changes in Accounting Estimates and Errors (revised 2016)	January 1, 2017
TAS No. 10	Events after the Reporting Period (revised 2016)	January 1, 2017
TAS No. 11	Construction Contracts (revised 2016)	January 1, 2017
TAS No. 12	Income Taxes (revised 2016)	January 1, 2017
TAS No. 16	Property, Plant and Equipment (revised 2016)	January 1, 2017
TAS No. 17	Leases (revised 2016)	January 1, 2017
TAS No. 18	Revenue (revised 2016)	January 1, 2017
TAS No. 19	Employee Benefits (revised 2016)	January 1, 2017
TAS No. 20	Accounting for Government Grants and Disclosure of Government Assistance (revised 2016)	January 1, 2017
TAS No. 21	The Effects of Changes in Foreign Exchange Rates (revised 2016)	January 1, 2017
TAS No. 23	Borrowing Costs (revised 2016)	January 1, 2017
TAS No. 24	Related Party Disclosures (revised 2016)	January 1, 2017
TAS No. 26	Accounting and Reporting by Retirement Benefit Plans (revised 2016)	January 1, 2017
TAS No. 27	Separate Financial Statements (revised 2016)	January 1, 2017



TAS No. 28	Investments in Associates and Joint Ventures (revised 2016)	January 1, 2017
TAS No. 29	Financial Reporting in Hyperinflationary Economies (revised 2016)	January 1, 2017
TAS No. 33	Earnings per Share (revised 2016)	January 1, 2017
TAS No. 34	Interim Financial Reporting (revised 2016)	January 1, 2017
TAS No. 36	Impairment of Assets (revised 2016)	January 1, 2017
TAS No. 37	Provisions, Contingent Liabilities and Contingent Assets (revised 2016)	January 1, 2017
TAS No. 38	Intangible Assets (revised 2016)	January 1, 2017
TAS No. 40	Investment Property (revised 2016)	January 1, 2017
TAS No. 41	Agriculture (revised 2016)	January 1, 2017
TAS No. 104	Accounting for Troubled Debts Restructurings (revised 2016)	January 1, 2017
TAS No. 105	Accounting for Investments in Debt and Equity Securities (revised 2016)	January 1, 2017
TAS No. 107	Financial Instruments: Presentation and Disclosures (revised 2016)	January 1, 2017
TFRIC No. 1	Changes in Existing Decommissioning, Restoration and Similar Liabilities (revised 2016)	January 1, 2017
TFRIC No. 4	Determining whether an Arrangement contains a Lease (revised 2016)	January 1, 2017
TFRIC No. 5	Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds (revised 2016)	January 1, 2017
TFRIC No. 7	Applying the Restatement Approach under TAS 29 (revised 2016) Financial Reporting in Hyperinflationary Economies (revised 2016)	January 1, 2017
TFRIC No. 10	Interim Financial Reporting and Impairment (revised 2016)	January 1, 2017
TFRIC No. 12	Service Concession Arrangements (revised 2016)	January 1, 2017
TFRIC No. 13	Customer Loyalty Programmes (revised 2016)	January 1, 2017
TFRIC No. 14	TAS 19 (revised 2016) - The Limit on a Defined Benefit Assets, Minimum Funding Requirements and their Interaction (revised 2016)	January 1, 2017
TFRIC No. 15	Agreements for the Construction of Real Estate (revised 2016)	January 1, 2017
TFRIC No. 17	Distributions of Non-cash Assets to Owners (revised 2016)	January 1, 2017
TFRIC No. 18	Transfers of Assets from Customers (revised 2016)	January 1, 2017
TFRIC No. 20	Stripping Costs in the Production Phase of a Surface Mine (revised 2016)	January 1, 2017
TFRIC No. 21	Levies (revised 2016)	January 1, 2017
TSIC No. 10	Government Assistance - No Specific Relation to Operating Activities (revised 2016)	January 1, 2017
TSIC No. 15	Operating Leases - Incentives (revised 2016)	January 1, 2017
TSIC No. 25	Income Taxes - Changes in the Tax Status of an Entity or its Shareholders (revised 2016)	January 1, 2017
TSIC No. 27	Evaluating the Substance of Transactions Involving the Legal Form of a Lease (revised 2016)	January 1, 2017



TSIC No. 29	Service Concession Arrangements : Disclosures (revised 2016)	January 1, 2017
TSIC No. 31	Revenue - Barter Transactions Involving Advertising Services (revised 2016)	January 1, 2017
TSIC No. 32	Intangible Assets - Web Site Costs (revised 2016)	January 1, 2017

Guide on Accounting for Insurance Business in Determining Financial Instruments as Financial Instruments Presented with Fair Value through Profit or Loss January 1, 2017

The Group has not early adopted such financial reporting standards having the effective date to the financial statements on the future periods before the effective dates. The management is currently assessing the first-year impact on the Group's financial statements.

3. Principles of consolidation financial statements

The consolidated financial statements comprise the financial statements of the Company and its subsidiaries. Subsidiaries are those entities under the control by the Company. The Company controls subsidiaries when it is exposed, or has rights, to variable returns from its involvement with subsidiaries and has the ability to affect those returns through its power over the subsidiaries. Subsidiaries are consolidated from the date on which control is transferred to the Group and are no longer consolidated from the date that control ceases.

Acquisitions of subsidiaries are accounted for using the acquisition method. The consideration transferred for acquisition is measured at the sum of the fair value of the assets given, the liabilities incurred, and equity instruments issued by the Group at the date of exchange. Acquisition-related costs are accounted as expenses in the period in which the costs are incurred. The excess of the sum of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the fair value of the net identifiable assets of the subsidiary acquired is recognized as goodwill and to be tested for impairment annually. If, after reassessment, the sum of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) is less than the fair value of the net identifiable assets of the subsidiary acquired, the difference is recognized in profit or loss as a bargain purchase gain.



Related party transactions, balances and unrealized gains on transactions between the Company and its subsidiaries are eliminated; unrealized losses are also eliminated unless cost cannot be recovered. Where necessary, accounting policies of subsidiaries have been changed to ensure consistency with the policies adopted by the Group.

The consolidated financial statements for the year ended December 31, 2016 and 2015 have been prepared by including the financial statements of Gunkul Engineering Public Company Limited and subsidiaries after eliminate the significant related party balances and transactions. The percentage directly and indirectly owned by the Company as follows:-

Name of subsidiaries	Nature of business	Country of incorporation	Percentage of shareholding	
			2016	2015
G.K. Power Product Co., Ltd.	Manufacture electrical hardware and equipment	Thailand	100.00	100.00
G.K. Assembly Co., Ltd.	Manufacture electrical hardware and equipment	Thailand	100.00	100.00
K.N.P. Supply Co., Ltd.	Import-export electrical hardware and equipment	Thailand	100.00	100.00
Greenovation Power Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Wind Energy Development Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
NK Power Sola Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Roof 1 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Roof 2 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Solar Energy Society Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Bright Green Power Co., Ltd.	Generating and selling electricity and holding company	Thailand	100.00	100.00
Gunkul Power Development Co., Ltd.	Construction	Thailand	100.00	100.00
Gunkul Solar Power 1 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Power 2 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Power 3 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Power 4 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Power 5 Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul Solar Community Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Siam Gunkul Solar Energy Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00



Name of subsidiaries	Nature of business	Country of incorporation	Percentage of shareholding	
			2016	2015
Korat Wind Energy Co., Ltd.	Generating and selling electricity	Thailand	100.00	100.00
Gunkul LED Lighting Co., Ltd.	Manufacture electrical hardware and equipment	Thailand	90.00	90.00
Gunkul and UCI Power Co., Ltd.	Generating and selling electricity	Thailand	-	75.00
GO Bioenergy Co., Ltd.	Holding company	Thailand	74.90	74.90
Outgrow A Co., Ltd. (Holding by GO Bioenergy Co., Ltd.)	Generating and selling electricity	Thailand	74.90	74.90
Outgrow B Co., Ltd. (Holding by GO Bioenergy Co., Ltd.)	Generating and selling electricity	Thailand	74.90	74.90
Outgrow D Co., Ltd. (Holding by GO Bioenergy Co., Ltd.)	Generating and selling electricity	Thailand	74.90	74.90
Outgrow E Co., Ltd. (Holding by GO Bioenergy Co., Ltd.)	Generating and selling electricity	Thailand	74.90	74.90
Outgrow Wood Supply A Co., Ltd. (Holding by GO Bioenergy Co., Ltd.)	Wood dealer as a raw material	Thailand	74.90	74.90
Outgrow Wood Supply B Co., Ltd. (Holding by GO Bioenergy Co., Ltd.)	Wood dealer as a raw material	Thailand	74.90	74.90
Infinite Alternative Energy Co., Ltd.	Holding company	Thailand	67.00	67.00
Rang-Ngern Solution Co., Ltd. (Holding by Infinite Alternative Energy Co., Ltd.)	Generating and selling electricity	Thailand	67.00	67.00
Eco Thaienergy Co., Ltd.	Generating and selling electricity	Thailand	51.00	-
Gunkul Bioenergy Co., Ltd.	Generating and selling electricity	Thailand	100.00	-
Gunkul International (Mauritius)	Holding company	Mauritius	100.00	100.00
Gunkul Investment (Singapore) Pte. Ltd. (Holding by Gunkul International (Mauritius))	Holding company	Singapore	100.00	100.00
Gunkul Myanmar Power (Hlawga) Pte. Ltd. (Holding by Gunkul Investment (Singapore) Pte. Ltd.)	Holding company	Singapore	100.00	100.00



Name of subsidiaries	Nature of business	Country of incorporation	Percentage of shareholding	
			2016	2015
Sendai Okura GD Daiichi Godo Kaisha (Holding by Gunkul International (Mauritius) and Future Asset Management Kabushiki Kaisha)	Generating and selling electricity	Japan	100.00	100.00
Kimitsu Mega Solar Godo Kaisa (Holding by Gunkul International (Mauritius) and Future Asset Management Kabushiki Kaisha)	Generating and selling electricity	Japan	100.00	100.00
Future Asset Management Kabushiki Kaisha (Holding by Bright Green Power Co., Ltd.)	Assets management	Japan	100.00	100.00
Godo Kaisha GD Solar Utsunomiya (Holding by Gunkul International (Mauritius) And Future Asset Management Kabushiki Kaisha)	Generating and selling electricity	Japan	100.00	-
Godo Kaisha East Japan Solar 13 (Holding by Gunkul International (Mauritius) And Future Asset Management Kabushiki Kaisha)	Generating and selling electricity	Japan	100.00	-

The financial statements of the subsidiaries are prepared for the same reporting periods as the Company and using consistent significant accounting policies.

The non-controlling interest is measured at the non-controlling interest's proportionate share of the acquiree's identifiable net assets.

The assets and liabilities in the financial statements of overseas subsidiary company is translated to Baht using the exchange rate prevailing at the end of reporting period, and revenues and expenses are translated using monthly average exchange rate. The resulting differences are shown under the caption of "Exchange differences on translation" in the statements of changes in shareholders' equity.



4. Accounting policies

4.1 Cash and cash equivalents

For the purposes of the cash flow statement, cash and cash equivalents comprise cash on hand, deposits with banks and other short-term highly liquid investments with original maturities of three months or less and free from restrictions.

4.2 Trade receivable

Trade account receivable are carried in the statement of financial position at the amount expected to be collectible. Allowance for doubtful receivables are estimated by percentage of accounts receivable which is assessed primarily on analysis of payment histories and review of all outstanding amounts at the end of the reporting period. The amount of the allowance is the difference between the carrying amount of the receivable and the amount expected to be collectible. Bad debts are written off during the year in which they are identified.

4.3 Inventories

Inventories are stated at the lower of cost or net realizable value. The cost of purchase comprises both the purchase price and costs directly attributable to the acquisition of the inventory, such as import duties and transportation charge, less all attributable discounts, allowances or rebates. The cost of finished goods and work in process comprise raw materials, direct labor, other direct costs and related production overheads, the latter being allocated on the basis of normal operating activities.

Costs of inventories are calculated as the follow method:-

Finished goods	- FIFO method
Work in process	- FIFO method
Raw material and supplies	- FIFO method

The Group estimates the net realisable value by using the selling price in the ordinary course of business less selling expenses.

The Group makes the allowance for diminutions in the value of obsolete, defective or slow-moving inventories.



4.4 Investments

Investments in associates

Investments in associates are accounting for using the cost method of accounting in the separate financial statements less allowance for impairment investment (if any). And investments in associates are accounted for using the equity method in the consolidated financial statements.

Investments in joint ventures

Investments in joint ventures are accounting for using the cost method of accounting in the separate financial statements less allowance for impairment investment (if any). And investments in joint ventures is accounted for using the equity method in the consolidated financial statements.

Where there is the necessary, accounting policies of associates and joint ventures have been changed to ensure consistency with the policies adopted by the Group. The financial statements of the associates and joint ventures are prepared for the same reporting periods as the Company.

Investments in subsidiaries

Investments in subsidiaries are reported by using the cost method of accounting in the separate financial statements less allowance for impairment investment.

4.5 Investment Property

Investment property, which is property held to earn rentals and/or for capital appreciation is measured initially at its costs, including transaction cost. Subsequent to initial recognition, investment property is measured at the cost method net from the allowance for impairment (if any).

4.6 Property, plant and equipment

Land and assets under construction held for use in the production or supply of goods or services, or for administrative purposes, are stated in the statement of financial position at their historical cost less accumulated impairment losses (if any).



Buildings and equipment held for use in the production or supply of goods or services, or for administrative purposes, are stated in the statement of financial position at their historical cost less accumulated depreciation and accumulated impairment losses (if any).

The cost of an item of asset comprises its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management, the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, and the borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset.

Capital spare parts whose estimated useful life is more than one year are recognized as assets and depreciated over the estimated useful life when the asset is available for use.

The Group's depreciation is calculated on the straight-line method to write off the cost of each asset, except for land and assets under construction, to their residual values over their estimated useful life as follows:

Buildings and power plant	25 - 30 years
Machinery and factory equipment	5 - 25 years
Tools and equipments	5 years
Fixtures and office equipments	5 years
Motor vehicles (Including vehicle under lease agreements)	8 - 10 years

The residual value, the useful life and the depreciation method of an asset will be reviewed at least at each financial year-end.

The gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

4.7 Intangible assets

Intangible assets with finite useful lives which the Group acquired and the power purchase agreement acquired in a business combination initially recognized at their fair value at the acquisition date and regarded as their cost are stated at historical cost less accumulated amortization and impairment loss (if any). The



Group's amortization is calculated on the straight-line method over their estimated useful life as follows:

Computer software	5 years
Copyright	3 - 5 years
Right to use grid network	25 years
Power purchase agreement	25 years

4.8 Impairment of assets

The carrying amounts of the Group's assets and also intangible assets are reviewed at the end of each reporting period to determine whether there is any indication of impairment. If any such indication that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the carrying amount of the assets exceeds its recoverable amount which is the higher of an asset's net selling price and value in use. For the purposes of assessing impairment, assets are grouped at the lowest level for which there is separately identifiable cash flows.

The Group will recognize impairment losses in profit or loss, or reduce the revaluation increment in assets in case that those assets are previously revalued. The reversal of impairment losses will be recognized in profit or loss or as a revaluation increment in assets when there is an indication that the impairment losses are no longer exist or decreased.

4.9 Borrowings

Borrowings are recognised initially at the fair value of the proceeds received, net of the transaction costs incurred. Borrowings are subsequently stated at amortised cost using the effective yield method; any difference between the proceeds (net of transaction costs) and the redemption value is recognised to the income statement over the period of the borrowings.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a pre-payment for liquidity services and amortised over the period of the facility to which it relates.



4.10 Accounting for leases

Where the Group is the lessee

Long term leases which substantially transferred all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the inception of the lease at the lower of the fair value of the leased property or the present value of the minimum lease payments. Each lease payment is allocated to the principal and to the finance charges so as to achieve a constant rate on the finance balance outstanding. The outstanding rental obligations, net of finance charges, are included in other long-term payables. The interest element of the finance cost is charged in profit or loss over the lease period so as to achieve a constant periodic rate of interest on the remaining balance of the liability for each period. The assets acquired under finance leases while depreciation is carried throughout the useful life of leased asset. However, if there is uncertainty in the right of ownership when the contract is terminated, depreciation is carried according to useful life of leased assets or life of leased contract whichever the period is lower.

Long term leases not transferring a significant portion of the risks and rewards of ownership to the lessee are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged in profit or loss on a straight-line basis over the period of the lease.

When an operating lease is terminated before the lease period has expired, any payment required to be made to the lessor by way of penalty is recognized as an expense in the period in which termination takes place.

Where the Group is the lessor

Operating leases

Assets leased out under operating leases are included in property, plant and equipment in the statement of financial position. They are depreciated over their expected useful lives on a basis consistent with other similar property, plant and equipment owned by the Group.



4.11 Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made. Where the Group expects a provision to be reimbursed, the reimbursement is recognized as a separate asset but only when the reimbursement is virtually certain.

4.12 Provision for decommissioning cost

The Group recognises provision for decommissioning costs, which are provided at the onset of completion of the project, for the estimate of the eventual cost that relate to the removal of the power plants. The recognised provision for decommissioning cost are based on future removal cost estimates and incorporate many assumptions such as abandonment times and future inflation rate and discounted to present value at the discount rate estimated by management. Those cost are included as part of the power plants.

4.13 Revenue recognition

Sales are recognized on the delivery of goods or on customer acceptance. Sales are shown net of sales taxes and discounts.

Revenues from construction shall comprise the initial amount of revenue agreed in the contract and a claim collect from third parties are recognized on a percentage of completion basis. The percentage of completion is measured based on comparison of the completion of a physical proportion of the contract work at the end of the reporting period and the total contract work surveyed by the engineer project manager. In case, it is probable that the total construction costs will exceed the total construction income, the expected foreseeable loss is immediately recognized as an expense in profit or loss. The recognized revenue which is not yet due per the contracts has been presented under the caption of "Unbilled receivables" in the statement of financial position. The unrecognized revenue which is due per the contracts has been presented under the caption of "Advances received from employers and construction revenue received in advance - third parties" in the statement of financial position.



Sales of electricity are recognized on the delivery of goods or on customer acceptance. Sales are recognized based on units of sale delivered at the applicable tariff rates.

Service income is recognized when services have been rendered.

Rental income is recognized as income over the lease period.

Interest income is recognized on an accrual basis.

Other income is recognized on an accrual basis.

4.14 Government grants

The Group will not recognize the government grants until there is reasonable assurance that the Company will comply with the conditions attaching to them and the grants will be received.

The Group presents the grants related to income as a revenue separately in the statement of comprehensive.

4.15 Foreign currency transactions

The Group translates foreign currency transactions into Baht using the exchange rate prevailing at the date of the transaction. Monetary assets and liabilities at the end of the reporting period denominated in foreign currencies are translated into Baht at the exchange rate prevailing at that date. Gains and losses resulting from the settlement of foreign currency transactions and from the translation of monetary assets and liabilities denominated in foreign currencies are recognized in profit or loss as incurred.

4.16 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of a qualifying assets, which are assets that necessarily takes a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.



Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

4.17 Employee benefits

Defined contribution plan

The Group operates a provident fund which is funded by payments from employees and by the Group. The assets for which are held in a separate trust fund. Contributions to the provident fund are recognized in profit or loss in the period in which they are incurred.

Defined benefit plan

The Group has the employee benefit obligation in case of retirement or termination under the labor law. The Group hires an actuary to calculate on an actuarial technique the said employee benefit obligation. The said employee benefit obligation is discounted using the projected unit credit method by reference to an interest rate of a government bond to determine the present value of the employee benefit obligation, current service cost and related interest expense. The current service cost and interest expense are recognized in profit or loss. Actuarial gains and losses arising from re-measurement of the employee benefit obligation are recognized in other comprehensive income and transferred in retained earnings, respectively without reclassification of those amounts to profit or loss in a subsequent period.

4.18 Corporate income tax

The Group recognizes the unpaid current tax for current period as a liability in the statement of financial position. In a case where the amount already paid in respect of current period exceeds the amount due for such period, the excess will be recognized as an asset in the statement of financial position.

The Group recognizes a deferred tax liability for all taxable temporary difference, except to the extent that the deferred tax liability arises from the initial recognition of an asset or liability in a transaction which affects neither accounting



profit nor taxable profit at the time of the transaction. The Group recognizes a deferred tax asset for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilized, unless the deferred tax asset arises from the initial recognition of an asset or liability in a transaction that affects neither accounting profit nor taxable profit.

The Group recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries and associates, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. And the Group recognizes a deferred tax asset for all deductible temporary differences arising from investment in subsidiaries and associates, to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The Group measures the current tax liabilities and assets for the current period using the tax rate that have been enacted by the end of the reporting period. And the deferred tax assets and liabilities are measured at the tax rate that is expected to apply to the period when the asset is realized or the liability is settled, based on tax rate that have been enacted or substantively enacted by the end of the reporting period.

The Group recognizes the current and deferred tax as an income or an expense and includes it in profit or loss for the period, except the current and deferred tax for items that are recognized in the other comprehensive income or directly in the equity will be recognized in the other comprehensive income or directly in the equity.

4.19 Financial instruments

Financial assets and liabilities carried on the statement of financial position include cash and cash equivalents, investment in equity securities, trade and other receivables, trade and other payables, and loan receivables and payables. The accounting policies on recognition and measurement of these items are disclosed in the respective accounting policies found in this Note.



Forward contracts are carried at fair value and presented in other current assets or other current liabilities. Unrealized gains or losses on changes in fair value are recognized in profit or loss.

Interest rate swap contracts protect the Group from movements in interest rates by exchange floating interest rate to be fix interest rate which is not recognized at the contracts date. Any differential to be paid or received on interest rate swap contracts is recognized as a component of interest revenue or expenses over the period of the contracts.

Foreign currency option, the amount of the Group and subsidiaries to foreign currency option are not recognized as assets or liabilities on contract date, gains and losses from uses of rights will be included in calculation of the operating results in the period that such uses of rights.

4.20 The important accounting estimation, supposition and judgment application

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Plant, equipment and intangible assets

Management determines the estimated useful lives and residual values for the Group's plant, equipment and intangible assets. Management will revise the depreciation charge where useful lives and residual values are different to previously estimated, or its will write off or write down technically obsolete or assets that have been abandoned or sold.

Financial lease/ Operation lease

The Group has entered into lease agreements for rental vehicle, machine and equipment. The Group has determined, based on an evaluation on terms and conditions of the arrangements, that the lease transfers ownership of these assets to the lessee, and so accounts for the contracts as financial leases.

Estimated construction project costs

The Group estimate costs of construction projects based on details of the construction work, taking into account the volume and value of construction materials to be used in the project, labour costs and other miscellaneous costs to



be incurred to completion of service, taking into account the direction of the movement in these costs. Estimates are reviewed regularly or whenever actual costs differ significantly from the figures used in the original estimates.

Employment benefits

The obligation under the defined benefit plan is determined based on actuarial techniques. Such determination is made based on various assumptions, including discount rate, future salary increase rate, mortality rate and staff turnover rate.

Provision for decommissioning costs

The Group recognizes provision for decommissioning costs, which are provided at the onset of completion of the project, for the estimate of the eventual costs that relate to the removal of the power plants. The recognized provision for decommissioning costs is based on future removal cost estimates and incorporates many assumptions such as abandonment times and future inflation rate and discounted to present value at the discount rate estimated by the management. Those costs are included as part of the power plants.

Estimated impairment of goodwill

Goodwill arising from the acquisition of investment in electricity generation businesses is tested annually for impairment by comparing the carrying amount to the recoverable amount for each cash-generating unit which is determined based on value-in-use calculations. These calculations use a cash flow projection covering the remaining periods of Power Purchase Agreements and the tariffs and capacity stated in the agreements. Discount rates used are based on pre-tax WACC (Note 20).

5. Change in accounting estimates

For the years ended December 31, 2016, the Group reviews power purchase agreements amortization method under Adder system from sum of the years digits method of Power purchase agreements to straight-line method. The Group estimates the residual value of such assets so as to comply power purchase agreements amortization method under Feed-in Tariff system. The Group adopts the prospective treatment for such change. The change in accounting estimate effects that the amortization for the year



ended December 31, 2016 and 2017, decreases in the amount of Baht 0.59 million and Baht 0.54 million in the consolidated statement of comprehensive income, respectively and share of profit from investments in associates and joint ventures for the year ended December 31, 2016 and 2017, increases in the amount of Baht 15.00 million and Baht 13.58 million the consolidated statement of comprehensive income, respectively.

For the years ended December 31, 2016, the Group reviews the estimation of the residual value of Machine and factory equipments, Tools, Furniture and office equipment and vehicles by decreasing the residual value of such assets. The Group estimates the residual value of such assets so as to comply with value the Group will receive from such asset disposal when the useful life of such assets is terminated. The Group adopts the prospective treatment for such change. The change in accounting estimate effects that the depreciation for the year ended December 31, 2016 and 2017, increases in the amount of Baht 4.76 million and Baht 4.50 million in the consolidated statement of comprehensive income, respectively and increases in the amount of Baht 0.57 million and Baht 0.57 million in the separate statements of comprehensive income, respectively.

6. Related party transactions

Enterprises and individuals that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the Company, including holding companies, subsidiaries and fellow subsidiaries are related parties of the Company. Associates and individuals owning, directly or indirectly, an interest in the voting power of the Company that gives them significant influence over the enterprise, key management personnel, including directors and officers of the Company and close members of the family of these individuals and companies associated with these individuals also constitute related parties.

In considering each possible related party relationship, attention is directed to the substance of the relationship, and not merely the legal form.

Gunkul Group Co., Ltd. is a major shareholder, holding 53.97% (2015:59.97%) of the share capital of the Gunkul Engineering Public Co., Ltd. The principal shareholder of the Company's major shareholder is Dhumrongpiyawut family. Transactions related to companies in which the Dhumrongpiyawut family is the principal shareholders or directors are recognized as related parties to the Company.

The Company has transactions with related persons and companies for the year ended December 31, 2016 and 2015 as follows:



6.1 Inter-assets and liabilities

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Trade receivables - sale of goods				
- G.K. Assembly Co., Ltd.	-	-	1,622,480.63	818,277.14
- G.K. Power Product Co., Ltd.	-	-	44,726.00	-
- K.N.P Supply Co., Ltd.	-	-	977,776.70	1,364,873.15
- Gunkul Power Development Co., Ltd.	-	-	17,655.00	9,457,535.26
- Rang-Ngern Solution Limited Partnership.	-	-	-	1,847,183.80
- Future Electrical Control Co., Ltd.	42,660,790.94	22,504,918.45	551,562.07	1,105,033.80
- G-Power Source Co., Ltd.	5,527,620.02	-	5,527,620.02	-
- Gunkul Chubu Powergen Co., Ltd.	5,448,496.18	-	-	-
- Kulnatee Co., Ltd.	8,039.98	17,400.34	8,039.98	17,400.34
Total	53,644,947.12	22,522,318.79	8,749,860.40	14,610,303.49
Construction receivables				
- Gunkul Chubu Powergen Co., Ltd.	-	21,079,000.00	-	21,079,000.00
Maintenance service receivables				
- Gunkul Chubu Powergen Co., Ltd.	547,846.15	521,758.24	547,846.15	521,758.24
- WHA Gunkul Green Solar Roof 1 Co., Ltd.	45,376.03	43,841.50	-	-
- WHA Gunkul Green Solar Roof 3 Co., Ltd.	59,337.88	57,331.19	-	-
- WHA Gunkul Green Solar Roof 6 Co., Ltd.	59,337.88	57,331.19	-	-
- WHA Gunkul Green Solar Roof 17 Co., Ltd.	71,118.20	68,713.12	-	-
Total	783,016.14	748,975.24	547,846.15	521,758.24
Other receivables				
- Gunkul Chubu Powergen Co., Ltd.	421,261.57	405,059.20	421,261.57	405,059.20
- Future Electrical Control Co., Ltd.	-	667,140.00	-	-
Total	421,261.57	1,072,199.20	421,261.57	405,059.20



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Accrued dividend receivable				
- G.K. Assembly Co., Ltd.	-	-	-	49,999,950.00
- G.K. Power Product Co., Ltd.	-	-	-	24,999,500.00
- K.N.P Supply Co., Ltd.	-	-	-	20,999,916.00
- Gunkul Solar Roof 1 Co., Ltd.	-	-	-	734,989.50
- Gunkul Solar Power 2 Co., Ltd.	-	-	-	2,144,983.50
- G-Power Source Co., Ltd.	91,400,350.86	71,275,151.46	91,400,350.86	71,275,151.46
Total	91,400,350.86	71,275,151.46	91,400,350.86	170,154,490.46
Accrued interest receivable				
- Gunkul LED Lighting Co., Ltd.	-	-	1,011,480.27	5,916.99
- Rang-Ngern Solution Limited Partnership.	-	-	17,689,383.50	1,751,232.88
- Wind Energy Development Co., Ltd.	-	-	-	51,452.05
- Eco Thaienergy Co., Ltd.	-	-	171,232.88	-
Total	-	-	18,872,096.65	1,808,601.92
Accrued rental receivable				
- NK Power Sola Co., Ltd.	-	-	124,300.07	-
Advance payments				
- K.N.P Supply Co., Ltd.	-	-	8,212.50	47,744.80
- Gunkul Power Development Co., Ltd.	-	-	31,863.00	1,788.02
- Gunkul LED Lighting Co., Ltd.	-	-	-	9,671.48
- G.K. Assembly Co., Ltd.	-	-	9,629.87	-
Total	-	-	49,705.37	59,204.30
Total trade and other receivable- related parties	146,249,575.69	116,697,644.69	120,165,421.07	208,638,417.61
Short-term loans to related parties				
- G.K. Assembly Co., Ltd.				
Beginning balance	-	-	-	-
Addition	-	-	-	74,401,471.25
Repayment	-	-	-	(74,401,471.25)



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Ending balance	-	-	-	-
- Gunkul Power Development Co., Ltd.				
Beginning balance	-	-	-	-
Addition	-	-	230,000,000.00	-
Repayment	-	-	(230,000,000.00)	-
Ending balance	-	-	-	-
Short-term loans to related parties (continues)				
- Bright Green Power Co., Ltd.				
Beginning balance	-	-	-	-
Addition	-	-	40,327,750.00	6,000,000.00
Repayment	-	-	-	(6,000,000.00)
Ending balance	-	-	40,327,750.00	-
- Gunkul LED Lighting Co., Ltd.				
Beginning balance	-	-	7,000,000.00	7,000,000.00
Addition	-	-	40,000,000.00	7,000,000.00
Repayment	-	-	-	(7,000,000.00)
Ending balance	-	-	47,000,000.00	7,000,000.00
- Rang-Ngern Solution Limited Partnership.				
Beginning balance	-	-	300,000,000.00	-
Addition	-	-	45,000,000.00	300,000,000.00
Repayment	-	-	-	-
Ending balance	-	-	345,000,000.00	300,000,000.00
- Wind Energy Development Co., Ltd.				
Beginning balance	-	-	150,000,000.00	-
Addition	-	-	343,000,000.00	150,000,000.00
Repayment	-	-	(493,000,000.00)	-
Ending balance	-	-	-	150,000,000.00
- Eco Thaienergy Co., Ltd.				
Beginning balance	-	-	-	-
Addition	-	-	125,000,000.00	-
Repayment	-	-	-	-
Ending balance	-	-	125,000,000.00	-



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
- Gunkul International (Mauritius)				
Beginning balance	-	-	-	-
Addition	-	-	744,015,918.60	-
Repayment	-	-	(91,055,285.94)	-
Transfer to investment	-	-	(658,860,898.78)	-
Gain on exchange rate	-	-	5,900,266.12	-
Ending balance	-	-	-	-
Total	-	-	557,327,750.00	457,000,000.00
Advance payments for construction				
- Future Electrical Control Co., Ltd.	-	42,326,839.63	-	42,326,839.63
Purchase of assets				
- Future Electrical Control Co., Ltd.	150,564,789.48	99,221,480.81	-	-
Trade payables				
- G.K. Assembly Co., Ltd.	-	-	73,550,933.60	20,413,071.65
- G.K. Power Product Co., Ltd.	-	-	40,963,564.35	56,600,031.82
- K.N.P Supply Co., Ltd.	-	-	23,218,644.51	-
- Gunkul LED Lighting Co., Ltd.	-	-	246,536.56	477,849.16
- Future Electrical Control Co., Ltd.	1,350,127.19	95,673,469.30	957.61	53,466,137.75
Total	1,350,127.19	95,673,469.30	137,980,636.63	130,957,090.38
Advance received for service				
- Gunkul Chubu Powergen Co., Ltd.	4,608,977.97	4,398,306.11	4,608,977.97	4,398,306.11
Advance received for land rental				
- NK Power Sola Co., Ltd.	-	-	-	78,119.52
Payable for purchase of assets				
- Future Electrical Control Co., Ltd.	20,972,120.38	-	-	-
Other payables				
- K.N.P Supply Co., Ltd.	-	-	1,126.85	8,039.40
- G.K. Assembly Co., Ltd.	-	-	-	178,200.00
- P.M. Building Group Co., Ltd.	58,218.75	58,218.75	-	-
- Gunkul Trading and Agency Co., Ltd.	-	86,415.61	-	-



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
- Future Electrical Control Co., Ltd.	-	275,500.28	-	-
- Director	-	7,469.00	-	-
Total	58,218.75	427,603.64	1,126.85	186,239.40
Accrued Commissions				
- K.N.P Supply Co., Ltd.	-	-	-	100,000.00
Total trade and other payable - related parties	26,989,444.29	100,499,379.05	142,590,741.45	135,719,755.41
Retention payable				
- Future Electrical Control Co., Ltd.	61,396,274.26	35,645,675.17	36,361,593.00	14,814,897.36
Disposal of assets				
- Gunkul LED Lighting Co., Ltd.	-	-	-	17,858.97
- Wind Energy Development Co., Ltd.	-	-	-	26,255,125.81
- Gunkul Trading and Agency Co., Ltd.	-	59,424.66	-	-
- Gunkul Chubu Powergen Co., Ltd.	-	18,891.54	-	-
Total	-	78,316.20	-	26,272,984.78
Short-term loans from related parties				
- Wind Energy Development Co., Ltd.				
Beginning balance	-	-	-	180,500,000.00
Addition	-	-	-	-
Repayment	-	-	-	(180,500,000.00)
Ending balance	-	-	-	-
- Greenovation Power Co., Ltd.				
Beginning balance	-	-	-	50,000,000.00
Addition	-	-	-	-
Repayment	-	-	-	(50,000,000.00)
Ending balance	-	-	-	-
Short-term loans from related parties (continues)				
- Director				
Beginning balance	-	-	-	-
Increase from acquisition of subsidiary	-	-	-	-
Addition	-	41,000,000.00	-	-
Repayment	-	(41,000,000.00)	-	-
Ending balance	-	-	-	-
Total	-	-	-	-



As at December 31, 2016, four subsidiaries had loans from the Company in form of promissory notes, at call, There subsidiaries bear interest between 2.65%-5.00% per annum and one subsidiary without interest charge. (2015 : three subsidiaries had loans from the Company in form of promissory notes, at call, bear interest between 3.13%-4.70% per annum and one subsidiary constituted loans from directors in the form of promissory note, at call).

6.2 Inter-revenue and expenses

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Sales of goods				
- G.K. Assembly Co., Ltd.	-	-	8,764,474.74	2,251,408.80
- G.K. Power Product Co., Ltd.	-	-	135,555.00	8,250.00
- K.N.P Supply Co., Ltd.	-	-	10,818,446.06	21,346,933.64
- Gunkul LED Lighting Co., Ltd.	-	-	-	32,968.97
- Gunkul Power Development Co., Ltd.	-	-	8,631,868.65	9,085,622.20
- Siam Gunkul Solar Energy Co., Ltd.	-	-	56,042.29	18,999,338.40
- Solar Energy Society Co., Ltd.	-	-	-	10,574,388.00
- Rang-Ngern Solution Limited Partnership.	-	-	441,942.74	1,726,340.00
- Gunkul Chubu Powergen Co., Ltd.	5,122,052.50	-	-	-
- Kulnatee Co., Ltd.	62,410.00	104,906.21	62,410.00	104,906.21
- Future Electrical Control Co., Ltd.	61,558,518.39	469,832,280.16	18,128,621.59	1,561,391.27
- P.M. Building Group Co., Ltd.	-	33,180.00	-	-
- WHA Gunkul Green Solar Roof 3 Co., Ltd.	-	13,800.00	-	-
Total	66,742,980.89	469,984,166.37	47,039,361.07	65,691,547.49
Service income				
- NK Power Sola Co., Ltd.	-	-	1,509,375.00	1,500,000.00
- Gunkul Power Development Co., Ltd.	-	-	8,611,680.00	-
- G-Power Source Co., Ltd.	23,913,648.03	23,761,814.24	23,913,648.03	23,761,814.24
- Gunkul Chubu Powergen Co., Ltd.	25,851,416.12	24,991,196.65	25,851,416.12	24,991,196.65
- WHA Gunkul Green Solar Roof 1 Co., Ltd.	534,562.66	516,485.60	-	-
- WHA Gunkul Green Solar Roof 3 Co., Ltd.	699,043.47	675,404.24	-	-
- WHA Gunkul Green Solar Roof 6 Co., Ltd.	699,043.47	675,404.24	-	-
- WHA Gunkul Green Solar Roof 17 Co., Ltd.	837,824.16	809,491.86	-	-
Total	52,535,537.91	51,429,796.83	59,886,119.15	50,253,010.89



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Management service income				
- Rang-Ngern Solution Limited Partnership.	-	-	5,040,000.00	-
- Gunkul Chubu Powergen Co., Ltd.	4,724,428.80	4,542,720.00	4,724,428.80	4,542,720.00
Total	4,724,428.80	4,542,720.00	9,764,428.80	4,542,720.00
Rental income				
- NK Power Sola Co., Ltd.	-	-	378,429.59	176,010.00
- Gunkul Solar Roof 1 Co., Ltd.	-	-	21,600.00	21,600.00
Total	-	-	400,029.59	197,610.00
Interest income				
- G.K. Assembly Co., Ltd.	-	-	-	795,069.35
- Gunkul Power Development Co., Ltd.	-	-	2,378,084.93	-
- Bright Green Power Co., Ltd.	-	-	183,452.06	60,716.71
- Gunkul LED Lighting Co., Ltd.	-	-	1,005,563.29	65,608.77
- Rang-Ngern Solution Limited Partnership.	-	-	15,938,150.63	1,751,232.88
- Wind Energy Development Co., Ltd.	-	-	3,857,864.65	51,452.05
- Eco Thaienergy Co., Ltd.	-	-	171,232.88	-
- Gunkul International (Mauritius)	-	-	4,384,273.42	-
Total	-	-	27,918,621.86	2,724,079.76
Dividend income				
- G.K. Power Product Co., Ltd.	-	-	24,999,500.00	44,999,100.00
- G.K. Assembly Co., Ltd.	-	-	-	79,999,920.00
- K.N.P Supply Co., Ltd.	-	-	-	40,999,836.00
- Gunkul Solar Roof 1 Co., Ltd.	-	-	-	734,989.50
- Gunkul Solar Power 2 Co., Ltd.	-	-	-	2,144,983.50
- Gunkul Chubu Powergen Co., Ltd.	119,093,450.80	124,962,116.50	119,093,450.80	124,962,116.50
- G-Power Source Co., Ltd.	88,535,952.40	96,347,973.80	88,535,952.40	96,347,948.20
Total	207,629,403.20	221,310,090.30	232,628,903.20	390,188,893.70



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Purchase of goods and service				
- G.K. Assembly Co., Ltd.	-	-	227,803,119.03	122,119,858.02
- G.K. Power Product Co., Ltd.	-	-	206,741,382.00	143,636,140.00
- K.N.P Supply Co., Ltd.	-	-	54,891,978.87	36,921,018.58
- Gunkul LED Lighting Co., Ltd.	-	-	2,775,686.00	906,408.00
- Gunkul Power Development Co., Ltd.	-	-	-	7,446,240.00
- Future Electrical Control Co., Ltd.	255,710,443.05	149,259,683.80	255,710,443.05	49,968,352.99
Total	255,710,443.05	149,259,683.80	747,922,608.95	360,998,017.59
Cost of construction				
- Future Electrical Control Co., Ltd.	251,408,789.08	58,020,540.00	217,354,529.08	-
Service Expenses				
- P.M. Building Group Co., Ltd.	337,500.00	337,500.00	-	-
Office and warehouse rental fee				
- Gunkul Engineering (2000) Co., Ltd.	8,064,000.00	5,265,000.00	6,780,000.00	4,203,000.00
- G.M. Supply and Construction Co., Ltd.	2,148,000.00	1,932,000.00	1,536,000.00	1,428,000.00
- P.M. Building Group Co., Ltd.	337,500.00	337,500.00	-	-
- Director	693,600.00	693,600.00	-	-
Total	11,243,100.00	8,228,100.00	8,316,000.00	5,631,000.00
Interest expenses				
- Wind Energy Development Co., Ltd.	-	-	-	1,152,331.51
- Greenovation Power Co., Ltd.	-	-	-	513,698.63
- Director	-	379,489.27	-	-
Total	-	379,489.27	-	1,666,030.14



6.3 Management benefit expenses

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Short-term employee benefits	87,453,775.54	68,848,228.95	75,439,418.07	59,375,205.46
Post-employment benefits	1,320,223.00	1,128,031.00	1,221,205.00	1,039,133.00
Total	88,773,998.54	69,976,259.95	76,660,623.07	60,414,338.46
Number of management (unit : person)	25	23	18	16

6.4 Pricing policies

Trading Transaction

Pricing Policy

Sales and purchase of goods	Cost price plus 5% to 30%
Maintenance service fee	Contract price
Management service fee	Contract price
Interest income and expenses	Interest rate equal to interest rate of loan from financial institution
Rental	Nearby the appraisal value by independent appraiser
Sales and purchase of assets	Net book value
Construction expense	Contract price

6.5 Commitments with related parties

As at December 31, 2016 and 2015, the Company has performed leased contract of land plus property in 1 contract with one related company for the period of 2 years with option to renew. The Company constitutes obligation commitment that has to repay leased fee by Baht 565,000.00 per month (2015 : Baht 467,000.00 per month).

As at December 31, 2016 and 2015, one subsidiary has performed the sublet contract of land plus property in 1 contract with a subsidiary for the period of 2 years with option to renew. The subsidiary constitutes obligation commitment that has to repay leased fee by Baht 107,000.00 per month (2015 : Baht 88,500.00 per month).



As at December 31, 2016 and 2015, one related company has performed the sublet contract of land plus property in 2 contracts with the Company and subsidiary for the period of 2 years with option to renew. The Company and subsidiary constitutes obligation commitment that has to repay leased fee by Baht 51,000.00 and 128,000.00 per month (2015 : Baht 42,000.00 and 119,000.00 per month).

As at December 31, 2016 and 2015, one related company has performed the sublet contract of land plus property in 1 contract with subsidiary for the period of 2 years. The subsidiary constitutes obligation commitment that has to repay leased fee by Baht 83,000.00 per month (2015 : Baht 100,000.00 per month).

As at December 31, 2016 and 2015, one subsidiary has performed the sublease agreement of some area of building rental in 1 contract with subsidiary for the period of 2 years with option to renew. The subsidiary constitutes obligation commitment that has to repay leased fee by Baht 33,000.00 per month (2015 : Baht 48,000.00 per month).

As at December 31, 2016 and 2015, one subsidiary has performed the sublet contract of land plus property in 1 contract with director for the period of 3 years with option to renew. The subsidiary constitutes obligation commitment that has to repay leased fee during January, 2016 to June 30, 2017 by Baht 57,800.00 per month and during July, 2017 to December 31, 2017 by Baht 63,600.00 per month. (2015 : Baht 100,000.00 per month).

As at December 31, 2016 and 2015, one joint ventures has performed the contract of land rental in 2 contracts with a related company for the period of 26 years. The contract value was in amount of Baht 3.93 million. As at December 31, 2016, the joint ventures had outstanding commitments totaling approximately Baht 3.32 million.

As at December 31, 2016 and 2015, one subsidiary has used of property of the Company in order to use as factory and operate related business while does not charge inter-leased fee.

As at December 31, 2016 and 2015, one subsidiary has performed the contract of rooftop rental in 2 contracts with the Company and one subsidiary for the period of 3 years with option to renew. The subsidiary constitutes obligation commitment that has to repay leased fee by Baht 1,800.00 and Baht 10,368.00 per month, respectively.

As at December 31, 2016 and 2015, one subsidiary has performed the building rental agreement in 2 contract (2015 : 1 contract) with one related



company for the period of 3 years with option to renew. The subsidiary constitutes obligation commitment that has to repay leased fee by Baht 56,250.00 (2015 : Baht 28,125.00 per month).

As at December 31, 2016 and 2015, two subsidiaries and two directors with land plus buildings of one subsidiary as collateral against credits that the Company has received from a commercial bank in amount of Baht 410.00 million.

As at December 31, 2016 and 2015, one director with his land plus building as collateral against credits that the Company has received from one commercial bank in amount of Baht 235.00 million.

As at December 31, 2016 and 2015, one subsidiary and two directors with land plus building of one director as collateral for against credits that the Company has received from a commercial bank in amount of Baht 490.00 million.

As at December 31, 2016 and 2015, the Company has pledged a subsidiary's ordinary shares, which the ownership belongs to the Company, together with land plus buildings, machinery equipment and deposits of the said subsidiary as collateral against credits that such subsidiary has received from a commercial bank in amount of Baht 48.00 million.

As at December 31, 2016 and 2015, the Company has pledged a joint venture's ordinary shares, which the ownership belongs to the Company, together with land plus buildings, machinery equipment and deposits of the said joint ventures as collateral against credits that such joint ventures has received from a commercial bank in amount of Baht 2,347.10 million.

As at December 31, 2016 and 2015, the Company has pledged an associate's ordinary shares, which the ownership belongs to the Company, together with land plus property, land leasehold right, machine and equipment-during-installation and bank deposit of the said associate for as collateral against credits that such associate received from a commercial bank in amount of Baht 2,931.00 million.

As at December 31, 2016 and 2015, the Company has mortgaged land plus building which the ownership belongs to two directors of the Company as collateral against credits that the Company has received from a commercial bank in amount of USD 100.00 million.

As at December 31, 2016 and 2015, one subsidiary has pledges the subsidiary's ordinary share, which the ownership belongs to the Company, together with land plus buildings, machinery and equipment-during-installation and right of the Power Purchase Agreement of the said subsidiary as collateral against



the credit facilities that subsidiary received from a commercial bank in amount of Baht 6,591.59 million.

As at December 31, 2016 and 2015, one subsidiary has pledged the subsidiary's ordinary share, which the ownership belongs to the Company, together with land plus buildings, machinery and equipment-during-installation and right of the Power Purchase Agreement of the said subsidiary as collateral against the credit facilities that subsidiary received from a commercial bank in amount of Baht 4,127.60 million.

As at December 31, 2016 the Company has guaranteed for the credit facilities of the one subsidiary received from a commercial bank in amount of Baht 24.00 million (2015 : two subsidiaries in amount of Baht 24.00 million).

As at December 31, 2016 five joint ventures and one associated and two subsidiaries has performed the operation and maintenance agreement for power plants in 18 contracts (2015 : 18 contracts) with the Company and one subsidiary which have the value in amount is Baht 686.12 million (2015 : Baht 658.27 million). As at December 31, 2016 the associate and a joint ventures has outstanding commitments in amount of Baht 322.61 million (2015 : Baht 421.45 million).

One subsidiary has performed land leased contract for solar power plant construction with the Company for the period of 26 years. As at December 31, 2016, such subsidiary had outstanding commitments totaling approximately Baht 5.35 million (2015 : Baht 5.53 million).

As at December 31, 2016, one joint ventures and one subsidiary entered into a management service with the Company for the period of 5 years. The joint ventures and one subsidiary have obligated to repay management fee by Baht 393,702.40 - 420,000.00 per month (2015 : Baht 378,560.00 per month).

As at December 31, 2016, the Company and three subsidiaries has entered into power plant construction in 6 contracts with a related company which has the value in amount of Baht 1,052.00 million (2015 : Baht 372.70 million). As at December 31, 2016, such subsidiaries had outstanding commitments in the amount of Baht 499.31 million (2015 : Baht 297.52 million).

As at December 31, 2016 and 2015, the Company has pledged the ordinary shares of four joint ventures, which the ownership belongs to the Company as collateral against credit facilities that such joint ventures received from commercial banks in the credit line of Baht 165.20 million.



As at December 31, 2016, three subsidiaries have performed asset management contract with one subsidiary for the period of 20 years which has the value in amount of JPY 1,179.89 million. As at December 31, 2016, such subsidiaries had outstanding commitments in the amount of JPY 1,077.17 million.

6.6 Relationship

<u>Company</u>	<u>Relationship</u>
Gunkul Group Co., Ltd.	The majority shareholder
G.K. Assembly Co., Ltd.	Common directors and direct shareholding
G.K. Power Product Co., Ltd.	Common directors and direct shareholding
K.N.P Supply Co., Ltd.	Common directors and direct shareholding
Wind Energy Development Co., Ltd.	Common directors and direct shareholding
NK Power Sola Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Roof 1 Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Roof 2 Co., Ltd.	Common directors and direct shareholding
Solar Energy Society Co., Ltd.	Common directors and direct shareholding
Bright Green Power Co., Ltd.	Common directors and direct shareholding
Gunkul Power Development Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Power 1 Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Power 2 Co., Ltd.	Common directors and direct shareholding
Greenovation Power Co., Ltd.	Common directors and direct shareholding
Gunkul LED Lighting Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Community Co., Ltd.	Common directors and direct shareholding
Siam Gunkul Solar Energy Co., Ltd.	Common directors and direct shareholding
Korat Wind Energy Co., Ltd.	Common directors and direct shareholding
GO Bioenergy Co., Ltd.	Common directors and direct shareholding
Eco Thaienergy Co., Ltd.	Common directors and direct shareholding
Gunkul Bioenergy Co., Ltd.	Common directors and direct shareholding
Outgrow A Co., Ltd.	Common director and indirect shareholding
Outgrow B Co., Ltd.	Common director and indirect shareholding
Outgrow D Co., Ltd.	Common director and indirect shareholding
Outgrow E Co., Ltd.	Common director and indirect shareholding
Outgrow Wood Supply A Co., Ltd.	Common director and indirect shareholding
Outgrow Wood Supply B Co., Ltd.	Common director and indirect shareholding



<u>Company</u>	<u>Relationship</u>
Gunkul Solar Power 3 Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Power 4 Co., Ltd.	Common directors and direct shareholding
Gunkul Solar Power 5 Co., Ltd.	Common directors and direct shareholding
Infinite Alternative Energy Co., Ltd.	Common directors and direct shareholding
Rang-Ngern Solution Co., Ltd.	Common director and indirect shareholding
Gunkul International (Mauritius)	Common directors and direct shareholding
Gunkul Investment (Singapore) Pte. Ltd.	Common director and indirect shareholding
Gunkul Myanmar Power (Hlawga) Pte. Ltd.	Common director and indirect shareholding
Sendai Okura GD Daiichi Godo Kaisha	Indirect shareholding
Future Asset Management Kabushiki Kaisha	Indirect shareholding
Kimitsu Mega Solar Godo Kaisha	Indirect shareholding
Godo Kaisha GD Solar Utsunomiya	Indirect shareholding
Godo Kaisha East Japan Solar 13	Indirect shareholding
G-Power Source Co., Ltd.	Common directors and direct shareholding
Siam Wind Energy Co., Ltd.	Common directors and direct shareholding
Future Electrical Control Co., Ltd.	Shareholding and Common directors
Gunkul Chubu Powergen Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 1 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 2 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 3 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 4 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 5 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 6 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 8 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 9 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 10 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 16 Co., Ltd.	Direct shareholding and jointly controlled
WHA Gunkul Green Solar Roof 17 Co., Ltd.	Direct shareholding and jointly controlled
Gunkul Trading and Agency Co., Ltd.	Common directors
BE - FEC Joint venture	Common directors
FEC & SAC Joint venture	Common directors
G.M.Supply and Construction Co., Ltd.	Common directors
Gunkul Engineering(2000) Co., Ltd.	Common directors



<u>Company</u>	<u>Relationship</u>
Gunkul Tech Co., Ltd.	Holding by majority shareholder
Noprakul Co., Ltd.	Holding by the director
Gunkul Marine Line Co., Ltd.	Holding by the director
Siam Gunkul Power Co., Ltd.	Holding by the director
Thonglor 9 Co., Ltd.	Holding by majority shareholder
Kulnatee Co., Ltd.	Holding by close relative of a director
P.M. Audit Co., Ltd.	Holding by close relative of a director
P.M. Accountant & Advisory Co., Ltd.	Holding by close relative of a director
G.E.S. Logistics (Thailand) Co., Ltd.	Holding by close relative of a director
Green filed energy Co., Ltd.	Holding by close relative of a director
P.M. Building Group Co., Ltd.	Holding by close relative of a director
Tech-Green Co., Ltd.	Holding by majority shareholder
Thanasap 2558 Co., Ltd.	Holding by majority shareholder
Siam Future Co., Ltd.	Holding by majority shareholder
Entirety Sap Co., Ltd.	Holding by majority shareholder
Happy Green 2558 Co., Ltd.	Holding by majority shareholder

7. Short-term deposits from financial institution pledged as collateral

As at December 31, 2016, the Group has pledged bank deposits - saving accounts in the amount of Baht 585.11 million (2015 : amount of Baht 74.13 million) to be maintained under solar and wind power plants project under the loan agreement with a commercial bank.



8. Trade and other receivable – related parties

Outstanding trade receivable - related parties can be aged as follows:

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Trade receivables				
Within credit term	12,813,023.03	23,271,294.03	8,612,032.89	5,045,575.12
Overdue 1 month to 3 months	41,614,940.23	-	685,673.66	10,058,625.95
Overdue 3 months to 6 months	-	-	-	27,860.66
Overdue 6 months to 12 months	-	-	-	-
Overdue over 12 months	-	21,079,000.00	-	21,079,000.00
Total	54,427,963.26	44,350,294.03	9,297,706.55	36,211,061.73
Other receivables	421,261.57	1,072,199.20	595,267.01	464,263.50
Accrued interest receivable	-	-	18,872,096.65	1,808,601.92
Accrued dividend receivable	91,400,350.86	71,275,151.46	91,400,350.86	170,154,490.46
Total	146,249,575.69	116,697,644.69	120,165,421.07	208,638,417.61

9. Trade and other receivable – third parties

Consisted of:-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Trade receivables				
Post dated cheques	7,603,280.71	13,690,782.25	6,643,126.37	10,120,948.25
Trade receivables	559,838,529.69	529,384,206.64	369,641,955.33	459,846,109.39
Returned cheques receivable	895,677.65	1,606,247.65	895,677.65	1,606,247.65
Construction receivables	108,252,277.07	316,568,872.75	87,392,248.71	76,861,673.09
Total	676,589,765.12	861,250,109.29	464,573,008.06	548,434,978.38
<u>Less</u> Allowance for doubtful debts	(895,677.65)	(895,677.65)	(895,677.65)	(895,677.65)
Total trade receivables	675,694,087.47	860,354,431.64	463,677,330.41	547,539,300.73



(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Other receivables	24,577,603.44	41,391,048.56	15,297,850.83	31,427,280.59
Prepaid expense	27,008,369.29	10,448,344.38	3,228,191.48	3,284,320.55
Accrued interest receivables	199,048.48	2,576,356.38	59,599.46	2,366,895.78
Withholding tax	1,203,995.09	2,774,029.34	-	-
Suspense input tax	69,016,544.41	57,792,618.59	992,631.71	6,190,308.57
<u>Less</u> Allowance for doubtful debts	(138,887.00)	(387,374.74)	-	-
Net	797,560,761.18	974,949,454.15	483,255,603.89	590,808,106.22

Outstanding trade receivable - third parties can be aged as follows:

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Within credit term	462,476,183.44	382,820,317.16	285,647,432.04	247,950,227.18
Overdue 1 month to 3 months	196,122,396.67	470,914,688.60	169,014,292.07	294,133,805.83
Overdue 3 months to 6 months	10,255,362.59	6,353,147.72	5,014,671.00	5,435,267.72
Overdue 6 months to 12 months	535,721.81	20,000.00	535,721.81	20,000.00
Overdue over 12 months	7,200,100.61	1,141,955.81	4,360,891.14	895,677.65
Total	676,589,765.12	861,250,109.29	464,573,008.06	548,434,978.38
<u>Less</u> Allowance for doubtful debts	(895,677.65)	(895,677.65)	(895,677.65)	(895,677.65)
Net	675,694,087.47	860,354,431.64	463,677,330.41	547,539,300.73

The movement of allowance for doubtful debts - trade receivable third parties for the year ended December 31, 2016 and 2015 are as follows:

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Opening balance	(895,677.65)	(1,461,596.73)	(895,677.65)	(1,338,457.65)
Allowance increased during the year	-	(123,139.08)	-	-
Collected during the year	-	689,058.16	-	442,780.00
Ending balance	(895,677.65)	(895,677.65)	(895,677.65)	(895,677.65)



The movement of allowance for doubtful debts - other receivables for the year ended December 31, 2016 and 2015 are as follows:

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Opening balance	(387,374.74)	(295,365.00)	-	(146,608.00)
Allowance increased during the year	-	(387,374.74)	-	-
Collected during the year	248,487.74	295,365.00	-	146,608.00
Ending balance	(138,887.00)	(387,374.74)	-	-

As at December 31, 2016, the Company has discounted receivables bill in the amount of Baht 7.06 million to a commercial bank.

10. Unbilled receivables and construction revenue received in advance

Consisted of :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Unbilled receivables :				
Value of contract	2,833,718,130.58	1,647,174,324.90	726,000,000.00	1,153,136,781.63
Revenue recognised on percentage of completion basis	1,670,414,141.56	1,105,862,848.80	726,000,000.00	668,554,667.42
Less Value of contract billed	(1,333,653,674.30)	(777,765,241.29)	(713,705,812.00)	(488,571,310.42)
Unbilled receivables	336,760,467.26	328,097,607.51	12,294,188.00	179,983,357.00
Construction revenue received in advance				
Value of contract	44,859,814.00	-	-	-
Value of contract billed	15,686,919.30	-	-	-
<u>Less</u> Revenue recognised on percentage of completion basis	(10,613,831.99)	-	-	-
Construction revenue received in advance	5,073,087.31	-	-	-



The additional data of construction contracts are as follow :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Cost of construction and gain are recognized (less loss are recognized) until present	1,681,027,973.55	1,105,862,848.80	726,000,000.00	668,554,667.42
Less Value of contract billed	(1,349,340,593.60)	(777,765,241.29)	(713,705,812.00)	(488,571,310.42)
	331,687,379.95	328,097,607.51	12,294,188.00	179,983,357.00
Amount of the Company has authority from employer(customer) for construction be regarded as assets/liabilities				-
- Unbilled receivables	336,760,467.26	328,097,607.51	12,294,188.00	179,983,357.00
- Construction revenue received in advance	(5,073,087.31)	-	-	-
	331,687,379.95	328,097,607.51	12,294,188.00	179,983,357.00

11. Advance for Share purchase

On October 12, 2016, the Company's Board of Director has approved to purchase 48.98% of ordinary shares and 100% of preference shares in BMP Solar Co., Ltd., engaging in 8.0 MW installed capacity of Solar Power Plant , with the Purchase pricing Baht 670.00 million from the former shareholder of such company. The Company has already paid for the deposit under the Share Purchase Agreement of Baht 180.00 million. The Articles of Association of the Company had been amended by specifying the shareholder of preference shares to have the power to manage such company and has 100% of the right in such company's interest. However, the Share Purchase Agreement will be completed when the Seller accomplish all condition precedent under the Share Purchase Agreement.



12. Inventories

Consisted of:-

(Unit : Baht)

	Consolidated					
	2016			2015		
	Cost	Allowance for diminution in value of inventory	Net	Cost	Allowance for diminution in value of inventory	Net
Finished goods	260,590,490.71	(11,648,588.49)	248,941,902.22	242,922,827.77	(14,448,401.32)	228,474,426.45
Work in process	39,538,887.23	(1,444,020.11)	38,094,867.12	34,910,087.93	(1,040,678.46)	33,869,409.47
Raw materials	99,466,956.44	(5,433,400.67)	94,033,555.77	74,018,424.74	(5,631,555.44)	68,386,869.30
Supplies	1,070,429.44	(168,367.45)	902,061.99	839,756.11	(154,219.56)	685,536.55
Goods in transit	20,271,467.18	-	20,271,467.18	32,180,098.38	-	32,180,098.38
Total	420,938,231.00	(18,694,376.72)	402,243,854.28	384,871,194.93	(21,274,854.78)	363,596,340.15

(Unit : Baht)

	Separate financial statement	
	2016	2015
Finished goods	224,599,175.64	204,097,050.78
Goods in transit	9,647,682.80	29,068,036.49
Total	234,246,858.44	233,165,087.27
Less Allowance for diminutions in value of inventories	(7,429,142.83)	(12,523,985.47)
Net	226,817,715.61	220,641,101.80

The movement of allowance for diminutions of inventories for the year ended December 31, 2016 and 2015 are as follows:

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Opening balance	(21,274,854.78)	(40,358,923.32)	(12,523,985.47)	(28,887,926.69)
Allowance increased during the year	(3,266,891.33)	(5,530,864.24)	(468,852.92)	(4,540,588.24)
Allowance reversal during the year	5,847,369.39	24,614,932.78	5,563,695.56	20,904,529.46
Ending balance	(18,694,376.72)	(21,274,854.78)	(7,429,142.83)	(12,523,985.47)



For the years ended December 31, 2016, the costs of inventories recognized as expenses are Baht 919.96 million and Baht 887.68 million in the consolidated and separate financial statement, respectively (2015 : Baht 2,919.66 million and Baht 2,401.88 million in the consolidated and separate financial statements, respectively).

For the years ended December 31, 2016, the Group has reversed allowance for diminutions in the value of inventories in amount of Baht 5.85 million and Baht 5.56 million in the consolidated and separate financial statement, respectively (2015 : Baht 24.61 million and Baht 20.90 million in the consolidated and separate financial statement, respectively).

As at December 31, 2016, the some inventories with the carrying amount of Baht 73.85 million in the consolidated financial statement and Baht 52.75 million in the separate financial statement, respectively, are expected to be sold more than twelve months after the reporting period (2015 : Baht 58.84 million in the consolidated financial statement and Baht 54.07 million in the separate financial statement).

13. Long - term deposits at financial institution pledged as collateral

As at December 31, 2016 and 2015, the bank deposits and bill of exchange that equipped with guarantee burden of the Group, has been pledged as surety against credit facility and letter of guarantee that issued by banks in order to use in business operation.



14. Investments in associate

The nature and carrying value of investment in associate can be summarized as follows :

Name of company	Nature of business	Country of incorporation	(Unit:'000 Baht)		Percentage		(Unit:'000 Baht)			
			Paid-up capital		% of holding		Equity Method		Cost Method	
			2016	2015	2016	2015	2016	2015	2016	2015
Each material associate										
G-Power Source Co., Ltd.	Generating and selling electricity	Thailand	930,000	930,000	40.00%	40.00%	356,864	351,631	397,595	397,595
All individual immaterial associate										
Other associates			250	250			27	48	100	100
							356,891	351,679	397,695	397,695



Financial information of associates that are material can be summarized as follows :-

(Unit : Baht)

	G-Power Source Co., Ltd.	
	2016	2015
Current assets	114,716,972.75	144,416,128.04
Non-current assets	2,532,933,803.39	2,666,162,996.34
Current liabilities	473,134,999.34	408,894,600.58
Non-current liabilities	1,088,710,199.83	1,319,149,952.27

(Unit : Baht)

	G-Power Source Co., Ltd.	
	2016	2015
Revenues	495,227,468.01	529,503,654.27
Profit from continuing operations	224,611,005.45	245,561,830.24
Other comprehensive income	-	-
Total comprehensive income	224,611,005.45	245,561,830.24
Dividend received from the associate	88,536,000.00	96,347,973.80

The reconciliation of the above financial information to the carrying amount which is accounted for using the equity method in the consolidated financial statements can be summarized as follows :-

(Unit : Baht)

	G-Power Source Co., Ltd.	
	2016	2015
Net assets	1,085,805,576.97	1,082,534,571.53
Group's interest in the associate	40.00%	40.00%
Group's share in the net assets	434,322,230.79	433,013,828.61
Adjustment for using the equity method		
Power purchase agreement net of deferred tax liabilities	89,444,961.97	93,828,837.97
Gain on property plant and equipment	(166,903,263.51)	(175,211,094.39)
Carrying amount under the equity method	356,863,929.25	351,631,572.19



The aggregate amount of financial information of associates that are individually immaterial can be summarized as follows :-

(Unit : Baht)

	2016	2015
Aggregate carrying amount of individual immaterial associates	27,294.63	47,600.13
Group's share in the aggregate amount of		
Loss from continuing operation	(20,305.51)	(16,273.06)
Other comprehensive income	-	-
Total comprehensive loss	(20,305.51)	(16,273.06)





15. Investments in joint ventures

The nature and carrying value of investment in joint ventures can be summarized as follows :

Name of company	Nature of business	Country of incorporation	(Unit:'000 Baht)		Percentage		(Unit:'000 Baht)			
			Paid-up capital		% of holding		Equity Method		Cost Method	
			2016	2015	2016	2015	2016	2015	2016	2015
Each material joint ventures										
Gunkul Chubu Powergen Co., Ltd.	Generating and selling electricity	Thailand	992,000	992,000	51.00%	51.00%	932,176	875,729	505,919	505,919
All individual immaterial joint ventures										
Other associates							6,867	4,340	15,363	15,363
							939,043	880,069	521,282	521,282

Financial information of joint ventures that are material can be summarized as follows :-

(Unit : Baht)

	Gunkul Chubu Powergen Co., Ltd.	
	2016	2015
Current assets	350,973,849.77	369,866,140.46
Non-current assets	2,674,058,478.40	2,798,620,843.19
Current liabilities	269,266,424.73	289,431,344.14
Non-current liabilities	1,095,843,582.04	1,337,937,292.55
The above amounts of assets and liabilities include the following:		
Cash and cash equivalents	228,928,265.92	239,216,725.58
Current financial liabilities (excluding payables and provisions)	(241,317,287.18)	(240,982,893.57)
Non-current financial liabilities (excluding payables and provisions)	(1,095,102,057.31)	(1,336,419,208.46)

(Unit : Baht)

	Gunkul Chubu Powergen Co., Ltd.	
	2016	2015
Revenue	616,002,033.53	655,592,277.94
Profit from continuing operations	352,320,774.44	382,727,490.94
Other comprehensive income	-	14,193.60
Total comprehensive income	352,320,774.44	382,741,684.54
Dividends received from joint ventures	119,093,450.80	124,962,116.50
The above revenue and profit (loss) include the following:		
Interest income	796,635.30	866,653.18
Depreciation and amortization expense	130,412,624.41	125,492,162.71
Interest expense	78,202,254.26	91,009,886.89
Income tax expense	(779,997.36)	(424,309.10)



The reconciliation of the above financial information to the carrying amount which is accounted for using the equity method in the consolidated financial statements can be summarized as follows :-

(Unit : Baht)

	Gunkul Chubu Powergen Co., Ltd.	
	2016	2015
Net assets	1,659,922,321.40	1,541,118,346.96
Group's interest in the joint venture	51.00%	51.00%
Group's share in the net assets	846,560,383.91	785,970,356.95
Adjustment for using the equity method		
Power purchase agreement net of deferred tax liabilities	242,395,339.60	253,789,496.09
Gain on the property plant and equipment	(156,779,701.29)	(164,030,578.70)
Carrying amount under the equity method	932,176,022.22	875,729,274.34

The aggregate amount of financial information of joint ventures that are individually immaterial can be summarized as follows:-

(Unit : Baht)

	2016	2015
Aggregate carrying amount of individual immaterial investments in joint ventures	6,867,083.94	4,340,163.15
Group's share in the aggregate amount of		
Profit (loss) from continuing operation	2,526,920.79	2,510,169.95
Other comprehensive income	-	-
Total comprehensive income(loss)	2,526,920.79	2,510,169.95



16. Investments in subsidiaries

The composition of the Group in the consolidated financial statements and the carrying value of investment in subsidiaries in the separate financial statement can be summarized as follows :-

Name of subsidiary	Paid-up capital		Investment portion		Cost method		Dividends	
	('000 Baht)		(%)		('000 Baht)		('000 Baht)	
	2016	2015	2016	2015	2016	2015	2016	2015
<u>Subsidiaries don't having non-controlling interests</u>								
G.K. Power Product Co., Ltd.	100,000	100,000	100.00	100.00	80,425	80,425	25,000	45,000
G.K. Assembly Co., Ltd.	200,000	200,000	100.00	100.00	163,188	163,188	-	80,000
K.N.P. Supply Co., Ltd.	50,000	50,000	100.00	100.00	41,408	41,408	-	41,000
Wind Energy Development Co., Ltd.	1,575,000	1,575,000	100.00	100.00	2,226,150	2,226,150	-	-
NK Power Sola Co., Ltd.	2,600	2,600	100.00	100.00	40,854	40,854	-	-
Gunkul Solar Roof 1 Co., Ltd.	21,000	21,000	100.00	100.00	21,000	21,000	-	735
Gunkul Solar Roof 2 Co., Ltd.	250	250	100.00	100.00	250	250	-	-
Solar Energy Society Co., Ltd.	20,400	20,400	100.00	100.00	20,400	20,400	-	-
Bright Green Power Co., Ltd.	89,900	33,340	100.00	100.00	89,900	33,340	-	-
Gunkul Power Development Co., Ltd.	15,000	15,000	100.00	100.00	23,749	15,000	-	-
Gunkul Solar Power 1 Co., Ltd.	2,500	2,500	100.00	100.00	25,000	2,500	-	-
Gunkul Solar Power 2 Co., Ltd.	39,000	39,000	100.00	100.00	54,250	39,000	-	2,145
Greenovation Power Co., Ltd.	1,138,100	436,025	100.00	100.00	1,569,600	867,525	-	-
Gunkul Solar Community Co., Ltd.	2,750	2,750	100.00	100.00	2,750	2,750	-	-
Gunkul International (Mauritius)	3,239,983	1,016,552	100.00	100.00	3,239,983	1,016,552	-	-





Name of subsidiary	Paid-up capital (‘000 Baht)		Investment portion (%)		Cost method (‘000 Baht)		Dividends (‘000 Baht)	
	2016	2015	2016	2015	2016	2015	2016	2015
Siam Gunkul Solar Energy Co., Ltd.	40,900	40,900	100.00	100.00	40,899	40,899	-	-
Korat Wind Energy Co., Ltd.	778,360	336,750	100.00	100.00	1,210,110	768,500	-	-
Gunkul Solar Power 3 Co., Ltd.	2,500	2,500	100.00	100.00	25,000	2,500	-	-
Gunkul Solar Power 4 Co., Ltd.	2,500	2,500	100.00	100.00	25,000	2,500	-	-
Gunkul Solar Power 5 Co., Ltd.	2,500	2,500	100.00	100.00	25,000	2,500	-	-
Gunkul Bioenergy Co., Ltd.	125	-	100.00	-	125	-	-	-
<u>Subsidiaries having material non-controlling interests</u>								
Infinite Alternative Energy Co., Ltd.	1,590,000	1,590,000	67.00	67.00	1,105,996	1,105,996	-	-
<u>Subsidiaries having immaterial non-controlling interests</u>								
Gunkul LED Lighting Co., Ltd.	40,600	40,600	89.99	89.99	36,540	36,540	-	-
Gunkul and UCI Power Co., Ltd.	-	2,500	-	75.00	-	1,875	-	-
GO Bioenergy Co., Ltd.	34,300	34,300	74.90	74.90	25,690	25,690	-	-
Eco Thaienergy Co., Ltd.	76,500	-	51.00	-	42,015	-	-	-
Total					10,135,282	6,557,342	25,000	168,880

Information on subsidiaries having non-controlling interests can be summarized as follows:

Name of subsidiary	Profit (loss) allocated to non-controlling interest							
	Paid-up capital (‘000 Baht)		Investment portion (%)		Non-controlling interest (‘000 Baht)		non-controlling interest (‘000 Baht)	
	2016	2015	2016	2015	2016	2015	2016	2015
Subsidiaries having material non-controlling interests								
Infinite Alternative Energy Co., Ltd.	1,590,000	1,590,000	67.00	67.00	598,191	518,478	79,713	(5,014)
Subsidiaries having immaterial non-controlling interests								
Other subsidiaries					43,102	8,366	(2,060)	(6,555)
Total					641,293	526,844	77,653	(11,569)



Financial information before inter-company eliminations of the subsidiaries having non-controlling interests that are material can be summarized as follows:

(Unit : Baht)

	Infinite Alternative Energy Co., Ltd.	
	2016	2015
Current assets	896,322,180.38	368,310,689.77
Non-current assets	5,337,664,289.07	5,422,351,185.72
Current liabilities	602,089,735.21	1,203,763,687.33
Non-current liabilities	3,831,951,558.59	3,015,752,016.55
Owners of the parent	1,214,509,208.05	1,052,667,934.98
Non-controlling interest	598,191,102.63	518,478,236.63

(Unit : Baht)

	Infinite Alternative Energy Co., Ltd.	
	2016	2015
Revenues	698,530,146.76	18,957,700.60
Profit (loss) from continuing operations	241,554,139.07	(15,195,225.34)
Post-tax profit (loss) from discontinued operation	-	-
Other comprehensive income	-	-
Total comprehensive income	241,554,139.07	(15,195,225.34)
Dividend paid to non-controlling interest	-	-

Regarding to the resolution of board of director meeting held on June 28, 2016, of Greenovation Power Co., Ltd. the meeting has approved the payment of share capital increase from Gunkul Engineering Public Company Limited in amount of Baht 6.50 per share from 93,610,000 shares which has total amount equal to Baht 608.47 million.

Regarding to the resolution of board of director meeting held on May 13, 2016, of Gunkul International (Mauritius) the meeting has approved to increase registered share capital 4,977,120 new shares to Gunkul Engineering Public Company Limited which has value equal to USD 1.00 per share. The meeting has also approved the payment of share capital increase which has total amount equal to USD 4,977,120.00. for investing in solar power plant in Japan.



Regarding to the resolution of board of director meeting held on August 25, 2016, of Gunkul International (Mauritius) the meeting has approved to increase registered share capital 16,023,100 new shares to Gunkul Engineering Public Company Limited which has value equal to USD 1.00 per share. The meeting has also approved the payment of share capital increase which has total amount equal to USD 16,023,100.00. for investing in solar power plant, Godo Kaisha GD Solar Utsunomiya Project, Utsunomiya City, Tochigi province, Japan with capacity at 66.78 MW in Power Purchase Agreement and 72.80 MW installation, and total project value approximately at JPY 24,017.00 million or THB 8,391.00 million.

Regarding to the resolution of Bright Green Power Co., Ltd.'s board of director meeting held on December 7, 2016, the meeting has approved to paid up for share capital from the Company in amount of Baht 32.00 per share from 700,000 shares which has total amount equal to Baht 22.40 million.

Regarding to the resolution of Greenovation Power Co., Ltd.'s board of director meeting held on December 1, 2016, the meeting has approved to paid up for share capital from the Company in amount of Baht 1.00 per share from 93,610,000 shares which has total amount equal to Baht 93.61 million.

Regarding to the resolution of Korat Wind Energy Co., Ltd.'s board of director meeting held on December 7, 2016, the meeting has approved the payment of share capital increase from the Company in amount of Baht 43.00 per share from 10,270,000 shares which has total amount equal to Baht 441.61 million.

Regarding to the resolution of Eco Thaienergy Co., Ltd.'s board of director meeting held on December 19, 2016, of the meeting has approved the payment of share capital increase from the Company in amount of Baht 75.00 per share from 135,150 shares which has total amount equal to Baht 10.14 million.

Regarding to the resolution of Gunkul International (Mauritius)'s board of director meeting held on November 4, 2016, the meeting has approved to convert of the loans that for investing in solar power plant in Japan to in amount of JPY 1,962.84 million into registered share capital 19,044,300 shares to the Company which has value equal to USD 1.00 per share which has total amount equal to USD 19,044,300.00.

Regarding to the resolution of Gunkul International (Mauritius)'s board of director meeting held on December 23, 2016, the meeting has approved to increase registered share capital 1,650,050 shares to the Company which has value equal to USD 1.00 per share of which has total amount equal to USD 1,650,050.00 for investing in solar power plant, with in Japan.



17. Machinery for investment in advance

On June 10, 2013, the board of director had the resolution to invest in Gas Fried Engine power plant in capacity of 25 MW x 2 (Consisting of two projects) in Myanmar. The Company will hold 51.00% of share in first project which has investment in amount of USD 13.77 million and will hold 60.00% of share in second project which has investment in amount of USD 16.20 million. The Company partially paid investment in form of machines in amount of Baht 268.34 million. However, the joint venture in the said project would be completed when the other joint venture party in Republic of the Union of Myanmar has already fulfilled certain conditions as stipulated in the joint venture agreement. As at December 31, 2016, the said joint venture party is in the process of transfer the power purchase agreement and promotional privileges with government sector of Republic of the Union of Myanmar in compliance with the conditions in the said joint venture agreement.

During the year ended December 31, 2016, the Company has received the return on such investment in amount of Baht 47.98 million (2015 : Baht 64.60 million) The accumulative return has been obtained until now in amount baht 147.51 million.

18. Investment Property

Consisted of:-

(Unit : Baht)

	Separate financial statements	
	2016	2015
Cost:-		
As at January 1,	3,143,657.99	3,143,657.99
Increase (decrease)	-	-
As at December 31,	3,143,657.99	3,143,657.99
Allowance for impairment:-		
As at January 1,	-	-
Increase (decrease)	-	-
As at December 31,	-	-
Net book value:-		
As at December 31,	3,143,657.99	3,143,657.99



In February 2017, the independent appraiser, World Valuation Co., Ltd., appraised the value of land by applying the income comparison approach (based on the highest and best use principle) by using the rate of return on investment property and growth rate of income, and it appears that the fair value of land is equal to Baht 4.72 million. (2015 : Baht 5.60 million)

The independent appraiser did not change the valuation technique from the last year.

TFRS No.13 “Fair Value Measurement” establishes a fair value hierarchy that categories into three levels the inputs to valuation techniques used to measure fair value, as follows:

Level 1 : The inputs are quoted prices in active markets for identical assets or liabilities that the Group can access at the measurement date.

Level 2 : The inputs are observable inputs for the asset or liability, either directly or indirectly.

Level 3 : The inputs are unobservable inputs for the asset or liability.

Information on the level of the fair value hierarchy within the fair value measurements as at December 31, 2016 and 2015, is as follows:

(Unit : Baht)

Financial assets and liabilities	2016			
	Fair value	Fair value hierarchy	Valuation techniques	Inputs used to measure fair value
				categorizes as Level 2 / Level 3 of the fair value hierarchy
Investment property	4,720,000.00	Level 3	Income approach	The rate of increase in rental income of 10% and a discount rate of 5%.

(Unit : Baht)

Financial assets and liabilities	2015			
	Fair value	Fair value hierarchy	Valuation techniques	Inputs used to measure fair value
				categorizes as Level 2 / Level 3 of the fair value hierarchy
Investment property	5,600,000.00	Level 3	Income approach	The rate of increase in rental income of 10% and a discount rate of 3%.





19. Property, plant and equipments

Consisted of:-

(Unit : Baht)

	Consolidated						Total
	Land	Building improvement and utility system	Machine and factory equipments	Figure and office equipment	Motor vehicle	Assets under construction	
Cost:-							
As at January 1, 2016	993,463,284.08	622,638,884.26	4,184,701,333.17	50,081,920.97	98,575,334.01	1,933,160,697.94	7,882,621,454.43
Addition	6,917,176.00	3,039,517.17	5,454,685.16	7,793,712.27	-	6,271,273,193.62	6,294,478,284.22
Transfer in	-	116,647,880.27	4,288,615,062.44	-	-	-	4,405,262,942.71
Disposal	-	-	(56,042.28)	(1,049,076.19)	(179,224.30)	-	(1,284,342.77)
Transfer out	-	-	(897,936.17)	-	-	(4,405,521,915.10)	(4,406,419,851.27)
Amortization	-	(197,337.67)	(3,532,953.04)	-	-	-	(3,730,290.71)
Difference of translation of financial statements	-	-	(2,206.23)	(72,141.09)	-	(84,714,086.23)	(84,788,433.55)
As at December 31, 2016	1,000,380,460.08	742,128,944.03	8,474,281,943.05	56,754,415.96	98,396,109.71	3,714,197,890.23	14,086,139,763.06
Accumulated depreciation:-							
As at January 1, 2016	-	(55,642,104.67)	(117,555,155.26)	(33,473,263.72)	(29,342,781.30)	-	(236,013,304.95)
Depreciation charge	-	(26,597,387.13)	(207,449,347.98)	(6,239,670.49)	(6,422,173.44)	-	(246,708,579.04)
Disposal	-	-	-	988,143.25	171,981.26	-	1,160,124.51
Transfer out	-	-	118,222.50	-	-	-	118,222.50
Amortization	-	161.75	2,783,569.89	-	-	-	2,783,731.64
Difference of translation of financial statements	-	-	344.74	5,865.46	-	-	6,210.20
As at December 31, 2016	-	(82,239,330.05)	(322,102,366.11)	(38,718,925.50)	(35,592,973.48)	-	(478,653,595.14)

(Unit : Baht)

	Consolidated						
	Land	Building improvement and utility system	Machine and factory equipments	Figure and office equipment	Motor vehicle	Assets under construction	Total
Allowance for impairment:-							
As at January 1, 2016	-	-	(38,515.00)	-	-	(322,000.00)	(360,515.00)
Addition	-	-	(2,250,784.41)	-	-	-	(2,250,784.41)
As at December 31, 2016	-	-	(2,289,299.41)	-	-	(322,000.00)	(2,611,299.41)
Net book value:-							
As at December 31, 2016	1,000,380,460.08	659,889,613.98	8,149,890,277.53	18,035,490.46	62,803,136.23	3,713,875,890.23	13,604,874,868.51
Depreciation in the statement of comprehensive income for the year ended December 31, 2016							246,708,579.04

(Unit : Baht)

	Consolidated						
	Land	Building improvement and utility system	Machine and factory equipments	Figure and office equipment	Motor vehicle	Assets under construction	Total
Cost:-							
As at January 1, 2015	673,353,774.58	120,133,080.14	219,101,679.09	43,161,078.25	59,457,278.70	4,265,349.85	1,119,472,240.61
Addition	320,109,509.50	493,190.13	63,006,644.02	6,789,679.54	40,729,132.88	2,810,739,961.01	3,241,868,117.08
Increase from acquisition of subsidiary	-	-	6,047,569.00	97,683.18	-	3,517,722,351.11	3,523,867,603.29
Transfer in	-	502,012,613.99	3,897,147,788.06	94,180.00	-	-	4,399,254,582.05
Disposal	-	-	(14,150.00)	(38,200.00)	(1,611,077.57)	-	(1,663,427.57)
Transfer out	-	-	-	-	-	(4,399,201,682.05)	(4,399,201,682.05)
Amortization	-	-	(588,197.00)	(22,500.00)	-	(365,281.98)	(975,978.98)
As at December 31, 2015	993,463,284.08	622,638,884.26	4,184,701,333.17	50,081,920.97	98,575,334.01	1,933,160,697.94	7,882,621,454.43



(Unit : Baht)

	Consolidated						
	Land	Building improvement and utility system	Machine and factory equipments	Figure and office equipment	Motor vehicle	Assets under construction	Total
Accumulated depreciation:-							
As at January 1, 2015	-	(51,188,337.30)	(94,608,184.26)	(28,389,519.80)	(27,045,867.24)	-	(201,231,908.60)
Depreciation charge	-	(4,453,767.37)	(21,793,764.22)	(5,060,293.65)	(3,781,722.86)	-	(35,089,548.10)
Disposal	-	-	(1,563,762.09)	(13,995.85)	-	-	(1,577,757.94)
Decrease from disposal of subsidiary	-	-	410,555.31	(9,454.42)	1,484,808.80	-	1,885,909.69
As at December 31, 2015	-	(55,642,104.67)	(117,555,155.26)	(33,473,263.72)	(29,342,781.30)	-	(236,013,304.95)
Allowance for impairment:-							
As at January 1, 2015	-	-	(38,515.00)	-	-	-	(38,515.00)
Addition	-	-	(322,000.00)	-	-	-	(322,000.00)
As at December 31, 2015	-	-	(360,515.00)	-	-	-	(360,515.00)
Net book value:-							
As at December 31, 2015	993,463,284.08	566,996,779.59	4,066,785,662.91	16,608,657.25	69,232,552.71	1,933,160,697.94	7,646,247,634.48
Depreciation in the statement of comprehensive income for the year ended December 31, 2015							35,089,548.10

(Unit : Baht)

	Separate financial statement					
	Building and improvement	Tool and equipments	Figure and office equipment	Motor vehicle	Assets under construction	Total
Cost:-						
As at January 1, 2016	32,521,545.38	21,050,191.39	29,402,490.37	74,773,650.40	-	157,747,877.54
Addition	86,666.66	25,708.78	4,090,266.19	-	-	4,202,641.63
Transfer in	-	-	-	-	-	-
Disposal	-	-	(176,864.50)	(179,224.30)	-	(356,088.80)
Amortization	-	-	-	-	-	-
Transfer out	-	-	-	-	-	-
As at December 31, 2016	32,608,212.04	21,075,900.17	33,315,892.06	74,594,426.10	-	161,594,430.37
Accumulated depreciation :-						
As at January 1, 2016	(27,827,614.38)	(10,422,476.39)	(19,309,852.54)	(21,359,942.26)	-	(78,919,885.57)
Depreciation charge	(478,100.36)	(3,053,018.92)	(3,582,702.26)	(5,048,221.29)	-	(12,162,042.83)
Disposal	-	-	176,859.50	171,981.26	-	348,840.76
Amortization	-	-	-	-	-	-
As at December 31, 2016	(28,305,714.74)	(13,475,495.31)	(22,715,695.30)	(26,236,182.29)	-	(90,733,087.64)
Net book value:-						
As at December 31, 2016	4,302,497.30	7,600,404.86	10,600,196.76	48,358,243.81	-	70,861,342.73
Depreciation in the statement of comprehensive income for the year ended December 31, 2016						12,162,042.83





(Unit : Baht)

	Separate financial statement					
	Building and improvement	Tool and equipments	Figure and office equipment	Motor vehicle	Assets under construction	Total
Cost:-						
As at January 1, 2015	32,521,545.38	16,134,461.65	25,223,313.34	47,056,267.97	3,556,069.85	124,491,658.19
Addition	-	1,739,091.87	4,220,377.03	28,228,460.00	-	34,187,928.90
Transfer in	-	3,190,787.87	-	-	-	3,190,787.87
Disposal	-	(14,150.00)	(18,700.00)	(511,077.57)	-	(543,927.57)
Amortization	-	-	(22,500.00)	-	(365,281.98)	(387,781.98)
Transfer out	-	-	-	-	(3,190,787.87)	(3,190,787.87)
As at December 31,2015	32,521,545.38	21,050,191.39	29,402,490.37	74,773,650.40	-	157,747,877.54
Accumulated depreciation :-						
As at January 1, 2015	(27,362,385.16)	(7,531,546.51)	(15,862,098.58)	(19,132,604.94)	-	(69,888,635.19)
Depreciation charge	(465,229.22)	(2,896,000.62)	(3,450,231.82)	(2,703,380.01)	-	(9,514,841.67)
Disposal	-	5,070.74	850.46	476,042.69	-	481,963.89
Amortization	-	-	1,627.40	-	-	1,627.40
As at December 31, 2015	(27,827,614.38)	(10,422,476.39)	(19,309,852.54)	(21,359,942.26)	-	(78,919,885.57)
Net book value:-						
As at December 31,2015	4,693,931.00	10,627,715.00	10,092,637.83	53,413,708.14	-	78,827,991.97
Depreciation in the statement of comprehensive income for the year ended December 31, 2015						9,514,841.67

As at December 31, 2016, certain plant and equipment items of the Group have been fully depreciated but are still in use. The original cost, before deducting accumulated depreciation, of those assets amounted to Baht 112.40 million (2015 : Baht 88.94 million).

For the year ended December 31, 2016, the borrowing cost is included as part of cost of work in construction in the amount of Baht 107.99 million in the consolidated financial statement by calculating from the interest rate of specific loan utilized for the investment in the said assets (2015 : Baht 11.61 million).

As at December 31, 2016 and 2015, one subsidiary has pledged the land plus property in original cost of Baht 139.05 million to guarantee against credit facility of the Company that receives from a commercial bank in amount of Baht 410.00 million.

As at December 31, 2016 and 2015, one subsidiary has pledged the land plus property, machinery and equipment in net book value of Baht 4,390.59million and transfer of benefits under the insurance policy on the property and also pledged shares of subsidiary holder by the Company including the transferal of the rights of the power purchase agreement to guarantee against credit facility of the subsidiary that received from a commercial bank in amount of Baht 3,730.00 million and USD 81.00 million.

As at December 31, 2016 and 2015, one subsidiary has pledged the machinery and equipment in net book value of Baht 55.11million and transfer the right to charge the power purchase agreements and leasehold land. Include land plus property of the subsidiary to guarantee against credit facility of such subsidiary that receives from a commercial bank in amount Baht 48.00 million.

As at December 31, 2016 and 2015, one subsidiary has pledged the land plus property, machinery and equipment and transfer of benefits under the insurance policy on the property and also pledged shares of subsidiary holder by the Company including the transferal of the rights of the power purchase agreement in net book value of Baht 4,991.12 million (2015 : Baht 5,119.30 million) to guarantee against credit facility of such subsidiary that receives from a commercial bank and loan guarantees.

As at December 31, 2016, one subsidiary has pledged the land plus property and rights of the power purchase agreement and also pledged shares of subsidiary hold by the Company to guarantee against credit facility of such subsidiary that receives from a commercial bank in amount JPY 11,773.00 million.

Assets under finance leases, where the Group are lessee, which are included in the above list includes Computer equipment, Machinery and vehicles with net book value as at December 31, 2016 of Baht 61.70 million in consolidated financial statements and Baht 45.06 million in the separate financial statements (2015 : Baht 69.79 million and Baht 49.79 million, respectively).



During May 2015, a subsidiary has entered into land sale and purchase agreement with an outside person whom has no relationship with such subsidiary. The land will be used to construct solar power plant with the total land area of 1,262-0-70.70 Rai and the total price is Baht 295.95 million. The seller has already transferred the ownership for 1,224-2-67.30 Rai of land to such subsidiary. The seller has not yet able to transfer the ownership of the remaining 37-2-3.40 Rai of land to such subsidiary since these plots of land are under legal restriction where the ownership transfer could not be perform until July 2017. The title-deeds of the said plots of land have been issued under the government's policy on assets to capital conversion. Nevertheless, such subsidiary (under the advice of the Company's legal advisor) has registered its right of superficies with the Land Department as legally binding evidence so the company can construct the solar power plant on the said plots of land without any dispute from the seller.

20. Intangible assets

Consisted of:-

(Unit : Baht)

	Consolidated					Total
	Computer software	Copyright	Right to use grid network	Power purchase agreement	Goodwill	
Cost :-						
As at January 1, 2016	7,290,932.50	1,208,445.00	340,596,684.66	2,219,691,327.82	390,215,269.48	2,959,002,659.46
Purchase	1,552,273.50	5,200.00	144,499,664.09	475,425,594.70	-	621,482,732.29
Transfer out	-	-	-	-	(169,265,182.34)	(169,265,182.34)
Difference of translation of financial statements	-	-	-	(28,023,558.76)	-	(28,023,558.76)
As at December 31, 2016	8,843,206.00	1,213,645.00	485,096,348.75	2,667,093,363.76	220,950,087.14	3,383,196,650.65
Accumulated amortization :-						
As at January 1, 2016	(2,623,139.45)	(1,208,444.00)	(122,127.43)	(2,817,818.38)	-	(6,771,529.26)
Amortization charge	(300,956.81)	(14.25)	(1,913,328.85)	(15,616,687.95)	-	(17,830,987.86)
As at December 31, 2016	(2,924,096.26)	(1,208,458.25)	(2,035,456.28)	(18,434,506.33)	-	(24,602,517.12)
Net book value :-						
As at December 31, 2016	5,919,109.74	5,186.75	483,060,892.47	2,648,658,857.43	220,950,087.14	3,358,594,133.53
Amortization charges in statements of comprehensive income for the year ended December 31, 2016						17,830,987.86



(Unit : Baht)

	Consolidated					
	Computer software	Copyright	Right to use grid network	Power purchase agreement	Goodwill	Total
Cost :-						
As at January 1, 2015	7,343,832.50	1,208,445.00	155,748,215.30	1,471,027,190.62	410,089,160.31	2,045,416,843.73
Purchase	-	-	158,171,657.65	2,765,784.02	-	160,937,441.67
Increase from acquisition of subsidiary	-	-	26,676,811.71	725,033,054.37	-	751,709,866.08
Transfer out	(52,900.00)	-	-	-	(19,873,890.83)	(19,926,790.83)
Difference of translation of financial statements	-	-	-	20,865,298.81	-	20,865,298.81
As at December 31, 2015	7,290,932.50	1,208,445.00	340,596,684.66	2,219,691,327.82	390,215,269.48	2,959,002,659.46
Accumulated amortization :-						
As at January 1, 2015	(2,383,196.52)	(1,208,444.00)	(36,178.79)	(1,936,189.92)	-	(5,564,009.23)
Amortization charge	(252,483.67)	-	(85,948.64)	(881,628.46)	-	(1,220,060.77)
Transfer out	12,540.74	-	-	-	-	12,540.74
As at December 31, 2015	(2,623,139.45)	(1,208,444.00)	(122,127.43)	(2,817,818.38)	-	(6,771,529.26)
Net book value :-						
As at December 31, 2015	4,667,793.05	1.00	340,474,557.23	2,216,873,509.44	390,215,269.48	2,952,231,130.20
Amortization charges in statements of comprehensive income for the year ended December 31, 2015						1,220,060.77

(Unit : Baht)

	Separate financial statements	
	Computer software	
	2016	2015
Cost :-		
As at January 1	5,127,448.00	5,127,448.00
Purchase	397,880.00	-
Transfer out	-	-
As at December 31	5,525,328.00	5,127,448.00
Accumulated amortization :-		
As at January 1	(759,759.33)	(669,759.33)
Amortization charge	(101,990.94)	(90,000.00)
As at December 31	(861,750.27)	(759,759.33)
Net book value :-		
As at December 31	4,663,577.73	4,367,688.67
Amortization charges in statements of comprehensive income for the year ended December 31	101,990.94	90,000.00



As at 31 December 2016, the Company has net book value of the Goodwill in consolidated financial statement amounted to 220.95 million. The Group has determined the net present value of the solar power plant and wind power plant in Thailand from the projected cash flow from the project life of 25 years in the future by applying the key assumptions as follows;

- PV module degradation of 0.10% per annum based on the pass experience
- Escalation rate in wholesales tariff plus float time (Ft) at 3.0% per annum which is based on the historical data
- Discount rate at 6.10% -8.02% per annum



21. Deferred tax assets/liabilities

The movements of deferred tax assets and liabilities for the year ended December 31, 2016 and 2015, are as follows :-

(Unit : Baht)

	Consolidated							
	January 1, 2015	Recognized in profit or loss	Recognized in other comprehensive income	Business acquisition	December 31, 2015	Recognized in profit or loss	Business acquisition	December 31, 2016
Trade and other receivable	310,464.68	(94,781.87)	-	-	215,682.81	(49,183.92)	-	166,498.89
Inventories	9,668,319.36	(5,433,589.29)	-	-	4,234,730.07	(908,166.42)	-	3,326,563.65
Property, plant and equipment	(789,728.91)	(370,452.78)	-	-	(1,160,181.69)	(558,329.52)	-	(1,718,511.21)
Right to use grid network	-	-	-	-	-	(58,461,690.02)	-	(58,461,690.02)
Provision for warranty	118,967.66	5,082.52	-	-	124,050.18	(26,987.30)	-	97,062.88
Provision for delivery delay	171,723.32	815,759.26	-	-	987,482.58	(685,187.31)	-	302,295.27
Provision for project warranty	2,810,854.34	(41,673.56)	-	-	2,769,180.78	2,345,784.81	-	5,114,965.59
Provision for unbilled cost	10,260,551.35	(10,260,551.35)	-	-	-	65,532.70	-	65,532.70
Employee benefit	2,868,770.40	248,027.80	701,737.20	-	3,818,535.40	556,709.00	-	4,375,244.40
Obligation under finance lease	(712,885.93)	(1,828,220.16)	-	-	(2,541,106.09)	(62,176.70)	-	(2,603,282.79)
Long-term loans	-	(8,116,963.95)	-	-	(8,116,963.95)	4,580,038.31	-	(3,536,925.64)
Profit on inventories	2,617,780.23	(59,414.67)	-	-	2,558,365.56	1,197,368.89	-	3,755,734.45
Gain on fixed assets	4,026,921.53	5,260,736.58	-	-	9,287,658.11	8,667,665.30	-	17,955,323.41
Tax loss	-	-	-	-	-	68,514,239.12	-	68,514,239.12
Prepaid land rental	(42,332,362.65)	-	-	(26,327,576.21)	(68,659,938.86)	-	68,659,938.86	-
Power purchase agreement	(367,296,122.26)	-	-	45,740,791.64	(321,555,330.62)	-	100,605,243.48	(220,950,087.14)
Total	(378,276,746.88)	(19,876,041.47)	701,737.20	19,413,215.43	(378,037,835.72)	25,175,616.94	169,265,182.34	(183,597,036.44)

(Unit : Baht)

	Separate financial statement					
	Recognized		Recognized in other		Recognized in	
	January 1, 2015	in profit or loss	comprehensive income	December 31, 2015	profit or loss	December 31, 2016
Trade and other receivable	297,013.13	(117,877.60)	-	179,135.53	(40,483.92)	138,651.61
Inventories	5,777,585.35	(3,272,788.26)	-	2,504,797.09	(1,018,968.53)	1,485,828.56
Provision for warranty	96,195.42	3,847.71	-	100,043.13	(34,491.06)	65,552.07
Provision for unbilled cost	10,260,551.35	(10,260,551.35)	-	-	-	-
Provision for delivery delay	134,816.76	(112,344.96)	-	22,471.80	242,916.91	265,388.71
Provision for project warranty	1,888,544.08	(165,775.77)	-	1,722,768.31	2,035,505.25	3,758,273.56
Employee benefit	2,027,290.20	56,789.80	486,164.00	2,570,244.00	457,112.00	3,027,356.00
Obligation under finance lease	(580,640.24)	(1,459,733.91)	-	(2,040,374.15)	(33,754.97)	(2,074,129.12)
Total	19,901,356.05	(15,328,434.34)	486,164.00	5,059,085.71	1,607,835.68	6,666,921.39

The Group offsets the deferred tax assets and liabilities for the presentation in the statement of financial position only in a case where such assets and liabilities relates to the same taxable company and the income tax is levied by the same taxation authority, as follows :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Amount recognized as assets/liabilities in the statement of financial position				
- Deferred tax assets	103,673,460.36	23,995,685.49	6,666,921.39	5,059,085.71
- Deferred tax liabilities	(287,270,496.80)	(402,033,521.21)	-	-
Total	(183,597,036.44)	(378,037,835.72)	6,666,921.39	5,059,085.71



The deferred tax asset is not recognized in the statement of financial position;
consisted of :-

(Unit : Baht)

	Consolidated	
	2016	2015
Unused tax losses		
- Expire in next 1 year	1,200.00	1,000.00
- Expire in next 2 - 12 years	53,319,638.99	53,489,190.34
Temporary differences	1,427,674.40	63,545.93
Total	54,748,513.39	53,553,736.27

The deferred tax assets and liabilities, which is not recognized in the statement of financial position, arises from undistributed profits associated with investments in subsidiaries, joint ventures and associates; consisted of :-

(Unit : Baht)

	Consolidated	
	2016	2015
Deferred tax liabilities are not recognized :		
- Subsidiaries	357,342,665.65	185,896,686.29
- Joint ventures	83,552,242.73	71,757,509.00
Deferred tax assets are not recognized :		
- Associates	(8,160,715.22)	(9,203,125.54)
Total	432,734,193.16	248,451,069.75

22. Short-term loans from financial institutions

Consisted of:-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Short-term loans	3,932,059,046.80	3,655,000,000.00	3,932,059,046.80	3,655,000,000.00
Trust receipt payable	72,051,719.26	247,687,759.42	13,356,718.60	28,958,844.44
Less Discount bills	(23,313,963.74)	(27,076,630.93)	(23,313,963.74)	(27,076,630.93)
Total	3,980,796,802.32	3,875,611,128.49	3,922,101,801.66	3,656,882,213.51



As at December 31, 2016, the Group held bank overdraft, trust receipt, and letters of credit facilities from several financial institutions in Thai Baht amounting of Baht 2,489.43 million (2015 : Baht 2,489.43 million), and USD 50.00 million (2015 : USD 50.00 million). Interest rate is 2.1484%-2.6800% per annum. (2015 : interest rate is 2.1484%-2.6800% per annum)

The fair value of short-term loans in the consolidated and separate financial statement is equal to Baht 3,879.89 million using discounted cash flows method in future based on the yield curve observed and are within level 2 of the fair value hierarchy.

Such credit facility line is pledged by mortgaged register of land plus property of the Group and land plus property of two directors, including fixed deposit of the Group.

23. Trade and other payable – third parties

Consisted of :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Trade payables	304,972,709.98	304,081,660.79	140,118,613.32	199,227,213.11
Unbilled construction cost	211,416,116.67	90,434,941.62	24,534,710.41	73,273,422.43
Subcontractors payable	8,329,093.45	47,786,281.32	8,329,093.45	47,786,281.32
Suspense output tax	18,986,023.58	18,786,370.14	6,043,938.37	1,857,726.26
Accrued expenses	43,854,729.44	38,404,674.99	19,092,468.92	23,127,663.54
Withholding tax	17,331,898.23	21,227,207.02	8,124,499.44	5,988,149.60
Accrued interest	65,654,130.39	16,548,579.44	15,240,155.16	1,947,673.87
Other payables	13,237,379.17	16,142,869.38	8,633,092.00	7,281,018.96
Provision for warranty	262,163.17	243,766.07	81,494.75	137,750.57
Provision for project warranty	1,109,389.94	13,379,966.21	-	8,613,841.57
Provision for delivery delay	3,273,943.57	225,339.67	1,326,943.57	112,359.02
Total	688,427,577.59	567,261,656.65	231,525,009.39	369,353,100.25



24. Debenture

The amount of debenture as at December 31, 2016 is as follows:-

No.	Interest rate per annum (%)	Term	Principal and interest repayment	Consolidated / Separate financial statement			
				Number of share('000 share)		Amount (Million Baht)	
				2016	2015	2016	2015
1/2015	3.60	1 Year and 6 months	April 28, 2017 ana pay interest every 3 months	300	300	300.00	300.00
1/2016	3.50	3 Years	October 7, 2019 ana pay interest every 3 months	1,500	-	1,500.00	-
2/2016	3.37	1 Year 11 months and 17 days	October 1, 2018 ana pay interest every 3 months	130	-	130.00	-
3/2016	3.37	2 Years and 1 day	October 22, 2018 ana pay interest every 6 months	150	-	150.00	-

The fair value of debenture in the consolidated and separate financial statement is equal to Baht 2,073.03 million using discounted cash flows method in future based on the yield curve observed and are within level 2 of the fair value hierarchy.

On April 26, 2016, the annual ordinary general meeting of shareholders of 2016 has resolved to approve on issuance and offering of the debenture by increasing credit line of Baht 2,000.00 million by the previous credit line of not exceeding Baht 1,000.00 million to be not exceeding Baht 3,000.00 million, not exceeding 7 years.

On October 12, 2016, board of director meeting has resolved to approve on issuance and offering of the debenture by increasing credit line of Baht 3,000.00 million by the previous credit line of not exceeding Baht 3,000.00 million to be not exceeding Baht 6,000.00 million, not exceeding 7 years.



25. Obligation under finance lease

Obligation under finance lease - minimum lease payments as follows :-

(Unit : Baht)

	Consolidated			Separate financial statement		
	2016					
	Obligation			Obligation		
	under	Deferred		under	Deferred	
	finance lease	interest	Net	finance lease	interest	Net
Not later than 1 year	14,692,046.84	(1,830,688.03)	12,861,358.81	10,478,914.44	(1,273,496.67)	9,205,417.77
Later than 1 year but not later than 5 years	31,187,471.65	(1,939,813.05)	29,247,658.60	21,323,378.13	(1,310,746.65)	20,012,631.48
Total	45,879,518.49	(3,770,501.08)	42,109,017.41	31,802,292.57	(2,584,243.32)	29,218,049.25

(Unit : Baht)

	Consolidated			Separate financial statement		
	2015					
	Obligation		Net	Obligation		Net
	under finance lease	Deferred interest		under finance lease	Deferred interest	
Not later than 1 year	18,175,246.08	(2,678,786.97)	15,496,459.11	12,967,816.78	(1,888,526.23)	11,079,290.55
Later than 1 year but not later than 5 years	45,879,577.63	(3,770,574.44)	42,109,003.19	31,802,292.57	(2,584,316.58)	29,217,975.99
Total	64,054,823.71	(6,449,361.41)	57,605,462.30	44,770,109.35	(4,472,842.81)	40,297,266.54

As at December 31, 2016, the Group performs the contract of long term financial leased with several leasing companies so as to lease computer hardware, machines and vehicles by number of 47 contracts (2015 : 54 contracts). The leased contracts determine leased fee repayment as monthly installment from Baht 4,777.55 to Baht 235,491.00 per month (2015 : Baht 4,777.55 to Baht 235,491.00 per month). The leased period is carried from 3 years to 5 years (2015 : 3 years to 5 years). Such leased contract comprises the Group's shareholders and directors as guarantors. In addition, ownership of such computer hardware, machines and vehicles will transfer to ownership of the Group when the Group pays the final installment in accordance with the leased contract

The Group amortized the interest according to the financial leased contract for the year ended December 31, 2016 in the amount of Baht 2.68 million in the consolidated



financial statement and Baht 1.89 million in the separate financial statements which was recorded as “Finance cost” in the statement of comprehensive income (2015 : Baht 2.52 million and Baht 1.71 million in the consolidate and separate financial statement, respectively).

26. Long-term loans from financial institutions

Consisted of:

(Unit : Baht)

	Consolidated	
	2016	2015
Long-term loans from financial institutions	7,310,120,604.67	3,065,963,491.95
<u>Less</u> Current portion	(528,346,273.84)	(38,773,475.40)
Net	6,781,774,330.83	3,027,190,016.55

Summary of long-term loans included their interest rate and term payment as follow :-

Credit facility

(Baht million)

Commercial Bank	2016	2015	Period	Interest Rate	Term payment
The 1 st credit facility line	3,730.00	3,730.00	10 years from commercial operation date	1. Bibor + 2.65% per annum for 5 years after the date commenced to commercially sell the electricity. 2. Bibor + 3% per annum after the sixth year onwards	Principal are quarter repayable each issued 39 installment. The repayment of the principal at the rate specified in the contract. The first installment is repayable in February 2017.
The 2 nd credit facility line	48.00	48.00	Mar 2015 - Feb 2022	MLR-1.50% per annum	Principal repayment in monthly total issued in 84 installment in amount of Baht 0.57 million per each installment. The first installment is repayable in March 2015.



Credit facility
(Baht million)

Commercial Bank	2016	2015	Period	Interest Rate	Term payment
The 3 rd credit facility line	4,080.00	4,080.00	Nov 2015 - May 2033	THBFIX 6M +2.70% per annum	Principal are quarter repayable each issued 67 installment. The repayment of the principal at the rate specified in the contract. The first installment is repayable in November 2016.
The 4 th credit facility line	3,389.62 (JPY 11,007.00 million) 235.89 (JPY 766.00 million)	-	Dec 16 - Jun 36	TIBOR 6M + 1.30% per annum	Principal repayment every 6 months issued in 36 installments after Dec 2018.
		-	Dec 16-Mar 19	TIBOR 3M + 0.50% per annum	Borrower shall repay the balance of principal of the consumption Tax Loan as of the time, whichever is earlier, (i) the consumption tax loan interest payment - Date at least 10 bank business days after the refund date and - After the first allocation date which arrives after the refund date or (ii) the consumption tax loan principal final repayment date.

The first credit facility line is pledged by mortgaged register of land plus property of one subsidiary and fixed deposit of such subsidiary, including the transfer of benefits under the insurance policy on the property and also pledged shares of subsidiary holder by the Company including the transferal of the rights of the Power Purchase Agreement to guarantee against credit facility of the subsidiary that received from a commercial bank in amount of Baht 3,730.00 million and USD 81.00 million. The subsidiary has to comply with significant conditions stipulated in the loan contract as shall maintain certain financial ratios as stipulated in the loan contract. As at December 31, 2016, such loan was remained in amount of Baht 2,747.61 million.



The second credit facility line is pledged by machinery and equipment and transfer of the right of the Power Purchase Agreement and leasehold land including land of the Company to guarantee against credit facility of the subsidiary that received from a commercial bank in amount of Baht 48.00 million. Moreover, such loan was guaranteed by Gunkul Engineering Public Co., Ltd. in full the amount of credit line. As at December 31, 2016, such loan was remained in amount of Baht 11.44 million.

The third credit facility line is pledged by mortgaged register of land plus property, machinery and equipment of one subsidiary and fixed deposit of such subsidiary, including the transfer of benefits under the insurance policy on the property and also pledged shares of subsidiary holder by the Company including the transferal of the rights of the Power Purchase Agreement to guarantee against credit facility of the subsidiary that received from a commercial bank in amount of Baht 4,080.00 million. The subsidiary has to comply with significant conditions stipulated in the loan contract as shall maintain certain financial ratios as stipulated in the loan contract. As at December 31, 2016, such loan was remained in amount of Baht 3,997.03 million.

The forth credit facility line is pledged by a mortgage of land and buildings of the subsidiary, contractual rights relating to the project and a pledge of common stock held by the subsidiary. The subsidiary has fulfilled the promise that the company is required to maintain certain financial ratio requirements specified in the contract such loan was remained in amount of Baht 554.05 million.

Obligation under Long-term loans – minimum lease payments as follows :-

(Unit : Baht)

	Consolidated	
	2016	2015
Not later than 1 year	528,346,273.84	38,773,475.40
2 - 5 years	2,205,499,336.08	651,975,850.25
Over 5 years	4,576,274,994.75	2,375,214,166.30
Total	7,310,120,604.67	3,065,963,491.95



27. Employee benefit obligation

Changes in the present value of the employee benefit obligation in case of retirement or termination under the labor law for the year ended December 31, 2016 and 2015 are as follows :

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Opening defined benefit balance	19,200,212.98	14,405,191.00	12,851,220.00	10,136,451.00
Current service cost	2,849,143.29	2,431,847.98	1,891,323.00	1,600,730.00
Interest cost	592,246.00	517,890.00	394,237.00	346,621.00
Actuarial gains and losses arising from change in demographic assumption	-	98,774.00	-	58,832.00
Actuarial gains and losses arising from change in financial assumption	-	1,898,558.00	-	1,172,334.00
Actuarial gains and losses arising from change in experience adjustment	-	1,511,354.00	-	1,199,654.00
Benefit paid	-	(1,663,402.00)	-	(1,663,402.00)
Closing defined benefit balance	22,641,602.27	19,200,212.98	15,136,780.00	12,851,220.00

Principal actuarial assumptions as at December 31, 2016 and 2015 are as follows :

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Discount rate at end of year	3.2%	3.2%	3.2%	3.2%
Future salary growth	4.0%-8.0%	4.0%-8.0%	4.0%-8.0%	4.0%-8.0%
Proportion of employees opting for early retirement	0.0%-30.0%	0.0%-30.0%	0.0%-30.0%	0.0%-30.0%

As at December 31, 2016 and 2015, changes in the actuarial assumption will affect to the employee benefit obligation as follows :



(Unit : Baht)

	Consolidated		Separate financial statement	
	Employee benefit obligation Increase (decrease)			
	2016	2015	2016	2015
If the discount rate increase 1.00%	(1,610,728.00)	(1,486,777.00)	(997,588.00)	(925,823.00)
If the discount rate decrease 1.00%	1,822,079.00	1,686,154.00	1,121,058.00	1,042,623.00
If the future salary growth increase 1.00%	2,195,047.00	1,820,333.00	1,369,975.00	1,134,066.00
If the future salary growth decrease 1.00%	(1,961,863.00)	(1,631,721.00)	(1,232,659.00)	(1,023,679.00)
If the proportion of employees opting for early retirement increase 20%	(3,062,624.00)	(2,533,264.00)	(1,815,388.00)	(1,486,470.00)
If the proportion of employees opting for early retirement decrease 20%	4,088,217.00	3,356,960.00	2,378,864.00	1,929,322.00

The Group expect to pay Baht 0.77 million and Baht 0.60 million of long-term employee benefits during the next year in consolidated and separate financial statement, respectively (2015 : Baht 0.17 million in consolidated and separate financial statement, respectively).

As at December 31, 2016, the weighted average duration of the liabilities for long-term employee benefit of the company and its subsidiaries are 13 years in consolidated and separate financial statement, respectively (2015 : 13 years in consolidated and separate financial statement, respectively)



28. Share capital

The movement of share capital for the year ended December 31, 2016 and 2015 are as follows:

	Number of share (Unit : share)	Amount (Unit : Baht)
Registered share capital (Baht 1.00 per share)		
As at January 1, 2015	879,999,929	879,999,929.00
Reduction of capital during the year	(75,458)	(75,458.00)
Increment of capital during the year	494,981,118	494,981,118.00
As at December 31, 2015	1,374,905,589	1,374,905,589.00
Increment of capital during the year	41,500,000	41,500,000.00
As at April 27, 2016	1,416,405,589	1,416,405,589.00
Convert former par value of Baht 1.00 per share to par value of Baht 0.25 per share on April 27, 2016	5,665,622,356	1,416,405,589.00
Increment of share capital	1,133,123,080	283,280,770.00
As at December 31, 2016	6,798,745,436	1,699,686,359.00

	Number of share (Unit : share)	Amount (Unit : Baht)	Premium on share (Unit : Baht)	Total (Unit : Baht)
Paid-up share capital (Baht 1.00 per share)				
As at January 1, 2015	879,990,265	879,990,265.00	425,120,000.00	1,305,110,265.00
Increase from increment of capital	403,254,951	403,254,951.00	3,849,735,645.00	4,252,990,596.00
Expenses of issuing shares (net of income tax)	-	-	(2,000,000.00)	(2,000,000.00)
As at December 31, 2015	1,283,245,216	1,283,245,216.00	4,272,855,645.00	5,556,100,861.00
Increase from increment of capital	41,500,055	41,500,055.00	906,361,430.00	947,861,485.00
As at April 27, 2016	1,324,745,271	1,324,745,271.00	5,179,217,075.00	6,503,962,346.00
Convert former par value of Baht 1.00 per share to par value of Baht 0.25 per share on April 27, 2016	5,298,981,084	1,324,745,271.00	5,179,217,075.00	6,503,962,346.00
Increase from increment of capital	1,059,794,767	264,948,691.75	-	264,948,691.75
As at December 31, 2016	6,358,775,851	1,589,693,962.75	5,179,217,075.00	6,768,911,037.75



On January 21, 2016, the Extraordinary General Meeting of Shareholder's No.1/2016 has resolved the following details:-

- To approve the increase of the registered capital of the Company to support the issue of new ordinary shares on the Private Placement, therefore, the Company need to registered capital increment by not exceeding 41,500,000 shares at par value of Baht 1.00 per share. and,
- To approved the allotment for increase the registered capital of the Company to support the issue of new ordinary shares on private placement for the Siam Commercial Bank Public Company Limited by not exceeding 41,500,000 shares at par value of Baht 1.00 per share, to approve the offering private placement price at Baht 22.84 per share.

In February 2016, the Company Allotment of 41,500,000 newly issued ordinary shares to the Siam Commercial Bank Public Company Limited at a par value of Baht 1.00 per share, the offering price of Baht 22.84 per share aggregating to total amount of Baht 947,860,000.00.

In April 2016, the Company registered the increment of paid-up shares capital for Baht 55.00 because the warrant holders exercised the right to purchase the common shares at the end of first quarter of 2016 by Baht 1,485.00.

On April 26, 2016, the annual ordinary general meeting of shareholders of 2016 has resolved the following details:-

- Approval to change the par value of the Company's shares from the formerly value of Baht 1.00 per share to be value of Baht 0.25 per share. Thus, the number of Company's registered shares increase from 1,416,405,589 shares to 5,665,622,356 shares and the number of Company's paid-up shares increase from 1,324,745,271 shares to 5,298,981,084 shares. The Company had registered the capital with the Ministry of Commerce on April 27, 2016.
- Approval for right adjustment of warrant (GUNKUL-W) exercise due to the changing the par value of the Company's shares and dividend payment, as follows:

	Currently	Adjustment to
Exercise Price	Baht 27.00 per share	Baht 5.625 per share
Exercise Ratio	1 Unit : 1 Ordinary Share	1 Unit : 4.8 Ordinary Share
Total Units of Warrants	91,660,129 Units	91,660,074 Units
Total Registered Shares for Warrants	91,660,373 shares	439,968,356 Shares



- Approval to increase the Company's registered share capital for supporting the dividend payment and adjusting right of purchasing for the exercise of warrant (GUNKUL-W) by the registered capital after par value adjustment from Baht 1,416,405,589.00 to be the new registered capital Baht 1,699,686,359.00 by issuing the new ordinary shares in the amount of 1,133,123,080 shares at the par value of Baht 0.25 per share.
- Approval to allocate the newly ordinary shares for supporting stock dividend payment in the amount of 1,059,796,216 shares and right adjustment of warrant (GUNKUL-W) exercise in the amount of 73,326,864 shares by the total amount of 1,133,123,080 shares at the par value of Baht 0.25 per share.

Warrant (GUNKUL-W)

In October 1, 2015, the Company disposed warrants of 91,660,129 units (GUNKUL-W) at Baht nil per unit so as to purchase ordinary shares offered to the former shareholders at the ratio of 1 warrant to 2 ordinary shares. The above warrants (GUNKUL-W) offered to purchase to ordinary shares comprise the detail by summation as follows :-

- It is the kind of specifying the names of holders and the holders can be changed.
- The warrants as registered securities in the Securities Exchange of Thailand.
- The age of warrant is 2 years.
- The date the warrants are issued on October 1, 2015.
- The warrants can be exercise is the last business day of each quarter. The right is primarily exercised as of the final business day of December 30, 2015 Moreover, the right is finally exercised on September 29, 2017.
- The rate of warrants right exercise is 1 unit per 4.8 ordinary share. (par value is Baht 1 per share) (Previous : 1 unit : 1 ordinary share)
- The exercised price is Baht 5.625 per share. (Previous : Baht 27.00 per share)

As at December 31, 2016, the remaining warrants (GUNKUL-W) not yet exercised are 91,660,074 units.

The capital management

The Group constitutes purpose with respect to capital management in order to remain for ability in the continued operation and ability to appropriately provide remuneration to various group of participating interest while the Group will maintain capital in the level with the least risk.



In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt obligations.

29. Legal reserve

Under the provisions of the Public Company Limited Act B.E. 2535, the Company is required to set aside as a legal reserve at least 5% of its net profit after accumulated deficit brought forward (if any) until the reserve is not less than 10% of the registered capital. This reserve is not available for dividend distribution.

On April 26, 2016, the annual ordinary general meeting of shareholders of 2016 has resolved to allocate the net profit of 2015 operating result under the corporate income tax rate of 20 percent to be legal reserve increasing by Baht 13.00 million.

As at December 31, 2016, the Company has appropriated net income in total amount of Baht 30.00 million to the legal reserve (2015 : Baht 41.00 million).

30. Income tax expense

The income tax expenses recognized in profit or loss for the year ended December 31, 2016 and 2015, are as follow :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Current tax expense	66,555,035.64	115,093,525.31	28,233,041.06	53,665,650.44
Deferred tax expense relating to the origination and reversal of temporary differences	(25,175,616.94)	19,876,041.47	(1,607,835.68)	15,328,434.34
Income tax expense	41,379,418.70	134,969,566.78	26,625,205.38	68,994,084.78



The relationship between tax expense and accounting profit for the year ended December 31, 2016 and 2015, are as follow :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Accounting profit	656,749,556.38	808,537,299.61	361,606,076.95	730,496,541.54
Tax rate used	20%	20%	20%	20%
Tax at the applicable tax rate	131,349,911.28	161,707,459.92	72,321,215.39	146,099,308.31
Temporary difference not recognized as a deferred tax asset	1,361,981.53	56,837.26	-	-
Effect of loss that is exempt from taxation	30,798,523.35	25,282,628.52	-	-
Effect of income that are exempt from taxable	(130,178,247.52)	(62,543,801.86)	(46,525,780.64)	(78,037,778.74)
Effect of expenses that are not deductible in determining taxation profit	20,003,754.20	11,484,827.61	914,432.32	1,302,702.37
Effect of profit that is exempt from taxation	-	(1,028,022.71)	-	-
Effect of expenses that are deductible in determining taxation profit	(11,509,819.10)	(391,490.59)	(84,661.69)	(370,147.16)
Difference tax rate of subsidiaries in foreign countries	(446,685.04)	401,128.63	-	-
Income tax expense	41,379,418.70	134,969,566.78	26,625,205.38	68,994,084.78

	2016	2015
Tax rate		
- The Company and subsidiaries		
- Profit of non-BOI business	20%	20%
- Profit of BOI business		
- Exemption from taxation	-	-
- Reduction of tax	10%	10%
- Subsidiaries in aboard	15%-28.85%	15%-28.85%



The income tax expenses recognized in shareholders' equity for the year ended December 31, 2016 and 2015, are as follow:-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Current tax expense				
Expenses of issuing shares	-	(500,000.00)	-	(500,000.00)
Total income tax expense recognized in profit or loss	-	(500,000.00)	-	(500,000.00)

31. Earnings per share

Basic earnings per share are calculated by dividing the net profit attributable to shareholders by the weighted average number of ordinary shares in issue during the year.

Diluted earnings per share is calculated by the sum of the weighted average number of ordinary shares in issue during the period and the weighted average number of ordinary shares which would need to be issued to convert all dilutive potential ordinary shares into ordinary shares. By supposition that if taking money received from right exercise from such warrants to purchase ordinary shares back in the market price of diluted equivalent ordinary shares; for example, warrants to purchase ordinary shares in the case that prices according to the rights of warrants constitute value lower than market price.

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Basic earnings per share (Baht)				
Net profit attributable to shareholders ('000 Baht)	537,717	685,137	334,981	661,502
Weighted average number of paid-up ordinary share issue during the year ('000 shares)	6,328,484	5,459,493	6,328,484	5,459,493
Basic earnings per share (Baht)	0.08	0.13	0.05	0.12
Diluted earnings per share (Baht)				
Effect of dilutive potential ordinary share ('000 shares)	1,947	-	1,947	-
Weighted average number of ordinary share for diluted earnings per share ('000 shares)	6,330,431	5,459,493	6,330,431	5,459,493
Diluted earnings per share (Baht)	0.08	0.13	0.05	0.12



As at December 31, 2015, the Company did not include ordinary shares derived from warrants to purchase ordinary shares as diluted equivalent ordinary shares in the computation of diluted earnings per share since exercised price obtains the value higher than market price of ordinary shares.

The weighted average number of ordinary shares outstanding for the year ended December 31, 2016 and 2015 included the change of par value of the Company's shares from Baht 1 per share to be Baht 0.25 per share, which was approved at the annual shareholders' meeting for the year 2016 held on April 26, 2016 to comply with the TAS No. 33 Earnings per Share (revised 2015).

32. Dividend

On April 26, 2016, the annual ordinary general meeting of shareholders of 2016 has resolved to pay dividend to the Company's shareholders from the Company's net profit of 2015 operating result under tax rate of 20 percent by paying from the total comprehensive income deducting by the legal reserve. The dividend is to be paid as stock dividend in the number of 1,059,796,216 ordinary shares, with par value of Baht 0.25 each, at a ratio of 5 existing ordinary shares to receive stock dividend of 1 share, with a total amount of not exceed Baht 264,949,054.00, or equivalent to the dividend of Baht 0.05 per share. In the case of any shareholder with a fraction of the shares after the stock dividend distribution, will be entitled to receive cash dividend at the rate of Baht 0.05 per share. In addition the Company will pay a cash dividend at Baht 0.0625 per share, or equivalent to amount of not exceed Baht 331,186,317.75. Total annual dividend payment in form of cash and stock dividend equal to Baht 0.1125 per share, equivalent to amount of not exceed Baht 596,135,371.75. The Company paid such dividend in May 2016 (2015 : stock and cash dividend in the amount of Baht 244,567,662.65).



33. Supplemental disclosures of cash flow information

33.1 Cash and cash equivalents consist of :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Cash on hand and tax coupon	952,179.44	837,091.39	335,087.81	370,101.79
Cash deposits-saving accounts	1,869,151,183.26	1,567,250,926.05	447,579,011.40	656,175,798.86
Cash deposits-current accounts	98,049,982.26	328,515,012.46	96,004,056.83	337,419,691.12
Fixed deposits not exceeding 3 months	82,594.92	61,523.26	24,944.38	24,722.76
Bill of exchange not exceeding 3 months	500,000,000.00	1,600,000,000.00	500,000,000.00	1,600,000,000.00
Total	2,468,235,939.88	3,496,664,553.16	1,043,943,100.42	2,593,990,314.53

33.2 Non-cash items are as follows :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Purchase property, plant and equipment but not yet paid	745,730,428.38	1,006,178,492.05	16,474.12	533,985.86
Purchase assets under lease contracts	-	43,527,916.62	-	28,245,925.98
Borrowing costs recognized as property, plant and equipment.	13,149,030.81	9,043,624.12	-	-
Accrued dividend payables	42,193.72	25,348.55	42,193.72	25,348.55
Stock dividend	306,448,746.75	219,934,206.00	306,448,746.75	219,934,206.00
Acquisition of investments in subsidiaries but not yet paid	-	-	-	216,000,000.00
Provision for decommissioning cost	3,605,181.25	1,465,939.16	-	-
Financial cost and front end fee that capitalized as asset	26,366,659.82	-	-	-
Purchase intangible assets but not yet paid	20,972,120.38	-	-	-
Transfer payable for purchase shares of subsidiary to payable for purchase of assets	-	341,991,125.00	-	-
Conversion loan to investment	-	-	658,860,898.78	-



33.3 Losing control of subsidiary

The Company sold Gunkul and UCI Power Co., Ltd. to shareholder which has with non-controlling interests. The information on losing control of subsidiary is as follow :-

(Unit : Baht)

Cash and cash equivalent	2,330,524.22
Other receivable	256.97
Other payable	(6,450.00)
Non-controlling interest	(581,082.80)
Net assets	1,743,248.39
Gain from disposal of investment in subsidiary	131,726.61
Consideration received by cash	1,874,975.00

34. Employee benefit

34.1 Provident fund

For the year ended December 31, 2016, the Group recognizes as the employee benefit expense for the payment of contribution into the provident fund at the amount of Baht 8.26 million and Baht 6.45 million in consolidated and separate financial statement, respectively (2015 : Baht 5.82 million and Baht 4.18 million in consolidated and separate financial statement, respectively).



34.2 Retirement employee benefit

For the year ended December 31, 2016 and 2015, the Group recognizes the employee benefit expense in case of retirement or termination under the labor law, as follows :

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Amounts recognized in profit or loss				
Current service cost	2,849,143.29	2,431,847.98	1,891,323.00	1,600,730.00
Interest cost	592,246.00	517,890.00	394,237.00	346,621.00
Total amounts recognized in profit or loss	3,441,389.29	2,949,737.98	2,285,560.00	1,947,351.00
Amounts recognized in other comprehensive income				
Actuarial gains and losses arising from change in demographic assumption	-	98,774.00	-	58,832.00
Actuarial gains and losses arising from change in financial assumption	-	1,898,558.00	-	1,172,334.00
Actuarial gains and losses arising from change in experience adjustment	-	1,511,354.00	-	1,199,654.00
Total amounts recognized in other comprehensive income	-	3,508,686.00	-	2,430,820.00
Total	3,441,389.29	6,458,423.98	2,285,560.00	4,378,171.00

An item of the employee benefit expense in case of retirement or termination under the labor law for the year ended December 31, 2016 and 2015 are inclusively presented in the line items, as follows :

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Construction in progress	5,578.29	1,978.00	-	-
Cost of sales	632,462.00	549,454.00	-	-
Cost of service	-	4,381.00	-	-
Administrative expenses	1,483,126.00	1,265,893.98	1,064,355.00	908,218.00
Management benefit expenses	1,320,223.00	1,128,031.00	1,221,205.00	1,039,133.00
Total	3,441,389.29	2,949,737.98	2,285,560.00	1,947,351.00



35. Expenses by nature

The following expenditure items of expense have been classified by nature :

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Change in finished goods and work in process	(10,387,831.04)	(15,100,589.08)	20,502,124.86	22,216,372.57
Purchased finished goods	420,634,435.87	2,833,074,538.64	809,010,102.27	2,379,842,316.31
Cost of construction services	834,486,108.87	448,182,827.81	413,122,247.92	326,915,705.50
Cost of operation and maintenance services	127,646,553.91	36,388,863.20	39,899,740.96	33,850,098.66
Raw material and supplied used	309,421,806.58	274,413,654.34	-	-
Management benefit expenses	88,773,998.54	69,976,259.95	76,660,623.07	60,414,338.46
Employee benefit	224,055,884.05	176,700,034.36	117,345,784.31	83,085,400.65
Depreciation and amortization expenses	276,340,009.58	36,309,608.87	11,906,989.09	9,604,841.67
Loss for diminution of inventories (Reversal)	(3,743,434.60)	(19,084,068.54)	(5,094,842.64)	(16,363,941.22)
Transportation expense	8,159,712.67	10,053,266.79	4,326,127.44	5,674,719.91
Project consultant fee and other fee	120,682,497.30	144,208,657.15	44,517,753.29	63,273,342.65

36. Operating segments

The Group identified the operating segments on the basis of internal reports that are regularly reviewed by the Group's chief operating decision maker in order to allocate resources to the segment and assess its performance and shall discloses the amount reported for each operating segment item to be the measure reported to the Group's chief operating decision maker for the purpose of allocating resources to the segment and assessing its performance.

The Group classifies the operating segment in the form of type of business operated. The Group has four operating segments which are consists of the manufacturing and distributions of electrical hardware segment, the generating and selling electricity segment, the construction service segment and the operation and maintenance service segment.

The Group measures the profit or loss for each segment from the gross profit excluding the items of other income, interest revenue, gain or loss on exchange rate, other central expenses, finance cost and share of profit or loss in associates and joint ventures.



The segment operation for the year ended December 31, 2016 and 2015 are as follows :-

(Unit: Million Baht)

	Consolidated									
	Manufacturing and distribution of electrical hardware		Generating and selling electricity		Construction service		Maintenance service		Total	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Net outsider sales	1,351.39	3,772.26	867.93	51.16	909.50	566.76	80.07	70.12	3,208.89	4,460.30
Gross profit	425.19	850.78	585.94	31.98	75.02	118.58	28.53	33.73	1,114.68	1,035.07
Other income									25.73	22.13
Interest income									84.22	29.66
Benefit from machinery for investment in advance									47.98	64.60
Gain (loss) on exchange rate									(24.34)	14.00
Selling expenses									(40.80)	(51.72)
Administrative expenses									(492.74)	(469.31)
Finance cost									(329.80)	(115.89)
Share of profit from investments in associates and joint ventures									271.82	280.00
Net profit before income tax									656.75	808.54





The reconciliations of each segment to the Group's other material items.

(Unit: Million Baht)

	Consolidated									
	Manufacturing		Generating and selling				Central		Total	
	and distribution									
	of electrical hardware		electricity		Construction service					
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Depreciation	11.93	10.58	222.24	17.02	0.38	0.10	12.16	7.39	246.71	35.09
Amortization	0.09	0.13	17.56	1.00	0.08	-	0.10	0.09	17.83	1.22

The Group has the revenue from sale of goods to 2 major customers (2015 : 1 major customers) earned by manufacturing and distribution of electrical hardware segment, generating and selling electricity segment and construction service segment in the amount of Baht 2,308.46 million. (2015 : Baht 2,003.19 million).

37. Financial instruments

The principal financial risks faced by the Group are interest rate risk, credit risk and foreign currency. The Group did not speculate in or engage in trading of any derivative financial instruments.

37.1 Risks from Interest Rates

Risk from interest rates is derived from fluctuation of market interest rate in the future which affect upon operating result and cash flow. Risk from interest rates remains due to bank deposit, loans to related parties, credit facilities owing to the commercial bank and related parties. Due to the fact that such financial assets and liabilities constitute interest rates which are always closed to market interest rate; as a result, the Group anticipates of non material risk from interest rates.

	Consolidated			
	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Saving accounts	1,869.15	1,641.38	0.1000-0.4000	0.1840-0.4000
Fixed deposits	0.08	0.06	0.8500-1.1000	0.5000-1.0000
Bill of exchange	500.00	1,600.00	1.4500-9.0000	1.5000
Current investments	964.36	367.23	4.9000-6.5000	4.0000-5.3000
Deposits pledged as collateral	47.01	216.75	0.3750-2.7500	0.1000-3.7500
Short-term loan from finance institution	3,980.80	3,875.61	2.5500-3.7267	2.0000-3.4300
Long-term loan from finance institution	7,310.12	3,065.96	3.44132-4.77500	4.27485-5.02500
Debenture	2,080.00	300.00	3.3700-3.6000	3.6000
Obligation under finance lease	42.11	57.61	1.59161-16.4440	1.5920-16.4440



	Separate financial statements			
	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Saving accounts	447.58	656.18	0.3700-0.3750	0.3700-0.3750
Fixed deposits	0.02	0.02	0.8500	0.8500
Bill of exchange	500.00	1,600.00	1.4500	1.5000
Current investments	949.67	367.23	4.9000-9.0000	4.0000-5.3000
Deposits pledged as collateral	45.57	195.40	0.3750	0.37500
Short-term loan to subsidiary	557.33	457.00	2.65-5.00	3.1000-4.7000
Short-term loan from finance institution	3,915.04	3,656.88	2.5500-3.0744	2.3000-3.4300
Debenture	2,080.00	300.00	3.3700-3.6000	3.6000
Obligation under finance lease	29.22	40.30	1.59161-16.4444	2.27477-12.00654

37.2 Credit risk

The Group does not expose the risk from credit provision in connection to trade receivable most from the sale of goods whose capability is good at debt repayment. The Group has dealt with these clients for a long time therefore, it is anticipated of non risk derived from non-payment of those trade receivable. Moreover, the Group has no significant concentrations of credit risks.

37.3 Foreign currency risk

The Group constitutes material risk from exchange rates in oversea currencies which has been cash at bank, trade receivable, trade payable and trust receipt that are foreign currency. The management has managed risk from exchange rates by performing the forward foreign currencies contract dependent on each case.

As at December 31, 2016 and 2015, the significant outstanding balances of the Group's financial assets and liabilities denominated in foreign currencies are as follow:



Foreign currency	As at December 31, 2016			
	Consolidated		Separated financial statement	
	Assets	Liabilities	Assets	Liabilities
USD	3,522,162.01	18,057,899.23	3,522,162.01	2,793,571.39
EURO	3,257.93	11,367.17	3,182.64	270.17
JPY	833,929,795.00	345,070.00	833,929,795.00	345,070.00

Foreign currency	As at December 31, 2015			
	Consolidated		Separated financial statement	
	Assets	Liabilities	Assets	Liabilities
USD	1,319,860.70	9,133,036.68	1,319,860.70	1,598,620.58
EURO	3,254.22	46,155.05	3,178.93	854.86
AUD	-	2,210.00	-	-
JPY	-	2,513,064.00	-	2,513,064.00

37.4 Fair value

The carrying amounts of the following financial assets and liabilities approximate to their fair values : cash and cash equivalent, short-term investments, trade receivable and payable, other receivable and payable, loans to and loan from related parties due to the short maturity period.

38. Fair value Measurement

TFRS No.13 "Fair Value Measurement (revised 2015)" defines fair value as 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 regardless of whether that price is directly observable or estimated using another valuation technique.

The TFRS requires the Group shall disclose about fair value measurement for financial asset and liability in which the other related TFRSs requires or permits fair value measurement or disclosure about fair value.

The TFRS establishes a fair value hierarchy that categorizes into three levels the inputs to valuation techniques used to measure fair value, as follows



Level 1 : The inputs are quoted prices in active markets for identical assets or liabilities that the Group can access at the measurement date.

Level 2 : The inputs are observable inputs for the asset or liability, either directly or indirectly.

Level 3 : The inputs are unobservable inputs for the asset or liability.

Information on assets and liabilities of the Group not measured the fair value in the statement of financial position as at December 31, 2016 and 2015, as described in notes to financial statement no.18, no.40.18, no.40.19 and additional as follows :

(Unit: Million Baht)

Assets and liabilities	2016		2015		Fair value hierarchy	Valuations techniques
	Book value	Fair value	Book value	Fair value		
Interest rate swap as liabilities (Note 40.18)	-	116.29	-	121.75	Level 2	Present value of forecast cash flow in the future based on the Yields Curve observed.

Foreign currency option as liabilities (Note 40.19)

(Unit: Million Baht)

Assets and liabilities	2016		2015		Fair value hierarchy	Valuations techniques
	Book value	Fair value	Book value	Fair value		
Foreign currency option as liabilities (Note 40.19)	-	33.37	-	-	Level 2	Present value of forecast cash flow in the future based on the Yields Curve observed.



Information on assets and liabilities of the Group measured the fair value in the statement of financial position as at December 31, 2016 and 2015, are as follows:

(Unit: Million Baht)

Assets and liabilities	Fair value		Fair value hierarchy	Valuation techniques	The inputs used in the fair value measurement categorized within Level 2 and Level 3
	2016	2015			
Foreign currency forward contract as assets (Note 40.20)	6.68	33.33	Level 2	Discount cash flow	Foreign currency exchange rate observed at the end of the reporting period with the resulting value discounted back to present value.

For the year ended December 31, 2016, there is no the transfer of any amount between level 1 and level 2 of the fair value hierarchy.



[illegible]



Details												
3.3 Exemption of income tax on dividends paid from the profit of the promoted operation over the above corporate income tax exemption period.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.4 An allowance of fifty percent of the normal rate of corporate income tax on net profit for a period of five years after the expiry date of the corporate income tax exemption period as described in 3.1) above.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	-	-	-	-
3.5 Permission to deduct double the cost of transportation, electricity and water supply for corporate income tax purpose for a period of ten years commencing from the date of earning operating income.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	-	-	-	-



Details													
3.6 Permission to deduct the cost of installation or construction of public utilities at the rate of twenty-five percent in addition to normal depreciation charges.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	-	-	-	-
3.7 Have been granted authorization for export of foreign currencies.	Granted	Granted	Granted	Granted	Granted	Granted	-	-	-	-	-	-	-
4. Date of first earning operating income	March 17, 2016	March 17, 2016	December 29, 2016	Not started to used yet	Not started to used yet	November 19, 2013	July 15, 2015	September 2, 2014	September 3, 2014	June 30, 2015	June 30, 2015	Not started to used yet	Not started to used yet
5. Date of expired privileges	March 16, 2024	March 16, 2024	December 28, 2024	Not started to used yet	Not started to used yet	November 18, 2021	July 14, 2022	September 1, 2022	September 2, 2022	June 29, 2023	June 29, 2023	Not started to used yet	Not started to used yet



Details											
1. Promotion certificate No.	1793(2)/2558	1794(2)/2558	1795(2)/2558	1796(2)/2558	1797(2)/2558	1798(2)/2558	1799(2)/2558	1800(2)/2558	1801(2)/2558	1802(2)/2558	1803(2)/2558
2. Promotional privileges for	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy
3. Significant privileges include:											
3.1 Exemption of corporate income tax on net profit for 8 years. In cases where the business incurs a loss during that period of exemption, the loss incurred in such period can be taken as a deduction from net profit of the years after the period of exemption, not exceeding five years.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.2 Exemption of import duty on machinery as approved by the Board	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.3 Exemption of income tax on dividends paid from the profit of the promoted operation over the above corporate income tax exemption period.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
4. Date of first earning operating income	December 28, 2015	December 24, 2015	December 16, 2015	December 21, 2015	December 29, 2015	May 17, 2016	December 21, 2015	December 21, 2015	December 26, 2015	December 29, 2015	December 16, 2015
5. Date of expired privileges	December 27, 2023	December 23, 2023	December 15, 2023	December 20, 2023	December 28, 2023	May 16, 2024	December 20, 2023	December 20, 2023	December 25, 2023	December 28, 2023	December 15, 2023

40. Commitments and contingent liabilities

- 40.1 As at December 31, 2016, the Group has commitments relating to letters of credit which has been withdrawn in amount of USD 8.08 million (2015 : USD 1.19 million).
- 40.2 As at December 31, 2016, the Group constitutes contingent liability from issuance of guarantee letter of the bank by amount of Baht 1,051.95 million and amount of USD 0.76 million (2015 : amount of Baht 761.26 million, amount of USD 2.04 million and amount of EURO 0.15 million).
- 40.3 As at December 31, 2016, one subsidiary constitutes obligation commitment in mold contract against various company by amount of Baht 0.24 million (2015 : Baht 0.55 million).
- 40.4 As at December 31, 2016 and 2015, subsidiaries entered into the Power Purchase Agreement with Provincial Electricity Authority ("PEA"), Electricity Generating Authority of Thailand ("EGAT") and Metropolitan Electricity Authority("MEA") are as follow :-

<u>Agreement date</u>	<u>Power electricity size</u>	<u>Term</u>
November 23, 2011	50.00 Megawatts	5 years/renew automatically 5 years
July 10, 2012	8.00 Megawatts	5 years/renew automatically 5 years
July 10, 2012	2.00 Megawatts	5 years/renew automatically 5 years
August 1, 2012	0.94 Megawatts	5 years/renew automatically 5 years
November 1, 2013	22.40 Kilowatts	25 years
November 1, 2013	241.92 Kilowatts	25 years
November 1, 2013	499.20 Kilowatts	25 years
November 8, 2013	873.60 Kilowatts	25 years
November 29, 2013	538.56 Kilowatts	25 years
December 17, 2013	60.00 Megawatts	5 years/renew automatically 5 years
December 24, 2014	50.00 Megawatts	5 years/renew automatically 5 years
June 24, 2015	8.00 Megawatts	25 years
June 24, 2015	8.00 Megawatts	25 years
June 24, 2015	8.00 Megawatts	25 years
June 24, 2015	8.00 Megawatts	25 years
June 24, 2015	8.00 Megawatts	25 years
June 24, 2015	8.00 Megawatts	25 years
June 24, 2015	8.00 Megawatts	25 years



June 24, 2015	8.00 Megawatts	25 years
June 25, 2015	8.00 Megawatts	25 years
June 25, 2015	8.00 Megawatts	25 years
June 24, 2015	7.00 Megawatts	25 years
August 23, 2016	5.00 Megawatts	25 years

- 40.5 The Group was committed the consultant fee to prepare environmental impact reports, consultant fee of project development and engineering feasibility studies. As at December 31, 2016, the Group had outstanding commitments being amount of Baht 34.16 million, USD 6,000 and JPY 1,051.70 million (2015 : Baht 18.83 million and AUD 6,035.00 and USD 658,255.20 and JPY 4.00 million).
- 40.6 As at December 31, 2016, the Group has entered into lease and service agreements with the third party. The Group is committed to pay for the rental in amount of Baht 416.67-927,500.00 per month and JPY 547,680 per month (2015 : Baht 6,000.00-805,000.00 per month).
- 40.7 The Group has obligation commitment in operation and maintenance service of power plant contract in 6 contracts(2015 : 5 contracts) in amount of Baht 65.58 million and EUR 12.00 million and JPY 2,189.24 million (2015 : Baht 65.64 million). As at December 31, 2016, the Group outstanding obligation remains at Baht 8.47 million and EUR 12.00 million and JPY 2,189.24 (2015 : Baht 21.63 million).
- 40.8 One subsidiary has performed the land rental agreement for transmission line pole installment with the third party in 1 contact for the period 25 years. As at December 31, 2016, such subsidiary outstanding obligation remains at Baht 0.22 million (2015 : Baht 0.22 million).
- 40.9 The Group constitutes obligation commitment of area compensation for generate electricity with third party in 6 contracts which has the value in amount is Baht 9.71 million (2015 : Baht 9.71 million). As at December 31, 2016, such subsidiary outstanding obligation remains at Baht 9.32 million (2015 : Baht 9.32 million).
- 40.10 The Group has performed the land rental agreement for wind turbine and related equipment installment in 106 contracts (2015 : 62 Contract) for the period 3-28 years. As at December 31, 2016, such subsidiaries outstanding obligation remains at Baht 136.23 million (2015 : Baht 61.97 million).



- 40.11 As at December 31, 2016 and 2015, the Group constitutes obligation commitment of power plant from the solar energy and wind energy agreement and service are as follows :-

(Unit : Baht)

	Consolidated		Separate financial statement	
	2016	2015	2016	2015
Total value of construction agreements	2,878,577,944.58	1,647,174,324.90	726,000,000.00	1,153,136,781.63
Total revenue from construction	(1,349,340,593.60)	(777,765,241.29)	(713,705,812.00)	(488,571,310.42)
Balance	1,529,237,350.98	869,409,083.61	12,294,188.00	664,565,471.21

- 40.12 The Group was committed the construction services of power plant and the design and construction of electrical systems with third parties at Baht 207.38 million and USD 318.25 million and JPY 21,520.38 million (2015: Baht 2,731.40 million and USD 110.15 million). As at December 31, 2016, the Group had outstanding commitments being amount of Baht 58.27 million and USD 212.33 million and JPY 17,353.98 million (2015 : Baht 17.66 million and USD 88.12 million and JPY 372.21 million).
- 40.13 On September 18, 2014, the Company has signed of Memorandum of Understanding ("MOU") for joining Solar Roof business with East Coast Furnitech Public Company Limited ("ECF") and establish a joint venture company with respect to potential project co-development. The company has proportion in investment of 25.01% and ECF has proportion in investment of 74.99%.
- 40.14 The Group has performed the contract of rooftop rental in 3 contracts with third parties for the period 25 years by having contract value equal to Baht 45.87 million. As at December 31, 2016, such subsidiaries outstanding remains at Baht 44.77 million (2015 : Baht 44.79 million).
- 40.15 The Group has performed the contract of land purchase in 2 contracts with third parties in amount of Baht 45.00 million and JPY 2,390 million. As at December 31, 2016, such subsidiaries outstanding remains at Baht 44.00 million and JPY 300.00 million.
- 40.16 The Group has obtained a permit for national reserved forest's land usage for wind farm operation on the area of 57 Rai of land. The permit for the land usage right has been issued for the period of 25 years.



- 40.17 The Group has signed the Memorandum of Understanding with the Cooperative Production of Organic Fertilizers, Samutsakhorn to agree developing a solar power plant in the purpose of supplying to the Provincial Electrical Authority.
- 40.18 The Group had performed to interest rate swap agreement for loan from financial institution from the floating rate THB BIBOR 3M +2.65 per annum to the fixed rate 5.80% per annum. The term of payment is every 3 months start from May 18, 2015 to April 30, 2021.
- 40.19 The Group has performed the selling foreign exchange option contract in amount of USD 125.00 million, which holds the contract life not exceeding one year
- 40.20 The Group has performed the forward foreign currencies contract in amount of USD 15.72 million (2015 : USD 92.44 million) which holds the contract life not exceeding one year
- 40.21 The Group has performed the land rental agreement for power plant in 2 contracts with the third party for the period 25 years in amount of JPY 957.17 million. As at December 31, 2016, such subsidiary outstanding obligation remains at JPY 914.10 million. (2015 : JPY 591.40 million).
- 40.22 As at December 31, 2016, the Group entered into a loan agreement with a commercial bank in credit facility line Baht 4,522.00 million for the construction of wind power plants. During the period, the Company paid front-end fee in amount of Baht 35.92 million.

41. Reclassification of accounting transactions

Some transactions in consolidated and separate financial statements for the year ended December 31, 2015 are newly reclassified so as to comply with reflection in the consolidated and separate financial statements for the year ended December 31, 2016 which can be summarized as follows:



(Unit : Baht)

Transactions which formerly	Reclassified	As at December 31, 2015	
		Statements of financial position	
		Consolidated	Separate financial statements
Cash and cash equivalent	Bank deposits pledged as collateral	74,125,428.07	-
Construction in progress	Inventories	2,181,120.75	-

(Unit : Baht)

Transactions which formerly	Reclassified	For the year ended December 31, 2015	
		Statements of comprehensive income	
		Consolidated	Separate financial statements
Administrative expenses	Cost of sales	15,704,125.63	15,704,125.63
Administrative expenses	Selling expenses	11,357,677.09	11,357,677.09

42. Events after the reporting period

- 42.1 On January 9, 2017, one subsidiary has been affected by the flooding solar power plant Ang Thong 1 and Ang Thong 3 projects. Management has assessed the damage suffered about Baht 100.00 million. Management believes that any losses arising as a consequence of the flooding will be recovered from insurance. These financial statements do not include any adjustments.
- 42.2 On February 22, 2017, board of director meeting 1/2017 has resolved to approve on issuance and offering of the debenture by increasing credit line of Baht 3,000.00 million by the previous credit line of not exceeding Baht 6,000.00 million to be not exceeding Baht 9,000.00 million, not exceeding 7 years.
- 42.3 The Board of Directors' Meeting with held on February 27, 2017, has the following resolutions
- To allocate the net profit of 2014 operating result with the corporate income tax rate of 20 percent for stock dividend by issuing the newly ordinary shares at the par value of THB 0.25 to the Company's existing shareholders at the ratio of 6 existing ordinary shares to receive stock dividend of 1 share, or equivalent to the dividend of THB 0.0417 per



share. In case of any shareholder with a fraction of the shares after the stock dividend distribution, will be entitled to receive cash dividend at the rate of THB 0.0417 per share, and allocate the net profit of 2016 operating result with the corporate income tax rate of 20 percent for cash dividend payment at the rate of THB 0.04 per share. For conclusion, the total dividend payment in form of stock dividend and cash dividend at the rate of THB 0.0817 per share.

- To adjust the right of Warrant (GUNKUL-W) exercise due to dividend payment which impact to the right and cost of warrant exercise as details:

	Currently	Adjustment to
Exercise Price	THB 5.625 per share	THB 4.821 per share
Exercise Ratio	1 Unit : 4.8 Ordinary Share	1 Unit : 5.6 Ordinary Share
Total Units of Warrant	91,660,074 Units	91,660,074 Units
Total Registered Shares for Warrant	439,968,136 shares	513,296,415 shares

By increasing the registered ordinary share for supporting the right adjustment of GUNKUL-W in the amount of 73,328,279 shares, therefore, the total amount for right of warrant will be increased from 439,968,136 shares to be 513,296,415 shares

- Approval to propose to shareholders meeting to pay annual dividends to the Company's shareholders from the Company's operating result of 2016. The dividend is to be pay a cash dividend at Baht 0.043 per share, or equivalent to amount of not exceed Baht 273.43 million.
- Approval to reduce in the Company's registered capital by cancelling 1,449 of the ordinary shares that were unable to be allocated as stock dividend.
- Approval to increase of the Company's registered share capital from Baht 1,699,686,359.00 to Baht 1,982,967,422.50 by issuing new 1,133,124,254 ordinary shares with a par value of Baht 0.25 each. The objective of the capital increase is to reserve shares for stock dividend payment.

43. Approval of financial statements

These consolidated and separated financial statements were authorized for issue by the Company's board of directors on February 27, 2017.



Part 2:

Corporate Social Responsibility Report 2016

1. **Policy in Corporate Social Responsibility for Sustainability Management**
2. **Business Operations with Stakeholders and Sustainable Management**
 - Employees
 - Business Partners
 - Clients
 - Competitors
 - Creditors
 - Community / Society
 - Shareholders and Investors
 - Press
 - Government Agencies
3. **Report Preparation**
 - 3.1 Scope of Report
 - 3.2 Materiality Effects to Business Sustainability
4. **Human Resources Development: Enhancing “Smart People”**
 - 4.1 Personnel Development to Support Business Growth
 - 4.2 Capacity Development and Career Advancement
 - 4.3 Promoting Good Practices, Participation and Social Contribution among Employees
5. **“Energy Business”: Alternative Energy Innovation Development**
 - 5.1 Good Corporate Governance Policy
 - 5.2 Being of Fair Enterprise Practices
 - 5.3 Anti-Corruption Practices
 - 5.4 Taxation Procedure
 - 5.5 Risk Management



- 5.6 Labour and Human Rights Practices
 - 5.7 Standards of Safety, Occupational Health and Environment
 - 5.8 Employee Engagement with Welfare and Productivity Enhancement Activities
 - 5.9 Responsibility for Consumers
 - 5.10 Supply Chain Management
 - 5.11 Environmental Management and Energy Conservation
 - 5.12 Innovation in the Business Process for Sustainability
6. **Community and Social Development: Sustainably Creating and Developing Good Things for Society: “Action Social”**
- 6.1 Creating Educational Opportunities for Students from Schools Surrounding Local Communities and Employees' Children
 - 6.2 Providing Financial Support and Improving the Condition of Educational Institutes and Communities
 - 6.3 Preserving Buddhism and Cultural Heritage with the surrounding communities
 - 6.4 Donating Gifts to the Surrounding Communities on National Children's Day
 - 6.5 Opening Renewable Power Plants as a Learning Source for Educational Institutes and Surrounding Communities
 - 6.6 Offering Financial Support to Communities around Renewable (Solar and Wind) Power Plants
 - 6.7 Promotion of Community Participation and Community Income Generation
7. **Achievements**



1. Policy in Corporate Social Responsibility for Sustainability Management

GUNKUL Engineering Public Company Limited (hereinafter referred to as “GUNKUL”), concentrates in reporting the advancement and operations performance which is relevant both directly and indirectly to all groups of stakeholders through the Corporate Social Responsibility or Sustainability Report which was presented on a yearly basis.

The Company strives to well manage the CSR together with its business operations in order to become “Thailand’s leading manufacturer and provider of equipment for electrical systems and energy saving products that meet and satisfy customers’ needs and concurrently maximize stakeholders’ return”. Moreover, the Company is strongly confident that the success in business operations does not derive only from management and human resources development, but along with the appropriate equilibrium in 3 dimensions of CSR which consist of economic, social and environment under the good corporate governance in order to reach the sustainable business operations as well as create a well-being society to Thailand. GUNKUL’s CSR policies and sustainable development are as follows:

1. **Human resources development:** for becoming “Smart People” to enhance career advancement based on professional ethics and caring for environmental safety, sharing work system with skill training and on the job learning so that all employees will be of expected qualification in response to well-balanced stakeholders’ demand with happy living in the society at large.
2. **Business development:** with innovation of alternative power the “Energy Business” is quality products based on good governance to top up existing electrical equipment by alternative energy production from solar and wind energy to enhance environment friendly approaches and trust among stakeholders with required quality and safety standards and reduction of environmental impacts.
3. **Social and community responsibility by “Action Social”:** this is to create good relationship and inter-dependency as being “good neighbor” with the surrounding community while enhancing people participation to follow up any possible apportion impacts toward environment conditions. The Company also focusses on knowledges and experiences sharing among relevant persons and agencies to promote appropriate localized development.



According the Company has communicated this policy to all employees so that they shall strictly follow this rule under supervision of the Executive Committee.

2. Business Operations with Stakeholders and Sustainable Management

The Company believes and respects the rights of persons as prescribed in the provisions of the constitution, relevant laws such as labor laws as well as the Company's ethical handbooks which emphasize in the stakeholders' human rights with basic rights, unbiased and fair treatment. The Company, therefore, complies with these regulations continuously.



The Company conducts sustainable management with recognition of how stakeholders are vital to drive for business prosperity based on our announced vision and mission. We have categorized stakeholders with required participation and balancing economic, social and -environmental factors according to our business goals and direction as follows.



Vision

"Leader of alternative energy production including electrical equipment and energy saving products to enhance maximum satisfaction among clients and stakeholders"

Mission

- | | | |
|---|---|---|
| 1. Alternative Energy Power Plant Project | - | Constructing a standardized and effective renewable energy power plant with great concern to the society and environment. |
| 2. Distribution | - | Providing electrical components and distribution channels with efficient and complete service to customers. |
| 3. Technology | - | Developing and applying new technologies in production process for efficient performance and cost saving. |
| 4. Remuneration | - | Generating the highest returns to shareholders and all parties concerned. |
| 5. Human Resources | - | Developing and increasing employees' capabilities for international competition. |
| 6. Management | - | Organizing management structure to be incorporated with good corporate governance. |

Smart Energy in Action

Smart People

To be smart and good people

Energy Business

To Develop innovation and alternative energy sources

Action Social

To create and develop social responsibility for sustainability

The Company provides various communication channels among each group of stakeholders which shall enable the Company to understand the stakeholders' expectations. Management procedures, communication channels, operational guidelines together with process revision shall be performed continuously in order to fulfill the Company's mission and endure the organizational growth. The Company's stakeholders can be categorized as follows:



Stakeholders	Expectation	Procedure / Communication Channel	Challenge / Guideline
1. Employees	<ul style="list-style-type: none"> ➤ Fair salary and benefit other than stated by the laws ➤ Equal opportunity in competence development ➤ Promote advancement and security ➤ Provide favorable working environment ➤ Fair and equal treatment 	<ul style="list-style-type: none"> ➤ HR Committee Meeting ➤ Welfare Committee ➤ GUNKUL Training Plan ➤ Employee opinion survey ➤ Comments and suggestions channels ➤ Intranet, Line and Announcement Board ➤ Daily Morning Meeting, Walking Public Relations 	<ul style="list-style-type: none"> ➤ Fair treatment by using fair and measurable performance evaluation process ➤ Develop / improve proper benefit arrangement ➤ Concern in human rights, hygienic and safety in workplace ➤ Develop and maintain valuable employees as well as promote employee ethics
2. Business Partners	<ul style="list-style-type: none"> ➤ Reasonable price with price estimation ➤ Fair process in purchasing, requisition and bidding ➤ Instruct and exchange of information, technology and experience ➤ Cooperate in resources management ➤ Respect in rights and intellectual property of concerned parties 	<ul style="list-style-type: none"> ➤ Organize meeting / discussion for mutual agreement and objective ➤ Arrange for expertise and the Company's team to transmit specific business aspect ➤ Visit the business partners to learn about their comments and suggestions 	<ul style="list-style-type: none"> ➤ Treat all business partners fairly and equally ➤ Stand firmly on contract agreements as well as business ethics ➤ Inform business partners of process in payment, purchasing, requisition, selection and appraisal. Arrange audit report, follow up and conclude the results for all parties concerned ➤ Organize strict control system in confidential information to prevent misuse or illegal disclosure



Stakeholders	Expectation	Procedure / Communication Channel	Challenge / Guideline
3. Clients	<ul style="list-style-type: none"> > Quality / standardized products and service with fair and competitive price > Product and service delivery under agreed condition and in timeframe > Offer before sales service such as product usage manual and after sales service as well as other assistance 	<ul style="list-style-type: none"> > Customer satisfaction survey > Customer visit > Create company website www.GUNKUL.com > Comments and Complaints Center > Print necessary information on product label or organize a seminar upon request > Arrange product booth for sales promotion with recommendations 	<ul style="list-style-type: none"> > Offer quality product and service with proper, safety and competitive price > Create guarantee process in all supply chain from raw materials to customer's hand > Inspect and control the production and service process as certified and recommended > Continuously research and develop quality product with competitive price > Well-communicate and strictly comply with agreements signed with customers such as product delivery, service and etc.
4. Competitors	<ul style="list-style-type: none"> > Operate business fairly and ethically > Compete fairly according to the laws 	<ul style="list-style-type: none"> > Open for press and public forum > Join in Central Business Agency 	<ul style="list-style-type: none"> > Treat competitors fairly and legally
5. Creditors	<ul style="list-style-type: none"> > Punctual repayment with agreed interest rate > Arrange proper Risk Management 	<ul style="list-style-type: none"> > Set meeting for mutual agreement 	<ul style="list-style-type: none"> > Set strict debt control with great concern to the Company's reputation
6. Community / Society	<ul style="list-style-type: none"> > Supervise the affect on environment and safety of community > Coordinate in economic, social and environmental development of community > Support the community's activities 	<ul style="list-style-type: none"> > Organize public hearing before the business operations to enhance the community with necessary knowledge and impact together with arranging a community satisfaction survey 	<ul style="list-style-type: none"> > Operate business ethically > Coordinate with the community in education, cultural and local festivals conservation and restoration projects > Follow up and preserve safety and quality of environment



Stakeholders	Expectation	Procedure / Communication Channel	Challenge / Guideline
		<ul style="list-style-type: none"> > Listen to comments, suggestions and complaints > Continuously support the community's activities > Cooperate with the government sectors in complying with all rules, regulations and public benefit activities 	<ul style="list-style-type: none"> > Support employees in sharing their knowledge and capabilities to the community such as being electrical volunteer and joining the community's activities
7. Shareholders and Investors	<ul style="list-style-type: none"> > Remuneration (dividend and capital gain) and company growth > Success business operations > Operate business in accordance with the good corporate governance > Disclose correct, complete and timely information 	<ul style="list-style-type: none"> > Submit quarterly and annual report > Arrange Annual General Meeting / Extraordinary General Meeting of Shareholders > Communicate information and comments through various channels > Appoint Company Secretary and Investor Relations to be the contact center for shareholders and investors > Arrange quarterly Opportunity Day for shareholders and investors at SET > Arrange product booth > Organize visit to alternative energy power plant 	<ul style="list-style-type: none"> > Gain investment returns from transparent operation and continuous business growth > Treat shareholders according to the Company's policies as well as SEC and SET rules and regulations



Stakeholders	Expectation	Procedure / Communication Channel	Challenge / Guideline
8. Press	<ul style="list-style-type: none"> > Receive correct, fair, beneficial and timely information 	<ul style="list-style-type: none"> > Arrange regular communication activities to support the Company's good image by presenting beneficial information through various channels such as press conference, special interview, company visit and press releases > Support press activities which are beneficial to society and country 	<ul style="list-style-type: none"> > Set high priority to news and update report by focusing on the correct and useful and timely information > Arrange regular activities to promote relationship with press.
9. Government Agencies	<ul style="list-style-type: none"> > Strictly abide to the related laws and regulations > Act against the demand for benefit and corruption > Be responsible for social and environment 	<ul style="list-style-type: none"> > Meeting > Annual Report > Welcome visit from government sectors > Submit correct and timely information to related parties 	<ul style="list-style-type: none"> > Conduct fair and transparent business as per the good corporate governance, related to laws, rules and regulations > Cooperate in both academic aspect and activity support to the government sectors > Control the environmental condition as prescribed by the laws



3. Report Preparation

3.1 Scope of Report

The Company concentrates on how to submit sustainable management report of GUNKUL PCL. and the subsidiaries for 2016 as of 1 January 2016 to 31 December 2016, covering economic, social and environment strategies to achieve our vision and mission based on good governance under proper supervision. The report include risk management relating to development of smart people, added business value and available opportunity for sustainable, localized community development.

The Corporate Social Responsibility Report or Sustainability Report 2016 reports the performance of GUNKUL Engineering Group (PCL) and subsidiaries as the following:

Business Category	Company name	
GUNKUL Engineering PCL.		
• Electrical equipment	G.K. Assembly Company Limited	GKA
	G.K. Power Products Company	GKP
• LED production and distribution	GUNKUL LED Lighting Company	GUNKUL-LED
• Electrical equipment and systems for public sectors.	K.N.P. Supply Company Limited	KNP
• Power plant construction with systems and equipment.	GUNKUL Power Development	GPD
• Production and distribution of alternative energy (solar energy)	GUNKUL Chubu Powergen	GCPG
	GUNKUL Solar Power 2 Company	GSP2
	GUNKUL Solar Roof 1 Company	GSR1
	Rang Ngern Solution Company	RNS
	N.K. Power Solar Company	NKP
	BMP Solar Co., Ltd.	BMP
	ECO Thai Energy Co., Ltd.	ECO
	Sendai Okura Mega Solar Godo Kaisha	GK Sendai
	Kimitsu Okura Mega Solar Kaisha	GK Kimitsu
	GK Utsunomiya	GD Utsunomiya
	GK East Japan Solar 13	GK Iwakuni
	Gunkul Solar Power Co., Ltd.	GSP
	WHA Gunkul Green Solar Roof 1 Co., Ltd.	WHA_GSR-1
	WHA Gunkul Green Solar Roof 3 Co., Ltd.	WHA_GSR-3



Business Category	Company name	
	WHA Gunkul Green Solar Roof 6 Co., Ltd.	WHA_GSR-6
	WHA Gunkul Green Solar Roof 17 Co., Ltd.	WHA_GSR-17
	Solar Energy Society Co., Ltd.	SES
	Siam Gunkul Solar Energy Co., Ltd.	SGSE
	Gunkul Solar Roof 1 Co., Ltd.	GSR-1
• Production and distribution. od alternative energy (wind power)	Wind Power Plant Company	WED
	Greenovation Power Company	GNP
	Korat Wind Energy Company	KWE

3.2 Materiality Effects to Business Sustainability

In 2016 the sustainable Management Committee identified risk assessment provided by the Risk Management Committee based on Common Risk Matrix comparing to the annual business goals and analysis of stakeholders' expectation through various channels i.e. community public hearing forum, meeting with local community, complaints, questionnaires on consumers satisfaction, employees and supplier visit. Issues that impact sustainable management in line with all divisions / organization matters relating to stakeholders are shower in the below table.

• Economic issues	1. Good business overseeing
	2. Fair business practices
	3. Anti-corruption
	4. Risk management
	5. Consumer responsibility
	6. Innovation for sustainable business procedure
• Social Issues	1. Competency development to enhance "smart and good people"
	2. Labour and human rights practices
	3. Occupational health and safety
	4. Education opportunity for youth
	5. Participation in quality living and environment development of the community
	6. Buddhism and local culture upholding
	7. Trading partnership enhancement
• Environment issues	1. Observation of environment laws
	2. Inter balancing with community living
	3. Environment management and energy





4. Human Resources Development: Enhancing “Smart People”

The Company always values how “employees”, at the start of spot, can drive the organization toward sustainable development. Therefore personnel management regularly focusses on fair practice and respect of human rights. Career advancement with proper benefits goes along with ethical conducts, environment and safety caring as well as working participation. Workers will gain higher skills and knowledges from job learning so that they will become qualified “smart people” as expected by the organization. While stakeholders satisfy their demands the Company shall then effectively reach its goals and commitment. Expected outcomes based on the achieved goals are as followings:

- good and smart workers with expected qualification and skills;
- well prepared employees to support organization growth;
- succession plans for replacement of promotion to key positions;
- annual training plans to promote knowledgeable skills.

Number of employees

As of 31 December 2016 the Company consisted of 709 employees working in the following categories and levels.

Total Employees		Number of Employee		
		2014	2015	2015
Total Employees		552	635	709
	Full time	415	526	583
	Daily	137	109	126
Total Employees by Category				
	Permanent	482	553	599
	Contracted	70	82	110
Total Employees by Gender				
	Male	331	390	440
	Female	221	245	269
Total Employees by Rank				
	Management Executive	17	25	25
	Department Manager	34	48	56
	Chief / Specialists	74	77	78
	Primary -intermediate employees	195	291	312
	Operation employee	232	194	238



4.1 Personnel Development to Support Business Growth

From past to present, the Company's employees grows continuously which derived from the consecutive growth of the business. Therefore, the Company's human resources development structure relates and conforms to competency and KPIs. These measures are the database in the research for creating human resources development courses to be relevant with the Company's vision, mission and strategic plans in order to be the strong and sustainable organization. To prepare for personnel development in accordance with business growth by use the flowing training:

1. Training need survey: required from department and personnel need appropriately
2. On the job training: identify personnel competency and evaluation process both in practice and written test
3. Off the job training: such as special training or simulation and study case

In 2016, the Company still focuses in the competency plan and position qualifications which are relevant to the Company's vision, mission and direction plan. The courses are specified for capability improvement, decent and talented employees and can be utilized in both working and day to day living happily. Length of training courses can be categorized as follows:

Employee Level	Ave. training hour /level		
	2014	2015	2016
1. Operation	15	6	4
2. Primary-immediate	23	8	13
3. Chief / Specialists	39	36	22
4. Department Manager	34	43	23
5. Management Executive	36	32	23



In addition to the business training courses, the Company also provides a course on “Investment plan for tax benefit and savings for retirement” in order for the employees to well-balance their lives before retiring as well as prepare the retiring employees in planning their counterbalance of future life, health and property.

4.2 Capacity Development and Career Advancement

The Company has set up personnel screening criteria under the policy principles of promotion procedure as an incentive to maintain our qualified employees who can foresee their career advancement. When a person if of required qualification to fill or replace certain vacancy that person shall be nominated through a fair screening procedure by the authorized committee of executive directors with the Managing Director who acts as the Chairman of the HR Committee. Following are their duties and responsibility.

- Considering whether the nominee for promotion is of qualification specified by the position succeeding plan.
- Deciding if there is any possible problem regarding human resources management.
- Approving policy on problem solving within the authorized scope given by the Company.
- Suggesting possible solution for certain problems or principles of personnel development or management in line with specific company's policy.
- HR Committee appointed by the top executive and HR manager shall serve as a director and the secretary, approved by the Managing Director.

Statistic Number of Promoted Employees

Level of Promoted Employees	Number of Promoted Employee		
	2014	2015	2016
• Management	7	2	2
• Assistant Management and Sale Manager	7	8	5
• Chief Department	12	13	8
Total number of promoted employees in each year	26	23	15



- Setting up system or standard on personnel development to meet the Company's expectation for all divisions so that the working system shall be more effective.
- Appointing appropriate persons to different positions suitable for their ability and responsibility.
- Persuading outside persons to work with the organization while having the present employees realized of their job security and career prospect or being promoted to the higher position.
- Having well developed personnel to support growing organization.

4.3 Promoting Good Practices, Participation and Social Contribution among Employees

The Company is not only promoting “smart persons” among employees but they are as well expected to be “good persons” who regularly practice social contribution by their own capacity and skills whenever opportunity comes for them. Social awareness has been promoted by community development participation through these following activities.

1. “GUNKUL Buddy Blood for Life” is the joint activity for both management and employees for blood donation to the Thai Red Cross at Vajira 6 times continuously by more than 100 GUNKUL personnel who follow the great giver determination to save people life.



2. **Voluntary activities** carried out by the 5 S group and cleaning staff who helped cleaning the temple ground and rest room facility at Wat Sawatwarisimaram prior to the ending date of the Buddhist Lent as a public contribution to the temple community on the traditional food presenting to Buddhist priest day. This practice started in 2002 and continues until today as part of community relationship.

New Year and Songkran days contribution by employees engaged them to the community road and surrounding areas clean-up including Wat Tanode ground and rest-room facility cleaning continually.



3. “Kunkul good people project” organized as appreciation for employees who “found and returning to the owners” of certain lost objects as they have been praised as the role model of contribution for happy living society.



4. **Solar pump 2.2 KW project** set up by the Company's engineering team to transfer setting up and maintenance knowledge to the Royal Herbal Garden at Moo 5, Tambon Plaibang, Bangkruiy in Nonthaburi.



5. **“Bright and Clear Canal project”** carried out by employees who joined canal cleaning and environment caring activities by EM balls and EM liquid at Premprachakorn canal. This activity was organized by Wat Noi Nopphakhun School, Montol 11 Army and communities around the Company to promote relationship among stakeholders with unity and well dispires to enhance happy living and environmental protection



6. **“LED light bulbs installing projects”** for Noi Nopphakhun School which has joined the Energy Mind Award 2016 Project organized by Metropolitan Electricity Authority (MEA), Mahidol University and Environment Developing Association to campaign for power saving. The Company provided 150 LED light bulbs to the project with training by our maintenance team on how to properly use LED light bulbs in line with the safety standard.



7. “Solar Cell project” has been established for 10 communities in Ban Lanhoi, Sriclula district, Nakhon Nayok by the Company’s engineering team. The village head-Prasert Jantachote and villagers also learned how to maintain the set Solar Cell system.



5. “Energy Business”: Alternative Energy Innovation Development

The Company focusses on quality production based on good governance with top up business value of electrical equipment distribution by our innovation and management of alternative energy project produced by solar energy and wind power; covering construction of power plants and energy distribution which are environmental friendly to enhance confidence of stakeholders who care for safety and quality standards and minimum environmental impacts.



5.1 Good Corporate Governance Policy has been launched by the Company's Board with a strong intention to enhance business efficiency based on good governance and transparency to enhance credibility among stakeholders and in line with counter balancing of business, social and environmental impacts while promoting alternative energy production with recognition of consumers' safety, added value returns for stakeholders in the long run as well as company's competitiveness and the corporate sustainable growth. The Company Board, sub-committees and all employees shall as well the enterprise good governance procedure which bring returns of added value to shareholders while creating confidence among all stakeholders. This policy enhances sustainable growing for the Company with increasing competitive capacity. Main objectives are as followings.

- Serving as management policy for supervising and control by the authorized officers who shall manage effective resource utilization with required efficiency to meet the set goals.
- Providing the fair maximum returns to all stakeholders.
- Regularly review this policy and procedure each year.

5.2 Being of Fair Enterprise Practices

The Company promotes good governance practices and ethical operations with responsibility toward both internal and external stakeholders, among board members, executives and all employees who shall continually observe the business ethics policy with required follow up under the Auditing Committee and the Good Corporate Governance Committee.

5.3 Anti-Corruption Practices

The Company is committed in performing its business in accordance with the principles of ethical business practice and good corporate governance by arranging the guidelines for ethical business practice and good corporate governance in writing. These guidelines shall assist the Company's Committees, management executives, employees and all stakeholders in conducting transparent and legal practices such as prohibition in demanding, receiving or paying dishonest payment with the Company's business partners and/or creditors. In addition, valid report of changes in the Company, directors' and management executives' securities holding as well as report of the stakeholders in accordance



with the relevant laws and regulations of SET and SEC needs to be conducted clearly. Moreover, purchasing procedures, finance and accounting, sales, human resources, etc. are required to be performed as per the stated authorization. Furthermore, the Company also arranges the internal audit control so as to be confident that all operations are conducted effectively and efficiently with the checks and balances of assets for the benefit of the Company. The Board of Directors appoints the Audit Committee in regular reviewing and evaluating the risk concerning the internal audit control under the stated Audit Committee Charter.

The Company arranges the complaint and trace channels for any suspicious / violated practices as follows:

1. Direct or indirect organizational fraud such as corruption acknowledgement with private or government sectors.
2. Misconduct practices from the Company's rules and regulations which could lead to fraud.
3. Practices which cause the Company to lose benefit or impact the Company's reputation.
4. Illegal, immoral and unethical business practices.
5. Violation of Good Corporate Governance procedures.
6. Injustice in performing one's duties.

The Company has signed for the Private Sector Announcement on Anti-Corruption issued by corporation with the Anti-corruption Organization (Thailand) focussing on policies to anti-bribery and all forms of corruption. Public relation campaign has been launched to assure that all personnel shall not ask for bribes on take actions based on given rewards or any interests for benefits gaining, for themselves and the Company, offered directly by concerned parties.

Communication channel for informant: any suspicious actions for undesired corruption shall be informed for required acknowledgement as follows:



Communication channel for informant for anti-corruption

1. Audit committee email: audit_committee@GUNKUL.com
2. GUNKUL Website www.GUNKUL.com subject "Whistle Blowing Channel"
3. Seal Postal Mail to

Chairman of Audit Committee
GUNKUL ENGINEERING PUBLIC CO., LTD.
1038 - 1046 Nakornchaisri Rd., Nakornchaisri, Dusit,
Bangkok 10300, Thailand.
4. Anti-corruption Whistle Blowing Box
(in-house : only audit committee and / or secretariat of audit committee can open the box)

Internal activities to support anti-corruption campaign

- Training course on Anti-corruption Policy" for full coverage of employee at every level.
- Photo contest on GUNKUL people showing anti-corruption power"
- Questions - answer forum, employee rewarding by Executive Chairman to those who can answer every question of Anti-corruption Policy.



- The GUNKUL Company Group educated employees on Referendum Day on Saturday, 2 July 2016; supported the public policy by organizing seminar on the new constitution for employees prior to Referendum Day by LTJG Kris Chintavej district-chief officer of Bank Kruai District and Mr. Somchao Kanokkanjana subdistrict headman of Mahasawad Sub-district.



5.4 Taxation Procedure

The Company cooperated with the Revenue Department on taxation with honest, complete and transparent committed payment on the required schedule. In 2016 the Company's total revenue was of 3,366.83 million baht for which the paid taxation was of 41.38 million baht.

Remark: information from consolidated financial statement of GUNKUL Engineering (PCL) and Subsidiaries for financial year end at 31 December 2016



5.5 Risk Management

The Company, by the authorized Board, has appointed the Risk Management Committee with a strong commitment to continue driving sustainable growth. The said Committee is responsible to set up the risk management policy to direct business operation under the Law of Security Exchange of Thailand and other related rules and regulations, plus anti-corruption measures and procedure. The Committee also follow up and support successful risk management practices at both organization and project levels based on certain risky situations. It has to evaluate if the set procedure is of efficient coverage to enhance risk management at each operation step comparing to the international standards and propose appropriate improvement, if it is so required, to the attention of the Board. It shall as well assess its own operation outcomes followed by improving suggestions, if so required. The Board shall be then reported accordingly as a basis to consider adoption of the organization development policy, continually.

5.6 Labour and Human Rights Practices

The Company committedly follows the constitution organic laws on human rights i.e. the labour laws and the Company ethical codes focusing on respect for basic rights and freedom of stakeholders, fair and equal treatment which are the key supporting factors to drive business operation.

Operation procedure adopted by the Company are all in line with relevant laws which include human rights principles aiming to guide how employees, business partners, suppliers, shareholders and stakeholders be properly treated as apparent in the following conclusion.

1. Respect for human rights and basic rights in line with the related organic laws, including safety for life and assets of the Company's stakeholders.
2. Promote equality by fair treatment for all workforce since every employee holds the right to career advancement with proper remuneration and welfare services comparable with other operators in the same industry KPIs shall be applied for working outcome in figures. The Company equally provide career advancement for all employees by training and skills development.
3. Respect for different opinions, freedom of faith and religion, personal privacy and/or confidentiality of other concerned persons.



4. Fair practices for human resources management, without-discrimination, strictly follow minimum legal prescription regarding employment (prohibition for child labour and forced labour), sexual harassment by verbal aggression and physical action for which the Company has prescribed appropriate punishment regulations.
5. Direct communication with stakeholders, available channels for complaints and/or grievances submission including procedure to ensure effective and fair handling with transparency and possible checking.
 - telephone. 02 242 5834 with provided stamping on vouchers of good sending and receiving and taxation document.
 - website : www.GUNKUL.com
 - the Business Control Committee
 - Investor Relations Section : ir@GUNKUL.com
 - Intranet, Top Executive, Meeting with Employees, Morning Talk, Opinion Box for Employees.
 - Annual shareholders meeting/special meeting for shareholders.
 - Shareholders enterprise visits.
6. Strongly hold ethical conducts and professional practices in line with corporate operation.
7. Environmental system to enhance effective practices of the set standard to protect community life and social living against pollution impacts.

This procedure is based on corporate management basis determined by the Board as basic responsibility toward company's stakeholders under supervision of the Office of Managing Director to assure strict implementation to secure confidence among employees, shareholders, partners, customers and the society at large which has ensured good company image and reputation until today.

Employment for disable persons. At present the Company has 2 permanent disable employees who have registered with the Department of Disable Persons Persons Development. In 2016 the Company is still on a survey of disable persons with an attempt to hire more disable persons with an attempt to hire more disable persons so that they can take care of themselves and their family, and living a life equally and similarly to other people.



5.7 Standards of Safety, Occupational Health and Environment

The Company promotes practices recognized by the international standard for environmental conditions at various solar power plants in the group of GUNKUL Engineering Public Company Limited, certified by ISO 14001 and rewarded for CSR-DIW Awards 2016 by the Department of

- GUNKUL Chubu Powergen Co. Ltd. ➤ Certified for Environmental Management Systems ISO14001
- Awarded Green Industry Level 3 (Green System) from Department of Industrial Works
- Awarded CSR-DIW continuous Awards 2016 from Department of Industrial Works
- Rang Ngern Solution Co, Ltd. ➤ Awarded Green Industry Level 3 (Green Activity) from Department of Industrial Works

The Company has announcement appointment of The Community for Environmental Responsibility” with following duty and responsibility.

1. Set up internal operation policies on management, services and environmental systems for both internal and external operation.
2. Integration of environment procedure under the performance assessment criteria and corporate regulations. Educate employees about existing environmental problems in the areas under their responsibilities.
3. Communicate to employees of all levels about gaining benefits and commitment to organize environmental management systems.
4. Follow-up and review the achievement of the environmental management procedure.

Apart from the above mentioned welfare benefits, the Company also focuses on the employees’ excellent health by giving health recommendation as well as offering regular health attention throughout various communication channels such as announcement boards, emails, audio broadcasting, Morning Talk. Physical performance test is included in the annual health checkup as well. The Company expects all employees to take better care of their health so various sport activities are also arranged such as futsal match between the warehouse and the factory as well as volleyball match.



For occupational health, the Company arranged the activities through “The 5 S - Five Keys to a Total Quality Environment”, Environmental Committee, Safety Committee, Morning Talk - JSA : Job Safety Analyst and Plan-Do-Check-Act (PDCA) with the objective in improving the proper, safety and hygienic workplace. By continuous cooperation from all level of employees as an organizational culture, each department has arranged the activity contest in accordance with the 5 S as well as rotated the Audit Committee performing the 5 S’s consideration in the Company group. This shall enable all corporate employees in perceiving internal and external points of view and sustainably developing the 5 S for the Company and employees’ benefit.

The Company trusts that the standardization in safety, occupational health and environment are one of the key roles in effective and efficient business operations. Therefore, the Company developed the standardization in safety, occupational health and environment in accordance with the stated laws, international standard and other relevant regulations to ensure the safety of both employees and company visitors. Safety Factory Exhibition was conducted with a continuous campaign for employees to realize and participate for the continuous and sustainable safety, occupational health and environment.

Table of No. of Accidents and Safety Days during 2014-2016

Company		2014		2015		2016	
		Accident which caused day off (more than 3 days)	Number of continuous accident free days	Accident which caused day off (more than 3 days)	Number of continuous accident free days	Accident which caused day off (more than 3 days)	Number of continuous accident-free days
GKA	3	98	0	381	0	681	
GKP	0	414	0	732	0	1,032	

5.8 Employee Engagement with Welfare and Productivity Enhancement Activities

GUNKUL values the continued human resource development because it firmly believes that developing personnel and organization in line with business direction is the engine that drives the company’s success. It encourages the employees to appropriately and continuously create their work and develop themselves. GUNKUL makes sure that it has the task force full of good, talented, and skilled people to conduct the business.



To develop the employees into good and talented people, GUNKUL formulated the policy of human resource development that covers all levels of employees, ranging from management to technical and specialized skills. The company also fosters positive attitude to enhance the employees' efficiency and happiness at work. Moreover, every employee has a chance for career advancement and self-development to improve the quality of life.



GUNKUL creates engagement between the management and employees and makes them a part of “GUNKUL family” by providing the following welfare and engagement activities:

Welfare and Engagement Activities for Employees and Families		
Monetary Welfare and Facilities	Health and Safety	Family Welfare
<ul style="list-style-type: none"> Uniforms 	<ul style="list-style-type: none"> Annual physical checkup 	<ul style="list-style-type: none"> Scholarship for employees' children
<ul style="list-style-type: none"> Increasing the provident fund from 6% to 7% and the employees can contribute up to 15% 	<ul style="list-style-type: none"> Group insurance and travel insurance in case of overseas travel 	<ul style="list-style-type: none"> Financial aid in case of disaster
<ul style="list-style-type: none"> Staff canteen 	<ul style="list-style-type: none"> Medical financial assistance in out-patient and in-patient case 	<ul style="list-style-type: none"> Compassionate funds for employees' parents and children
<ul style="list-style-type: none"> Parking space 	<ul style="list-style-type: none"> Annual sports day 	
<ul style="list-style-type: none"> Increasing vacation days in proportion of years of service 	<ul style="list-style-type: none"> Morning Talk - JSA: Job Safety Analyst, encouraging the employees to analyze the job based on Plan-Do-Check-Act (PDCA) principle before working 	
<ul style="list-style-type: none"> Employee visit in case of sickness 	<ul style="list-style-type: none"> Public Health Center 38 by Ms. Nattanicha Rakngam and team gave 120 GUNKUL employees German measles, Diphtheria and tetanus injection. The team also ran a screening test for metabolic syndrome. The activity was held to create engagement among the company, employees, and communities. 	
Moral Support and Participation	Religion, Culture and Tradition	Volunteer Activities
<ul style="list-style-type: none"> Celebrating employees' birthday by having meal together, presenting birthday gifts, and/or giving offerings to Buddhist monks and listening to dharma 	<ul style="list-style-type: none"> Offering food in the monks' alms bowls and joining religious activities with surrounding communities on religious days. Holding an annual event to offer food to the monks. 	<ul style="list-style-type: none"> Community service <ul style="list-style-type: none"> Cleaning toilets and sweeping temple court Collecting garbage around the company and communities
<ul style="list-style-type: none"> 5S and QCC, which encourage the employees to take part in improving the way of work or work environment 	<ul style="list-style-type: none"> Water-pouring ceremony to ask a blessing from the management in “Maha Songkran Ban GUNKUL Festival” 	<ul style="list-style-type: none"> Knowledge transfer <ul style="list-style-type: none"> Installing Solar cell Installing and changing LED lights



Welfare and Engagement Activities for Employees and Families		
Monetary Welfare and Facilities	Health and Safety	Family Welfare
<ul style="list-style-type: none"> Annual sports day 	<ul style="list-style-type: none"> Giving oranges as traditional Chinese blessing during Chinese New Year 	
<ul style="list-style-type: none"> The management visit solar or wind farm to give the employees moral support and talk to them to learn about their well-being. 	<ul style="list-style-type: none"> Holding an annual event to offer food to the monks. 	



Creation of engagement through productivity activities

Productivity activities aimed to promote the collaborative atmosphere for employees and enhance their skills, abilities, experience, and learning throughout their work period to ensure that they feel they are part of, love and cherish, and have ties with, the organization. The objectives of the activities are as follows:

1. To encourage all employees to be involved in work and work quality improvement, work as a team in a systematic manner, learn how to solve immediate problems on their own, and learn how to do self-improvement.
2. To create collaboration to achieve the quality target, by identifying weaknesses and root causes to make improvements and carrying out systematic planning.
3. To create motivation, by providing compensation and/or certificates to employees who participate in activities that are useful and create value for the organization.
4. jointly take care of the environment and create good things for stakeholders.



Hence, the Company has focused on all employees' participation in all productivity activities to encourage corporate objectives and expectations to be achieved through the activities, as follows:

1. 5S

The 5S activities aim to improve employees' work based on the principles: "Sort (Seiri), Set in Order (Seiton), Shine (Seiso), Standardize (Seiketsu), and Sustain (Shitsuke)" in the workplace. They will provide the Company with employees equipped with self-discipline derived from their own consciousness; the clean, tidy, beautiful, and safe workplace environment, with suitable recyclable solid waste sorting management; environmental balance; and income generation per activity to improve the 5S activities. In 2016, the value of sorted recyclable solid waste amounted to 16,876 baht.

In addition, the Company provided motivation by giving compensation and certificates to departments with top-three scores in the 5S activities. This aimed to promote the disciplines: "Sort (Seiri), Set in Order (Seiton), Shine (Seiso), Standardize (Seiketsu), and Sustain (Shitsuke)" among employees in each department and their application in everyday life.

2. QCC Quality Improvement

The Company has introduced the QCC (Quality Control Cycle) quality improvement activities to promote a collaborative atmosphere for the development and improvement of work quality, quality of life, and environmental quality. These activities are also aimed at enhancing employees' skills, abilities, experience, and learning throughout their work period to ensure their participation in different internal operations, e.g. cost reduction, waste reduction, productivity enhancement, workflow reduction, productivity improvement, sales increase, and/or work time improvement.

In 2016, there were 25 QCC quality improvement groups, and the following categories were proposed for improvement:

- Workflow reduction: 11 topics
- Work time reduction: 23 topics
- Performance improvement: 16 topics

Statistics of QCC Quality Improvement Activities and Quantitative Outcomes

Year	Number of topics each year	Quantitative outcomes
2015	50	Cost reduction by 203,447 baht.
2016	50	Cost reduced by 603,722 baht.



To boost the morale of all groups of QCC employees, who systematically worked as a team to present work pertaining to enhanced performance and reduced workflow, which passed criteria and were approved by the Board of Directors, the Company gave a financial reward to topics based on their value with the “Valuable Achievement Prize” and gave a financial reward based on their quantitative outcomes with the “Outstanding Achievement Award.” In addition, the Company provided certificates to reinforce their pride and the feeling that they are part of the organization, who were involved themselves in performance improvement.



3. Program on Logistics Productivity Enhancement in the Industrial Sector

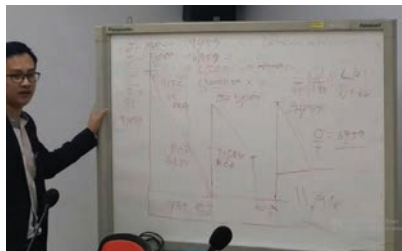
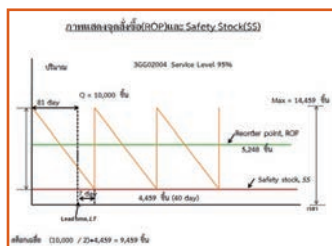
GUNKUL joined the Program on Logistics Productivity Enhancement in the Industrial Sector, which was set up for industries with potential for strong and sustainable development. The Company received the Outstanding Award for Commitment to Corporate Logistics Development 2016, from the Bureau of Logistics, under the Department of Primary Industries and Mines. The Company's two relevant projects are as follows:

3.1 Project on Stock Cost Reduction

In the project implementation, theoretical training in warehouse management, inventory management, safety stock (SS), and reorder point (ROP) was provided. The project involved collecting data of, and selecting, 50 items of high-value and important parts/raw materials, worth 9.86 million. The project also involved calculation of demand for all products in the list to compare against the current excessive stocks.



Improvement process



$$\text{Safety Stock } SS = Z\sigma\sqrt{L}$$

$$\text{Reorder Point} = (\text{Demand per day} \times \text{Lead Time}) + \text{Safety stock (SS)}$$

Before the improvement, the cost of 50 items of inventories was 7,859,349 baht, and after the improvement, the cost reduced to 5,264,844 baht - the cost decreased by 2,594,505 baht, which represented a 33-percent decrease.



3.2 Project on Production Time Reduction for the Part Model Line (PM-0121 ND)

Increased/Decreased efficiency	Production time reduction	
	Before	After
1. Improved productivity	-	15%
2. Reduced lead time	3.74 days	1.58 days
3. Reduced work in process	314 pieces	133 pieces

Before the improvement, the production time took 3.74 days. After the improvement, the production time took 1.58 days, which was a 2.16-day decrease, the output increased by 28,094,040 baht per year, and the cost reduced by 4,411,680 baht per year, totaling 32,505,720 baht per year, based on the table below.



5.9 Responsibility for Consumers

The Company has attached great importance to manufacturing and selecting equipment or products that meet safety standards in order to prevent risks. It has produced power system equipment with international standard certifications and uses products with quality warranty and safety standards.

No.	Standard Highlight Topics
1.	Internal product tests, to ensure compliance with required standards (LPS/EGAT)
2.	International standard certifications (UL + IEC)
3.	TISI Standard registration for new equipment.
4.	ISO 9001:2008 - Requirements for a quality management system.
5.	ISO 14001:2004 - Requirements for an environmental management system.



Management of environmental impacts of the production process

Taking into account potential impacts of its products on local communities, GUNKUL has a policy to manage its production processes to ensure their friendliness to the environment and local communities, with preventive measures, as follows:

1. Complying with environmental laws and requirements and other relevant laws and requirements, as well as environmental impact corrective, preventive, and management measures.
2. Studying and analyzing environmental impacts of projects during the construction and operation phases, which will provide effective impact prevention and reduction.
3. Applying an international standard-based environmental management system to better monitor environmental quality management.
4. Selecting good equipment for the power production process, which is another way of handling environmental impacts - Wind and solar energy has no or minimal impacts on the environment and local communities.



Activities for consumers

GUNKUL has committed to understanding customers and encouraging them to engage in learning beyond transactions between the customer and the Company. Furthermore, it promotes customers' understanding about the value of sustainable development and social responsibility. It has a mission to deliver the best products and services to customers along with a sense of social responsibility, in terms of quality and safety. It has committed to focusing on the safety standards for production and services and the inspection of product and service origins, for the construction of renewable energy-based power plants and high-voltage equipment. It offers work experiences with responsibility for, and knowledge and understanding about, customers' actual needs and delivers socio-economically valuable products and services for customers through different activities, as follows:

- Conducting customer satisfaction surveys.
- Participating in exhibiting LED and solar rooftop products and innovations at LED Expo Thailand 2016, an international power system technology and LED product exposition, held from 19-22 April 2016, at Buildings 5-8, the IMPACT Exhibition and Convention Center. Hosting this event, the Electricity Generating Authority of Thailand (EGAT) encouraged entrepreneurs to utilize LED technology and products for energy saving.



5.10 Supply Chain Management

GUNKUL has a policy to treat its partners and creditors on an equal and fair basis, based on fair returns to all involved parties, to avoid situations that trigger the conflict of interests. It has complied with its obligations under the partner treatment policy, as follows:

1. Fairness and equality - Providing equal opportunities for all partners under fair consideration and selection criteria.
2. No intellectual property infringement - Using copyrighted and trademarked services and products and supporting no products or acts that violate intellectual property laws.



3. Anti-corruption – Requesting no gifts or benefits from clients or partners, strictly complying with the policy towards its business code of ethics.
4. Strict legal compliance – Lawfully conducting business, complying with standard, environmental quality, safety and occupational health systems, and having responsibility for local community ways of life and society as a whole, in a strict manner.

5.11 Environmental Management and Energy Conservation

Environmental protection

The Company values business operations in conjunction with continued pursuit of opportunities for expanding its investment in environmentally-friendly business. In addition to expanding investment in renewable energy, including wind, solar, and biomass energy, to reduce air pollution arising from fossil fuel use, the main cause of global warming, the Company has carried out production in the steel tower plant in compliance with ISO 14001, which deals with environmental management.

Environmental management

Realizing the significance of the environment, the Company has formulated preventive and corrective measures for reducing environmental impacts of currently operated solar power plants. The Company has investigated both direct and indirect environmental impacts of production processes. The preventive and corrective measures for impact reduction are as follows:

Environmental resources	Preventive and corrective measures for impact reduction
1. Air quality	No impacts
2. Noise	No impacts
3. Water quality	<ol style="list-style-type: none"> 1) Provide a sufficient number of sanitary bathrooms for workers. 2) Provide retention ponds to collect rainwater washing down the top soils at the construction site. 3) Reuse water in the retention pond, for example, to sprinkle over access roads to projects and construction sites.



Environmental resources	Preventive and corrective measures for impact reduction
4. Management of solid waste from offices and workers' activities	<ul style="list-style-type: none"> - Collecting and sorting general solid waste arising at offices. - Collecting and sorting recyclable solid waste to sell to recycled material vendors. - Collecting hazardous municipal solid waste and delivering it, when its amount is large enough, to companies or agencies legally authorized to provide hazardous waste disposal services.
5. Water drainage	<ol style="list-style-type: none"> 1. Providing sediment traps, which are used before draining water from project areas. 2. Cleaning water channels around projects at least twice a year, especially before the wet season. 3. Draining rainwater in project areas to surrounding water channels rapidly as fast as possible and storing rainwater as raw water for use within project areas or for retention before drainage. 4. Inspecting the drainage system, water channels around project areas, and the sedimentation trap system on a regular basis.
6. Waste management	Providing training in collecting broken solar cells to companies that offer standard waste disposal services.

Management, efficient resource use, and global warming mitigation

Global warming is a global problem, for which many countries have developed mitigation measures. The major causes of global warming are excessive use of natural resources, which results in a loss of original environmental conditions. Its common causes include electricity generation with combustion of fossil fuels, e.g. oil, natural gas and coal. Combustion contributes to greenhouse gases and air pollution, which leads to global warming, a major global issue that should be tackled.

The Company has realized that power generation projects using other forms of energy that is clean and naturally available, e.g. solar and wind energy, should be developed in order to ensure power conservation, conscious resource use, and reduced carbon dioxide emissions.

The Company's power plants are natural energy-based projects, including solar, wind, and biomass power plant projects (the biomass power plant projects are being developed). Producing no pollution, e.g. air and water pollution, all these forms of energy reduce greenhouse gas emissions.



The Company's CO₂ Emissions

No.	Project	Energy types	Year of implementation	Production capacity (MWp)	Net	Amount of CO ₂ reduction (tCO ₂ /y)
					production capacity (MWh/y)	
1.	Ban Kluai 1	Solar farm	2011	3.3	6,022.5	3,011.25
2.	Ban Kluai 2	Solar farm	2011	5.3	9,672.5	4,836.25
3.	Wichianburi	Solar farm	2013	9.8	17,885	8,942.5
4.	Si-Chula	Solar farm	2013	9.8	17,885	8,942.5
5.	Noen Po	Solar farm	2013	5.6	10,220	5,110
6.	Buengsamphan 2	Solar farm	2013	3.6	6,570	3,285
7.	Ta Khit	Solar farm	2013	7.6	13,870	6,935
8.	Ta Sang	Solar farm	2013	7.6	13,870	6,935
9.	Dong Korn	Solar farm	2013	7.6	13,870	6,935
10.	Buengsamphan 1	Solar farm	2013	7.6	13,870	6,935
11.	Bo Phloi	Solar farm	2013	1.2	2,190	1,095
12.	WHA GUNKUL GSR 1	Solar rooftop	2011	0.64	792	396
13.	WHA GUNKUL GSR 3	Solar rooftop	2011	0.83	1,038	519
14.	WHA GUNKUL GSR 6	Solar rooftop	2011	0.83	1,037	518.5
15.	WHA GUNKULGSR 17	Solar rooftop	2011	0.998	1,261	630.5
16.	Pichai	Solar rooftop	2013	0.022	30	15
17.	GKA	Solar rooftop	2013	0.25	338	169
18.	TPARK	Solar rooftop	2013	0.539	676	338
19.	WAYU	Wind Farm	2016	50	120,000	60,000
20.	SUBPLU	Wind Farm	2016	8	19,200	9,600
21.	SUBPLU 1	Wind Farm	2016	2	4,800	2,400
22.	SARANLOM	Wind Farm	2018*	68	144,000	72,000
23.	Mittraphap	Wind Farm	2018*	50	120,000	60,000
24.	RNS Phang Tru	Solar farm	2015	8	13,140	6,570
25.	RNS Don Slap	Solar farm	2015	8	13,140	6,570
26.	RNS Lum Rang	Solar farm	2015	8	13,140	6,570
27.	RNS Ang Thong 1	Solar farm	2015	8	13,140	6,570
28.	RNS Ang Thong 2	Solar farm	2015	8	13,140	6,570
29.	RNS Ang Thong 3	Solar farm	2015	8	13,140	6,570
30.	RNS Yang Nam Klat Tai	Solar farm	2015	8	13,140	6,570
31.	RNS Klat Luang	Solar farm	2015	8	13,140	6,570
32.	RNS Nong Chumpol	Solar farm	2015	8	13,140	6,570
33.	RNS Thung Kwao	Solar farm	2015	7	11,500	5,750
34.	RNS Tao Pun	Solar farm	2016	8	13,140	6,570
35.	RNS Bang Ka Chao	Solar farm	2016	5	8,213	4,106
TOTAL				343	690,210	345,105

Note * Expected years for commercial power supply.



5.12 Innovation in the Business Process for Sustainability

Technological innovation

- The Company has prioritized using and providing equipment that has high quality and standard certifications granted by different agencies to ensure maximum performance and that is safe for health and protects the environment.
- To make decisions about purchasing any equipment, equipment performance is taken into account and quality comparison is conducted on different brands. This aims to ensure greater benefits and worthwhileness.
- The Company has supported and involved itself in environmental protection, by sorting certain types of materials with the recycling symbol for recycling. Also, it has provided sedimentation tanks to recycle water, which lessens the problem of wasteful use of water resources.
- Providing and selecting materials having minimal environmental impacts.
- Selecting materials that are worth money throughout their lifetime.
- Materials used must reduce or minimize environmental impacts throughout their lifetime.

Examples of symbols accompanied with equipment



These symbols indicate reusability or recyclability of materials.



The Manufacturer's Declaration, which specifies that a product has qualities that meet health, safety, and environmental protection requirements and comply with EU laws and regulations.



The Canada Standard Association (Safety certification).





The Thai Industrial Standard for equipment manufactured in Thailand.



The ISO (The International Organization for Standardization) standard, which indicates production and environmental management. It is applied to solar components.



The IEC (International Electrotechnical Committee) standard. The IEC's members are national agencies from countries across the world.



The ASTM (The American Society for Testing and Materials) standard, which determines the quality of concrete used in the wind turbine's foundation.



The EUROCODES standard, which specifies the quality of design of wind turbine foundations and electricity systems within wind turbine-based power generation projects.



The engineering design standard, which the Company will receive prior to project construction.

6. Community and Social Development: Sustainably Creating and Developing Good Things for Society: “Action Social”

GUNKUL has committed to promoting its coexistence with local communities by providing them with friendliness and assistance as “good neighbors.” This aims to develop and strengthen the local communities to ensure sustainably good quality of life and society, promote the community participation process to ensure receiving relevant information, and strengthen mutual understanding. The Company has monitored implementation results and managed potential impacts of its business operations. It has valued knowledge and experience sharing among individuals and organizations to ensure appropriate and continuous environmental development.



Realizing the importance of its involvement in developing communities and society as a whole, the Company, in collaboration with educational institutions, organizes beneficial activities for them on an annual basis. It provides funding support for these activities and assigns its employees to join activities held by local communities, such as:

Community and social development

In 2016, GUNKUL continuously implemented socially-beneficial activities because of realizing that this was its responsibility for the society, its stakeholders in its business operations. The implementation results of last year's activities are as follows:

The Company's social and environmental policies promoted community participation and educational opportunities, sport excellence, local culture and traditions, community ways of life, preservation and rehabilitation of environmental quality to achieve sustainable natural and life balance, co-existence with local communities with mutual assistance as "good neighbors," as well as sustainable community development and strengthening to ensure good life and environmental quality.

6.1 Creating Educational Opportunities for Students from Schools Surrounding Local Communities and Employees' Children

Every year, Gunkun grants 50 scholarships to Anuban (kindergarten level)-Prathom 6 (primary level) students from Wat Sawatwarisimaram School and some scholarships to Matthayom 1-6 (secondary level) students from Wat Noi Nopphakhun School (Phet GUNKUL Scholarship). The total value of the scholarships is 100,000 baht. Students with good class performance and good conduct but with inadequate financial support are selected to receive the scholarships. The Company also continually grants scholarships to its employees' children. This aims to promote education and improve the quality of life of local youth.



Number of Anuban and Prathom Students from Wat Sawatwarisimaram School Receiving a Scholarship from GUNKUL Engineering Public Co., Ltd.

Anuban-Prathom	Number of students			
	2013	2014	2015	2016
Anuban 1	2	7	4	4
Anuban 2	6	7	4	4
Prathom 1	5	8	5	5
Prathom 2	11	4	7	7
Prathom 3	7	4	6	6
Prathom 4	8	8	6	6
Prathom 5	8	6	7	7
Prathom 6	3	6	11	11
Total	50	50	50	50

Secondary Education of Prathom 6 Students Receiving a Scholarship from GUNKUL Engineering Public Co., Ltd.

2015		
No.	Name	Secondary school
1.	Mr. Chirawat Chakrit	Wat Rachathiwat School
2.	Mr. Chirawat Hatdiphan	Wat Benchamabophit School
3.	Miss Wannasa Sirinok	Wat Rachathiwat School
4.	Miss Netnapha Mahasing	Wat Noi Nopphakhun School
5.	Miss Yenruedi Chiwangkun	Wat Noi Nopphakhun School
6.	Miss Phitthanan Supharotchani	Wat Noi Nopphakhun School
7.	Miss Thananya Sueaphong	Wat Noi Nopphakhun School
8.	Miss Chayada Kiatsathaphonchai	Wat Rachathiwat School
9.	Miss Chenchira Sueaphuang	Ratachawinit School





Number of Matthayom Students from Wat Noi Noppakhun School Receiving the
“Phet GUNKUL Scholarship”
from GUNKUL Engineering Public Co., Ltd.

Matthayom	Number of students			
	2013	2014	2015	2016
1	13	17	10	16
2	-	-	6	7
3	-	-	8	7
4	4	-	-	2
5	-	-	7	4
6	-	-	11	4
Total	17	17	42	40

Higher Education of Matthayom 6 Students Receiving a Scholarship from
GUNKUL Engineering Public Co., Ltd.

2015		
No	Name	University
1.	Mr. Ritthidet Chanthabun	Kasetsart University (Civil engineering)
2.	Miss Wannisa Klomchoho	Borommaratchachonnani College of Nursing
3.	Miss Wannakon Munsisuk	Borommaratchachonnani College of Nursing
4.	Miss Phikun Chanthason	Burapha University
5.	Miss Suchanari Wongwiangchan	Burapha University
6.	Miss Thitikamon Khamthong	King Mongkut's University of Technology North Bangkok
7.	Mr. Aphidet Khota	Dhurakij Pundit University
8.	Mr. Thanawat Champithet	Rangsit University
9.	Miss Saikwan Khamkong	Nursing assistant
10.	Miss Sutthida Tekai	Suan Dusit University
11.	Mr. Surakit Chancoetsak	Krirk University



6.2 Providing Financial Support and Improving the Condition of Educational Institutes and Communities

- **Providing financial support** for the educational purpose of Institute of Field Robotics (FIPO), King Mongkut's University of Technology Thonburi. This is in line with New Growth Model, national strategic plan that will drive Thailand from low-income country to Asia's and world's leading economy. GUNKUL promotes the use of robotic technology, which is one fifth industry of the future, so that Thai economy can enjoy the growth by leaps and bounds. The company also supports research and development between Thai entrepreneurs and educational institutes.



- **Enhancing the capacity of basketball players of Wat Noi Nopphakhun School and turning them into professionals.** This project promotes and drives female basketball players toward national level. The sport also encourages the children to stay united and become good citizen of society and nation.
- **Making off-season robe offering for educational purpose** at Wat Noi Nopphakhun School. The proceeds were spent on computers and learning improvement for the sake of students and teachers.
- **“White Heart” anti-AIDS project** supports charitable activities for orphans, elderly people, and patients with AIDS. The proceeds went to Wat Phra Bhat Nampoo, Lopburi province.





- **“Donating and installing LED light bulbs”** at Wat Noi Nopphakhun School. The school joined Energy Mind Award 2016, hosted by Electricity Generating Authority of Thailand (EGAT), together with Mahidol University and Association for the Development of Environmental Quality (Thailand), to promote electricity efficiency. GUNKUL donated 150 LED light bulbs while its maintenance team taught the school how to correctly change LED light bulbs to meet the safety standard.
- **Supporting community activities** such as activities on the International Day of Older Persons, water-pouring ceremony to receive a blessing from the respected elderly, and providing the elderly people with t-shirts for sport activities.



6.3 Preserving Buddhism and Cultural Heritage with the surrounding communities as below:



- Joining Candle-making ceremony in 2016 to preserve and carry on Buddhist tradition in Thailand. GUNKUL, together with lay devotees and committee of Wat Sawat Waree Seemaram community, offered the candle to Wat Sawat Waree Seemaram on July 19, 2016 (Asalha Puja Day)



- Casting “Phra Ruang Udom Lap” Buddha image

Mr. GUNKUL Damrongpiyawut, Chairman of GUNKUL Engineering Plc., together with the team, attended the gold-pouring ceremony to cast “Phra Ruang Udom Lap” Buddha image, with the height of 2.50 meter, on the occasion of H.M. the late King Bhumibol's 89th anniversary. The ceremony also aimed to make merit for the preceding kings of Chakri dynasty. The finished image will be placed at dharma practice space of Wat Matchimmawan (Dong Klang), Kao Saming, Trad province



- **Offering Royal Kathin Robes in Year 2016**

Mr. Gunkul Dhumrongpiyawut, Chairman of GUNKUL, to be the leader of the ceremony of the Royal Kathin Robe Offering in the year of 2016 at Santonpueng Temple, Maerin Subdistrict, Phukamyao District, Payoa, on Friday, 4th November 2016 with the management team of the company and group including government official and people to preserve the traditions of Buddhism.



- **Supporting Buddhist chanting project**

GUNKUL encouraged and support the monks and Buddhists to do good deeds by chanting at Wat Tewaratkunchorn Worawihan, Dusit. This act of goodness would bring good things to the Buddhists themselves, their families, and society. It was considered the offering for Buddha and merit making in commemoration of H.M. the late King Bhumibol. The Buddhists would also felt spiritual bliss and continue doing good deeds.



6.4 Donating Gifts to the Surrounding Communities on National Children's Day

The Company, together with Wat Sawatwarisimaram School, Wat Noi Nopphakhun School, Wat Sawatwarisimaram community, Wat Kae community, Wat Noi Nopphakhun community, Nakhon Chaisi community, Samsen Metro Police Station, Pre-School Child Development Center, and 11th Military Circle, together with community and family of police officers, military officers and nearby residents, jointly offered gifts for National Children's Day for the children's happiness and joyfulness since its founding.



6.5 Opening Renewable Power Plants as a Learning Source for Educational Institutes and Surrounding Communities

Recognizing the importance of education and knowledge enhancement, GUNKUL opens the solar and wind farms to interested educational institutes, students, teachers, organizations, and surrounding communities. The visitors may expand knowledge and gain inspiration to develop renewable energy, which can be applied in everyday life. In 2016, GUNKUL welcomed the following educational institutes:



Solar Farm	Date	Visiting Organization, School, and Education Institutes
Si Chula Nakhon Nayok province	Feb 25, 2016	Teachers and students of Wat Kemthong
	Feb 25, 2016	Faculty and students of Rajamangala University of Technology Thanyaburi
	May 25, 2016	AFD - French Development Agency and team
	May 30, 2016	Dr. Cherdchai Prapanawarat and faculty of King Mongkut's University of Technology Thonburi
	Jul 14, 2016	Mr. Kwanchai Worakalayakul and Board of Investment team
	Oct 05, 2016	Mr. Pijit Rachawong, Director of Bank for Agriculture and Agricultural Co-operatives, Nakhon Nayok province, and team
	Dec 15, 2016	Faculty of Nakhon Nayok Technical College
Noen Po Phichit province	May 14, 2016	Faculty and students of Naresuan University
	Jun 27, 2016	Faculty and students of Naresuan University
Wind Farm		
Supplu 1,2 and Wayu Huai Bong sub-district, Dan Khun Thot district Nakhon Ratchasima province	Apr 6, 2016	Electricity Generating Authority of Thailand (Khon Kaen)
	Jun 7, 2016	Energy Policy and Planning Office
	Jul 23, 2016	Huai Bong Cycling Club
	Aug 19, 2016	Electricity Generating Authority of Thailand (Lam Takong)
	Sep 8, 2016	Electricity Generating Authority of Thailand (Lam Takong)
	Nov 23, 2016	Electricity Generating Authority of Thailand (Khon Kaen), System Control
	Nov 24, 2016	Energy Policy and Planning Office
	Dec 13, 2016	Electricity Generating Authority of Thailand (Khon Kaen), Energy Meter, Control and Protection System Division

6.6 Offering Financial Support to Communities around Renewable (Solar and Wind) Power Plants in the following activities and projects:

- Do Good Deeds for Dad Project** - GUNKUL, together with Hin Dad Police Station, Dan Khun Thot district, Nakhon Ratchasima province, village headman, sub-district headman, community leaders and the local, initiated Do Good Deeds for Dad Project. It aimed to help suffering people in the local area as the merit making for H.M. the late King Bhumibol. The project offered a new house to Mrs. Noon Jonsoongnern, the local who faced difficulties.



- **Huai Bong Sufficiency Economy Village** - The villagers went to the Royal Palace to pay homage to H.M. the late King Bhumibol, who initiated the philosophy that guides the way of living and behavior of people at all levels.
- **Community Development Projects**
 - **Building security booth** for the volunteer security team at Mu 1, Ang Thong sub-district, Prachuap Khiri Khan province, to ensure the community safety. These security guards are local people trained in village security course. They are appointed by sheriff to keep the village safe and assist law enforcement under laws related to local administration. This will maintain peace and security in the village.



- **Village Development Funds Project** for Baan Sida Ngam, Mu 3, Prachuap Khiri Khan province, to support and promote self-reliance of village and communities. The people could learn, create, and develop creativity, solve problems, and enhance potential in economic and social aspect. This also reinforced and enhanced the village's and community's capacity of fund management to benefit the communities at large. The fund was used for repairing lighting equipment and hardware, promoting sports to combat drug abuse, keeping the village safe, holding traditional activities on special occasions, offering scholarship, and providing emergency assistance in Baan Sida Ngam, Mu 3, Prachuap Khiri Khan province. This sustainably improved the well-being, safety in life and property, and community environment.





- “Visiting Wind Farm and Seeing Highlights of Huai Bong” winter fair to promote alternative energy in tourism and wind farm as a new tourist destination. The event was managed by community to sustainably generate income for the local.

- **Educational support**

- **Budget support** to improve the area of Ban Na Noi Pattana School, Huai Bong sub-district, Dan Khun Thot district, Nakhon Ratchasima province.
- **Sport event and sport gears** for Ban Na Noi Pattana School, Nakhon Ratchasima province.
- **Uniform donation project** for students in Taopoon Sub-district Administrative Organization (SAO), Prae province

- “Installing solar powered lights” for the community in Mu 10, Ban Lan Hoy, Si Chula district, Nakhon Nayok province. GUNKUL engineer teams installed the lights and transferred maintenance knowledge to Prasert Chantachote, village headman, and people in Lan Hoy community.



- Activities on National Children's Day for communities surrounding solar and wind farms and local agencies. Since its establishment, GUNKUL has donated Children's Day gifts to surrounding communities for the children's happiness and joyfulness.
 - Don Muang Sub-district Administrative Organization, Nong Nam Sai Sub-district Municipality, Sikhio district, Nakhon Ratchasima province (figure 103 - 108)
 - Ban Lin Chang School, Phetchburi province, Ban Huai Bong School, and Ban Na Noi School in Nakhon Ratchasima province



- Anti-Drug Sports Day is annually held by Huai Bong Sub-district Administrative Organization. It encourages people at all ages and genders to creatively spend their spare time by playing sports, which promotes good health and improve quality of life. The activity will protect them from vice and drug and strengthen the relationship of local people, which was in line with the government policy to develop the quality of people and society.



- Preservation of cultural heritage - GUNKUL held local activities such as Thai Red Cross Fair, Songkran Festival, Day of Older Person, Kathin ceremony, offering robe to the monks, and campaigns to promote the safety of local people (Figure 113 - 128).
 - GUNKUL offered candle on occasion of Buddhist Lent Day together with Huai Bong Sub-district Administrative Organization Mu 1, Ban Huai Bong, and Mu 5, Ban Noi Pattana, Nakhon Ratchasima province, as well as Nongchumpol Sub-district Administrative Organization, Phetchburi province.
 - GUNKUL co-hosted Songkran Festival with Huai Bong Sub-district Administrative Organization, Nakhon Ratchasima province.





6.7 Promotion of Community Participation and Community Income Generation

GUNKUL has attached great importance to environmental management in all phases and steps of implementation - during the pre-construction phase, the construction phase, and the renewable energy-based power production phase, under the legal framework, government policies, and management systems with international standards. This aims to control and prevent environmental impacts of the renewable energy-based power production process and to rehabilitate and conserve natural resources and the environment, by enhancing community knowledge and understanding through different processes, as follows:

Pre-construction phase for solar power projects and wind turbine projects

1. Studying basic technical data, data on socio-economic conditions, cultures and traditions, and data on local community lifestyles.
 2. Developing community participation plans and different data for communicating and creating an understanding about the Company's projects and preparing data on vacancies for local people.
 3. Organizing activities that promote an understanding about projects and participating in “**community**” meetings to hear local communities' voice, under the legal framework and government policies.
- Organizing **community** meetings to listen to community opinions - The Community conducted site visits to present details pertaining to project implementation to local people, gathering to have discussions and consultations and share ideas concerning local communities, environmental conditions, and society as a whole. This aimed to ensure problem-solving and/or improvements to achieve the ultimate goal - sustainable development, whereby local people are involved in, and have ownership of, development. In addition, the Company prepared questionnaires to survey local communities' opinions to reinforce its relationships with them. Project-based activities in 2016 are as follows:





No. Companies	Projects	Day/ Month/Year	Community meetings Venue	Number of participants	Results
Results of the meetings for wind energy-based power production projects					
1. Greenovation Power Co., Ltd.	Meeting on route expansion and installation of poles for 115 kV transmission lines.	Feb 27, 2016	The Village Headman Office, Ban Huai Bong, Mu 1	50	It was resolved to allow the Company to install poles for 115 kV transmission lines and jointly develop routes used by the project.
2.	Presenting the progress of the Saranlom Wind Farm Project	Nov 22, 2016	The Community Pavilion, Ban Huai Prong	40	Local people were informed of implementation steps and instructions of the project, during the pre-construction phase, the construction phase, and after the project construction is completed.
3.	Presenting the progress of the Saranlom Wind Farm Project, Ban Sila Ruam Samakkhi, Mu 4	Nov 21, 2016	The Community Pavilion, Ban Sila Ruam	58	Local people were informed of implementation steps and instructions of the project, during the pre-construction phase, the construction phase, and after the project construction is completed
4.	Presenting the progress of the Saranlom Wind Farm Project, Ban Sap Phu Noi	Nov 28, 2016	The Community Pavilion, Ban Sap Phu Noi	19	Local people were informed of implementation steps and instructions of the project, during the pre-construction phase, the construction phase, and after the project construction is completed
5.	Presenting the progress of the Saranlom Wind Farm Project, Ban Sao Ha, Mu 12	Nov 23, 2016	Wat Ban Sao Ha	20	Local people were informed of implementation steps and instructions of the project, during the pre-construction phase, the construction phase, and after the project construction is completed
6.	Presenting the progress of the Saranlom Wind Farm Project, Ban Sap Sanun, Mu 23	Nov 24, 2016	The Village Headman Office, Ban Sap Sanun	23	Local people were informed of implementation steps and instructions of the project, during the pre-construction phase, the construction phase, and after the project construction is completed
7.	Presenting the progress of the Saranlom Wind Farm Project, Ban Sap Phu, Mu 6	Nov 25, 2016	The Community Pavilion, Ban Sap Phu	36	Local people were informed of implementation steps and instructions of the project, during the pre-construction phase, the construction phase, and after the project construction is completed
Results of the meetings for solar energy-based power production projects					
1. Eco Thai Energy Co., Ltd.	Bang Krachao	Jun 10, 2016	The Community Pavilion, Mu 8, Soi Farm Kratai, Pak Bo-Chai Mongkol Road, Bang Krachao sub-district, Mueang Samut Sakhon district, Samut Sakhon province.	50	Presenting the project background, location, details, and benefits; answering questions from local people; and allowing the local people to vote on the project implementation-over half of the attending local people expressed agreement with the project implementation.
2. Scan Inter Public Company Limited	Scan Inter, Bang Phasi	Jun 10, 2016	The Village Headman Office, Mu 11, Bang Phasi sub-districts, Bang Len district, Nakhon Pathom province.	62	Presenting the project background, location, details, and benefits; answering questions from local people; and allowing the local people to vote on the project implementation-all the attending local people expressed agreement with the project implementation.



Construction period

1. Promoting jobs, incomes, and knowledge for local communities, by recruiting labor from local people, in order to encourage local communities' participation in all steps of implementation and provide them with a correct understanding and knowledge about the Company's operations and policies on a regular basis.
2. Providing channels for receiving recommendations and complaints (if any), with a function clearly assigned to be in charge of this.

Renewable energy-based production period

1. Monitoring the implementation of the measures for preventing and mitigating social and environmental impacts, as indicated in the EIA report.
2. Listening to recommendations to improve activities in line with local needs.
3. Promoting and generating incomes for local communities, e.g. through hiring local people.



7. Achievements



- Outstanding Entrepreneurs Award 2016



- Rising Stars of Asia-Alternative energy & Power



- Quality Person of the Year 2016



- SET AWARDS 2016





- CSR-DIW Continuous Awards 2016



- Outstanding Award for Commitment to Corporate Logistics Development 2016



Smart Energy in Action







Smart Energy in Action

พลังงานสร้างสรรค์ ดีดล้า ทำจริง

บริษัท กันกุลเอ็นจิเนียริ่ง จำกัด (มหาชน)
Gunkul Engineering Public Company Limited

1038-1046 ถนนนครไชยศรี แขวงถนนนครไชยศรี เขตดุสิต กรุงเทพฯ 10300
โทรศัพท์ (662) 242-5800 (อัตโนมัติ), 0-2242-5861, 0-2242-5867
โทรสาร (662) 242-5800 www.gunkul.com Email : ir@gunkul.com